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The Moderating Effect of Resilience Factors on Bully Victimization and Subsequent Psychological Adjustment Problems Among Adolescent Girls

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The Moderating Effect of Resilience Factors on Bully Victimization and Subsequent

Psychological Adjustment Problems Among Adolescent Girls

This dissertation, by Alexandra Hayley Quinn, has
been approved by the Committee Members signed below
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of requirements for the degree of

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Abstract

The Moderating Effect of Resilience Factors on Bully Victimization and Subsequent

Psychological Adjustment Problems Among Adolescent Girls

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Bully victimization is linked to poor psychological adjustment, low self-esteem, and

social withdrawal in children and teens. However, little research to date has

examined the unique experiences of adolescent girls, the specific contributions of

various subtypes of bullying, and the utilization of comprehensive instruments to

examine the constructs of psychological adjustment and bully victimization. Further,

researchers studying these issues have called for more studies to examine buffering

factors that may protect teen girls from the psychological insults associated with

peer victimization. This study advances research in the field by utilizing

standardized self-report measures to examine the relationship between bully

victimization and the psychological adjustment of American adolescent girls, and

the moderating effect of resilience factors on that relationship. One hundred and

two 14 to 16 year-old girls from two schools—one public and one private—

completed self-report measures querying basic demographics, internal and external

resilience factors, psychological adjustment problems, and experience with bully

victimization within the past school year. Results indicated that Resilience

Vulnerability—the discrepancy between internal resilience factors and emotional

reactivity—significantly moderated the relationship between bully victimization

and psychological adjustment problems after controlling for grade level, race/ethnicity, and school attended, supporting the main hypothesis. Participants' experiences with Bully Victimization in both samples was significantly higher than reported in the body of literature, with verbal attacks and social manipulation cited as the most common types of victimization. Approximately one quarter of the public school participants and nearly one half of the private school participants endorsed a clinically significantly level of Psychological Adjustment Problems. Higher levels of Internal Resilience and lower levels of Resilience Vulnerability predicted fewer Psychological Adjustment Problems. Both Internal Resilience and Resilience Vulnerability were moderately correlated with Bully Victimization. Older ages and higher grade levels were related to more Psychological Adjustment Problems as well as lower levels of Internal Resilience and more Resilience Vulnerability. External Resilience was not significantly related to Psychological Adjustment Problems, Internal or External Resilience Factors, or Bully Victimization. This study demonstrated the important contributions of resilience as a protective factor in the development of psychological adjustment problems stemming from bully victimization. The electronic version of this dissertation is at OhioLink ETD Center, www.ohiolink.edu/etd

Keywords: bullying, adolescent, girls, psychological adjustment, depression, anxiety, resilience

Dedication

First and foremost, this work is dedicated to my husband, Michael, who was there to celebrate my first day of doctoral education and continues to cheer me on as I prepare to graduate and become a psychologist. Michael: your patience, support, and sense of humor has been unwavering. I would not have made it this far without you.

I would also like to acknowledge the love and support of my parents, Hal and Terri. Your belief in me and what I can achieve has propelled me forward and inspires me to push myself both professionally and personally.

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I would like to thank school administration from both samples that kindly allowed me to access their students and conduct this important research. I would also like to acknowledge the staff members that provided me the on-site support and resources needed to be successful in my endeavors.

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Chapter I: Background

Focus of the Study

Literature to date has examined the etiology and negative psychological outcomes of bully victimization among children and adolescents. Specifically, researchers have investigated individual risk factors for victimization, the role of social and ecological models to describe bullying behavior, correlations between victimization and psychological adjustment, and school-based intervention outcome studies. Although researchers have focused on the correlation between bully victimization and the resulting mental health problems, current knowledge is limited in the area of bully victimization and the role of resilience as a potential buffer against the well-documented negative psychological outcomes. Indeed, some authors have called for further investigation into adaptive and protective factors that psychologically buffer teenagers against the impact of bullying (Remillard & Lamb, 2005). Through the identification of resilience factors in youth, those who work with children may help foster these factors and reinforce strengths of the individual, thereby buffering youth against the impact of bully victimization.

Findings reported in the extensive body of literature regarding age and bullying experiences suggest that bully victimization is highly prevalent in early adolescence, tapering off after the first year of high school (typically at the end of ninth grade or possibly tenth, depending on whether a middle school or junior high is included in the research) (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Smokowski, Evans, & Cotter, 2014). For girls specifically, bully victimization has a later peak than male bullying, due to the level of social-cognitive sophistication that

is present in relational forms of bullying (Bjorkqvist et al., 1992; Crick & Grotpeter, 1995; Remillard & Lamb, 2005). Female experiences with relational aggression and indirect bullying are often overlooked or discounted in bullying research due to the population under study or methodological approach (Bjorkqvist et al., 1992; Crick & Grotpeter, 1995; Remillard & Lamb, 2005). However, researchers assert that relational and indirect aggression predicts similar psychological problems in comparison to "traditional" bullying, such as physical and verbal bullying (Arseneault et al., 2010; Smokowski et al., 2014).

Relational aggression may also include cyber attacks and electronic means of bullying. Current research indicates that the use of the Internet to engage in bullying behavior is more common among females than males (Burnett, Yozwiak, & Omar, 2014; Schneider, O'Donnell, Stueve, & Coulter, 2012; Smith et al., 2008). In addition, the majority of individuals who are victimized in school are also bullied online (Arseneault, Bowes, & Shakoor, 2010; Burnett et al., 2014). The rising influence of social media and the role it plays in teenagers' lives highlights the importance of including cyberbullying when exploring the impact of relational/indirect aggression. Cyberbullying is more common among adolescents, as younger children have less unsupervised access to the Internet, social media, and mobile devices (Smith et al., 2008; Snell & Englander, 2010). In order to capture female-specific experiences with relational/indirect aggression, the target population for the current investigation included girls ages 14 to 16 (approximately ninth and tenth grade), and included both non-electronic and electronic methods of bully victimization.

Purpose of Inquiry

The goal of the present investigation was to illuminate the relationship between bully victimization among adolescent girls (ages 14 to 16), psychological adjustment, and the moderating effects of resilience factors such as organized social participation (for example, joining clubs and playing sports), intrinsic personal resources, relationships, and school attachment. This study measured participants' experiences with bully victimization, their current psychological adjustment, and different resilience factors moderating the strength of the relationship. In carrying out this research, the principal investigator hoped to address the current role of bullying in the lives of young girls and the potential developmental consequences for girls across the lifespan.

The globally accepted definition for the predictor variable, bullying, includes three criteria: bullying (a) is an aggressive behavior that involves unwanted, negative actions; (b) involves a pattern of behavior repeated over time; and (c) requires an imbalance of power or strength (Nansel, Craig, Overpeck, Saluja, & Ruan, 2004). The moderating variable, resilience, has no consistent definition in the body of literature, involving a number of intrinsic and external characteristics that serve as promotive in the face of adversity (Fergus & Zimmerman, 2005; Luthar, Cicchetti, & Becker, 2000; Rink & Tricker, 2005). Lastly, the criterion variable, psychological adjustment is defined by the presence of empirically-derived mood and anxiety problems when compared to a nationally-representative norm group.

Chapter II: Literature Review

Etiological Factors Associated With Bully Victimization

Arseneault et al. (2006) utilized a longitudinal design to measure children's psychosocial adjustment prior to bullying experiences at the beginning of formal schooling. The goal of the study was to determine the relationship between bully victimization and psychosocial adjustment, the directionality of the relationship, and whether bully victimization uniquely contributes to psychosocial adjustment in children. Participants included 1,116 seven-year-old children and their mothers from the United Kingdom, selected from the E-Risk Longitudinal Twin Study. Mothers of the participants were interviewed and asked whether their child was bullied between the ages of five to seven. Both mothers and teachers provided data on bullying perpetration of the participants.

Psychosocial adjustment was measured using the Achenbach Child Behavior Checklist (CBCL) and the Teacher's Report Form (TRF). The researchers found that children who were bullied between the ages of five and seven had significantly more internalizing problems compared with uninvolved children, including appearing less happy at school and exhibiting fewer prosocial behaviors. Additionally, bullied girls had significantly more externalizing problems than uninvolved peers (this effect was not present for bullied boys). Children who were bully/victims (victimized and participate in perpetration) had significantly more internalizing and externalizing problems than both uninvolved peers and victims. In addition, bully/victims exhibited lower academic performance and scores on reading tests.

Although both victims and bully/victims had externalizing and internalizing problems prior to bullying experiences; this effect was still present after controlling for pre-existing psychosocial problems, indicating that experiences with bullying may exacerbate pre-existing problems. However, victims exhibited problems with prosocial behaviors only after exposure to bullying. These findings raise the possibility that some behaviors may evoke or reinforce bullying encounters. This study is a previous report by the same first author involving the same research project, presumably utilizing the second publication to further strengthen the authors' findings in regards to directionality of the relationship between bully victimization and psychosocial adjustment. As in the previous study, the researchers raised concerns over their reliance on mother report only, as well as their very young sample. This study highlighted an interesting gap regarding bullied girls and externalizing problems.

In a longitudinal study conducted by Arseneault et al. (2008), a nationally representative sample of twin children from the 1994–1995 birth cohort in the United Kingdom was examined to test whether bully victimization had an environmentally mediated effect on the internalizing symptoms of children. At the time of data collection, participants were nine years old. The researchers utilized a quantitative approach, including interviews with participants' mothers and self-report questionnaires. An open-ended interview with the mothers of the participants was used to collect information regarding the frequency of bullying experiences at seven, eight, and nine years of age.

The researchers found that 28.2% of children experienced bullying between the ages of seven and nine, of which 38.4% experienced frequent bullying. Of those children who experienced bullying, 79% suffered psychological harm, including bad dreams or school avoidance. Internalizing problems were assessed using the Child Behavior Checklist (CBCL) and the Teacher's Report Form (TRF) when the children were seven years old and again at ten years old. According to the CBCL/TRF technical manual, both questionnaires have demonstrated very high test-retest and inter-interviewer reliability and moderate validity (coefficient alphas ranging from 0.78 - 0.97 for the CBCL and 0.72 - 0.95 for the TRF).

Researchers reported that children who were victimized by bullies experienced significantly more internalizing problems than children who were not bullied. Interestingly, when one twin experienced bullying and the other twin did not, the bullied twin experienced close to a half standard deviation more internalizing problems than did their non-bullied twin. Specifically referring to monozygotic twins (genetically identical), this effect continued to demonstrate significance, indicating that bully victimization may have an environmentally mediated unique effect on children's internalizing problems. Additionally, twin pairs who both experienced bullying had close to a half standard deviation more internalizing problems than did twin pairs that were not bullied. Lastly, internalizing problems measured at age 10 and compared to the previous findings at age seven—while controlling for other family-wide factors (i.e., neighborhood, parenting issues)—indicated that bully victimization may be directly related to psychological adjustment (rather than internalizing problems making children

susceptible to bullying). However, the researchers noted that family-wide factors accounted for the same magnitude of regression coefficients as the unique effect of being bullied.

The authors cited the limitations of mothers' report on their children's experiences and potential biases that may arise when studying the social development of twins. The findings in this well constructed study illuminate the potential directionality in the emotional adjustment—bully victimization dyad. The results also demonstrate the unique environmental influence that bully victimization has on internalizing problems. Although similarities may exist between the UK sample presented in this study and the intended United States sample in the current investigation, cultural differences and attitudes about bullying, which therein affect bullying behavior, may differ. Additionally, the age of the participant pool does not address how bully victimization and subsequent psychosocial adjustment may either be exacerbated, plateau, or diminish into the pre-adolescent years. However, by addressing the question of directionality, the authors make a strong case for the importance of early intervention and a well-developed theoretical framework for how the cycle of perpetration and victimization is established early and remains throughout development.

Arseneualt et al. (2010) conducted a meta-analysis of the current literature on bully victimization and psychopathology among youth. The authors found that bully victimization is not a normative process, but rather, a potentially serious and distressing experience leading to a number of causally related mental health disorders and behaviors that are not conducive to success in mainstream society.

They conceptualized bullying as a cycle, with genetic predisposition leading to internalizing/externalizing problems, which then leads to bad social signals and/or skills deficits, and finally, victimization. The researchers reported that the body of literature should encourage those who work with children to intervene and identify factors that lead to victimization in children in order to break the cycle of mental health problems and polyvictimization (victimization in certain contexts correlated with other types of victimization). They also commented that interventions in schools aimed at reducing bullying have been unsuccessful to date, calling for more research and program-development in this area. Lastly, the authors noted that interventions aimed at the prevention of bullying might reduce psychiatric problems in society, as victimization is causally linked with a host of problems that last into adulthood.

This metaanalysis provides a succinct and helpful overview of the recent literature, including commonly utilized methodologies. The authors highlighted the limitations and usefulness of survey research in bullying investigations. The authors also laid out the case for prevention strategies based on common findings in the body of literature. This article explicitly addresses the gap in the literature that is filled by the present study.

This article calls attention to the current investigation in two ways. First, the authors stated that some children are bullied transiently, while others are bullied chronically across primary and secondary school. The authors posed the question, what are the differences between these two groups of bullied children? One potential hypothesis may be that the children who are bullied transiently have some

resilience factors that allow them to "shake off" their negative experiences, heal their wounds, and try again, while the others have physiological stress responses (Hypothalamic-Pituitary-Adrenal Axis (HPA) that cause a negative feedback loop of victimization and negative affect (i.e., cognitive distortions in children's' interpersonal environment, negative attributions, and external explanatory styles) preventing recovery and leading to the polyvictimization described by the authors. Another manner in which this article lends credence to the current study is their statement that future research must identify the factors that help children overcome bullying, stating "future research on resilience and protective factors will help not only to tailor intervention programs but also to understand how being bullied can contribute to children's mental health problems" (Arseneault et al., 2010, p. 726).

Ball et al. (2008) drew a sample (n = 1,071) from a national database of twins enrolled in a longitudinal research project in England. At age 10, the mothers of the twins were interviewed and asked about victimization status of their children and the observed effects of the victimization. Bullying was also examined using the Achenbach CBCL and TRF. Genetic model-fitting was used to analyze the data.

The authors found that 25% of the children in the sample were victimized between the ages of nine and 10 with no significant differences for sex or zygosity. Of the 25%, 11.7% experienced severe victimization. Over 50% of the sample bullied other children, 13.3% of which bullied frequently. Boys were significantly more likely than girls to be perpetrators, with no differences for zygosity. Bully-victims accounted for 2.5% of the sample and were more likely to be boys, with no differences for zygosity.

Interestingly, heredity accounted for over two thirds of individual differences in victimization status, with the remainder accounted for by non-shared environmental influences. Similarly, bullying behavior was strongly influenced by genetics, with the rest being accounted for by non-shared environmental factors. Bully-victim status was attributed solely to genetic factors, with specific traits co-occurring to create this unique presentation. Shared environmental influences such as parenting style, home environment, socioeconomic status (SES), neighborhood, and school did not contribute to victim or bully status.

In general, victimization reported between the ages of nine and 10 were mediated by genetics—accounting for over two thirds of the variation—with other influences from individual (not family-based) environmental factors. Being a bully-victim was almost completely accounted for by genetics. No sex differences for victimization were found. This study suggests that becoming the target of bullying starts at birth, with certain genetic traits making one more susceptible to victimization than others. The authors posited that genetics may influence temperament and later, personality, which leaves some at a higher risk.

This article impressively makes a case for early intervention to address emotional regulation and social skills for children who may be more introverted or experience difficulties with social communication with the hope of changing the victimization trajectory. The fact that non-shared environmental influences were more strongly linked to victimization/bully status rather than shared factors may help direct individuals who work with children to consider the individual child rather than family-wide factors. However, there are some concerns about the

methodology presented in this study. The authors point out that the experience of being a twin may influence one's chance of being a bully or a victim.

As noted in other studies, mother report on a non-standardized list of questions about bullying may not be a reliable and valid measure for victimization. Mothers may not be aware of whether their child is being victimized, or the questions may not have addressed the more subtle nuances of relational aggression or cyberbullying. On the other hand, the face validity of this study may have served as a hindrance, with mothers over-reporting bullying experiences. The use of the CBCL and TRF to measure bullying provided more sound data, but lacked depth, as this instrument is not specific to bullying. As it relates to the present study, it is important to note that at age 10, both mothers and teachers reported that girls experienced the same frequency of bullying as boys did.

Psychological Adjustment Outcomes Associated With Bully Victimization

Bond, Carlin, Thomas, Rubin, and Patton (2001) examined the relationship between history of victimization and incidence of self-reported depression and/or anxiety symptoms utilizing a cohort survey study over a two-year period. The authors used a data set derived from an experiment testing the impact of an intervention on high school students' emotional wellbeing. The data set included three time periods over the course of one year. The study included 2,680 metropolitan-based Australian participants in year nine.

The researchers found that two thirds (63%) of the participants bullied in year eight were also bullied in year nine. Prevalence for victimization across the three time periods was as follows: 49%, 51%, and 42%, with 33% experiencing recurrent

victimization, 33% experiencing victimization at only one time period, and 33% experiencing no victimization. In general, victimization was relatively stable over time. Overall, 74% of participants had no self-reported symptoms of depression or anxiety. Of those that did, the attributable fraction of participants with reported anxiety or depression for those exposed to victimization was .50 (.30 after controlling for confounders including availability of social attachments, level of confliction relationships, and family structure). The attributable fraction of students experiencing victimization for the first time in year nine who had reported symptoms of anxiety or depression previously was .21 (.003 after controlling for confounders).

These findings suggest that being depressed or anxious does not lead to victimization, but rather, victimization may lead to mental health problems. This finding was most significant for girls. Overall, the authors claimed that bully victimization contributes to self-reported depression and anxiety in eighth and ninth graders. Having poor emotional health does not cause victimization or create a "vicious" cycle, according to this study. Up to 30% of all participants with reported depression or anxiety could have their symptoms directly attributed to a history of victimization, after controlling for confounding factors.

This research supports the notion that victimization leads to mental health problems. The research builds on the existing literature by reporting that this effect is strongest for girls, independent of their social relations. This is an important point for the purpose of the present investigation. This study did not look at how the level of victimization impacted subsequent severity of mental health problems. For

example, does prolonged exposure or more "severe" bullying incidences lead to poorer mental health?

Forero, McLellan, Rissel, and Bauman (1999) conducted a cross-sectional survey of a statewide sample of Australian youth in years six, eight, and ten using a data set and a bullying prompt. The data set included four questions about mental health. Due to the limited scope and depth of mental-health-related questions, conclusions that can be drawn regarding the effects of bullying as they relate to mental health are limited. In addition, the bullying prompt most likely did not pick up on relational or indirect forms of aggression, as this piece was not included in the description. The bullying questionnaire included the aforementioned vague definition of bullying, followed by questions asking participants if they bullied others or have been bullied themselves. This can be potentially unreliable, because many youth may be hesitant to admit that they have been bullied (or have bullied others), or fall back on their traditional understanding of bullying rather than try to decode the prompt.

The current study aims to address this problem by utilizing an instrument that queries a range of specific bullying behaviors rather than asking about the frequency and severity of bullying in general. In addition to mental health factors and bully victimization, the researchers explored peer contact and school relationship, which may serve as protective factors. The researchers only included descriptive statistics for gender and age. The authors reported that 57.8% of students reported some involvement in bullying (23.7% bullied others; 21.5% bully-victims; 12.7% victims). Boys reported more bullying perpetration and the bully-

victim experience, while more girls reported victimization. Victims were more likely to be lonely, be alone, were younger, disliked school, and skipped school. The authors indicated that based on their findings, bullying is a common experience for Australian adolescents and is correlated with psychosocial adjustment problems. The use of four items measuring bullying experiences may not effectively capture the bullying construct and because construct validity was not measured, the psychometric properties in this domain are unclear.

Hawker and Boulton (2000) conducted a meta-analysis on the relationship between bully victimization and psychological maladjustment between 1978 and 1997. The researchers summarized effect sizes across studies, and provided descriptive statistics for a number of variables including participants' sex, age group, nationalities, subtypes of victimization measured, source of the informants, the presence of shared method variance in effect sizes (i.e., utilizing only self-reports versus multiple informants), and the types of adjustment measures used. The researchers hypothesized that victimization would be positively related to maladjustment. The authors utilized a Pearson's *r* to measure effect size as a method to compare victims to non-victims on a continuum across multiple studies.

The researchers stated that the study of "victim-adjustment" associations has included a notable variety of populations, including both males and females in a broad age range (infant through adolescent), with the majority of studies focusing on eight to 13 year-olds. A large number of countries have investigated the issue, although the vast majority has included English-speaking and European or American participants. Overall, the subtypes of victimization were not considered

separately, with only five studies including relational or indirect victimization. Most of the studies reviewed utilized self-report measures for both victimization and adjustment variables.

The researchers found that depression, loneliness, social anxiety, general anxiety, global self-esteem, and social self-concept were all positively related to bully victimization, even after controlling for shared variance in the effect size when present. Depression achieved the highest effect size and anxiety (social and general subtypes were not significantly differentiated from one another) achieved the lowest, with loneliness, global self-esteem and social self-concept in the middle. The authors noted that effect sizes between victimization and maladjustment were much higher when both variables were measured through self-report (due to shared variance). The researchers pointed out that the largest maladjustment issues were not necessarily limited to the social domain, as depression emerged as the most common outcome of victimization.

Based on all of the studies reviewed, the researchers presented limitations and suggestions for future research in this area. They noted that relational or indirect victimization is under-studied and often not included in the literature, potentially underestimating effect sizes. They recommended that future research should focus or broaden the knowledge on bully victimization by looking specifically at these subtypes. Second, the vast majority of studies did not adequately measure the construct of bullying, due to a limited number of questions asked, or not using a standardized measure of bully victimization. The researchers concluded by suggesting that the relationship between victimization and psychological

maladjustment is well-established in the literature, and future studies should move beyond this research question and aim to address the limitations and future directions that have been implicated.

This article provides a good summary of the current well-established research findings on the predictor and criterion variables in the present study, although it is slightly dated. The researchers pointed out the importance of looking at effect sizes rather than simply reporting significance levels, which is also recommended by Cohen (1992). Many of the recommendations for future research suggested by the authors are addressed by the current investigation, namely, the lack of focus on relational or indirect aggression and the need to utilize more standardized measures in bullying research.

Kaltiala-Heino, Rimpela, Rantanen, and Rimpela (2000) investigated the effects of bully victimization on 16,000 Finnish adolescents, ages 14 to 16. Study data were derived from a data set (School Health Promotion Survey) that is administered annually in Finland. The survey was administered at school with a total of 16,410 participants. Bullying behaviors were measured using the World Health Organization (WHO) prompt (general statement inquiring about experiences with bullying) and frequency questions, as used in many other studies. Depression and suicidal ideation were measured with a modified version of the Beck Depression Inventory (BDI).

The researchers reported that 5% of girls and 6% of boys reported bully victimization weekly during the current school term. Reports of less than weekly bully victimization were 39% for girls and 55% for boys. Bully-victims reported the

highest rates of depression, followed by victims only. Suicidal ideation was most common for bully-victims. Interestingly, suicidal ideation was elevated among victims regardless of whether they reported being depressed. The authors cited the stressful nature of weekly victimization as a reason for this finding.

This study utilized a more well-rounded approach to examining mental health and bullying in compared to other similar studies, as it used a measure specific to depression, rather than reliance on a few questions from a health survey. However, the researchers used the WHO prompt to measure bullying, which lacks content validity and therefore misses out on cyberbullying and covert forms of bullying that are known to impact girls. Interestingly, the researchers gathered data on those who are victimized at low frequency in addition to high frequencies, which resulted in high percentages for total prevalence of victimization. This finding may have been further explored by capturing the type of bullying taking place, as some incidences may occur infrequently, but the impact may be chronic or highly upsetting. Lastly, suicidal ideation was linked to victimization regardless of whether the participant endorsed depressive symptoms. This finding is extremely important to keep in mind, as school staff and parents may assume that only depressed children can be suicidal. As the researchers noted, the link between suicidal ideation and victimization is probably due to extreme levels of stress related to relentless bullying.

Karatzias, Power, and Swanson (2002) conducted a study to examine the characteristics attributed to bullies, bully victims, and uninvolved youth in two secondary schools in Scotland. The sample included 425 girls and boys with a mean

age of 14.2. The researchers utilized several self-report surveys measuring constructs including bullying, Quality of School Life, student stress, general wellbeing, self-esteem, locus of control, positive/negative affect, and demographic variables. The bully questionnaire included a set of six questions created by the authors, based on previous literature. All other surveys were empirically validated, pre-existing measures. The format of each instrument was described, although psychometric properties were not included. Survey data were collected in two randomly selected classrooms at each school.

First the data were examined using t-tests and ANOVAs to determine whether there were significant differences among various categorical variables. Then, a logistic regression was employed to predict group membership for bullies, victims, and uninvolved youth utilizing the various characteristics mentioned above.

According to the results, 16.7% of the sample experienced bully victimization, with the most common form of victimization reported as name calling, followed by teasing, rumor-spreading, being pushed, being left out, being threatened, being hit, being punched, property damage, and being forced to follow the group. The authors noted that prevalence of bully victimization was higher in their study compared to previous literature. The researchers cited the broad variability in measuring the construct of bullying as a potential explanation for this finding. Bullies were more likely to be boys, while victims were more likely to be girls. The authors attributed this finding to the social acceptance of male aggression in Western society. Bully victims reported significantly lower levels of self-esteem compared to bullies and uninvolved youth. Involved youth (bullies and victims) were significantly more

likely to be in grade four (approximately the equivalent of American 10th grade), report lower levels of Quality of School Life, more negative affectivity, and higher levels of overall stress. The logistic regression revealed that Quality of School Life, school stress, and general stress exerted the most influence on participants' involvement in bullying.

This study highlighted the problem of victimization among girls and the associated negative outcomes such as low self-esteem and poor relationship to school. Interestingly, bullying behaviors were associated with slightly older grade levels compared to previous literature. This finding is further examined in the present study. The authors pointed out that school factors and experience with victimization and bullying are related, and this relationship may be offset by clear and assertive anti-bullying policies. Although this study addressed both overt and covert forms of bullying, the authors created their own questions, which may affect construct validity. Further, the high number of predictor variables may have increased the risk of Type I error.

Nansel et al. (2001) conducted an exploratory analysis to determine what, if any, emotional adjustment problems are related to bully victimization. The researchers used the Health Behavior in School-aged Children (HBSC) data set, which was nationally representative of U.S. youth, covering grades six through ten. The survey was conducted during one class period in the school day. Those who reported no bullying (victim or perpetrator) were used as a comparison group. A description of bullying was provided, followed by two victim questions and two

perpetrator questions. The rest of the survey covered a variety of health-related topics and demographic data.

The authors discovered that bullied children demonstrated poorer social and emotional adjustment, with greater difficulties making friends, poorer relationships with classmates, and greater loneliness. Parental involvement was positively correlated with being bullied; substance use was negatively correlated with victimization. Males reported more bullying than females, although females had higher rates of verbal attacks and relational aggression than boys. Bully-victims had the worst outcomes, with poor emotional adjustment and substance use problems. The authors concluded that bullying may be correlated with poor emotional and social adjustment in middle- and high-school-aged children.

This study looked at bullying from a convenience data set and therefore extrapolations other than broad generalizations about bullying and adjustment problems cannot be made. Only four questions addressed bullying, of which two were looking at victimization (frequency in school and away from school). The way in which the bullying prompt was worded probably did not capture relational aggression and cyberbullying. Additionally, criterion validity problems are most likely present, as only a couple of questions regarding mental health issues are asked (i.e., two questions covering depression). However, this study offers a nationally representative sample, which may increase the external validity. This study also demonstrated that derogatory comments about race or religion was very uncommon in bullying, suggesting that children are influenced by social norms discouraging these types of comments.

Prinstein, Boergers, and Vernberg (2001) investigated whether relational aggression emerged as a distinct construct from overt forms of bullying, and examined the unique social and psychological adjustment problems associated with relational aggression. The authors hypothesized that relational aggression would be uniquely associated with depression, low self-esteem, loneliness, and externalizing behavior, after controlling for overt forms of bully victimization. Second, the authors predicted that internalizing problems would be more closely linked to relational aggression, whereas externalizing problems would be more closely linked to overt bully victimization. Participants included 566 high school students (grades nine through 12) in a small city in southern New England. Only one school was included in the study. Racial demographics were fairly diverse: 21.8% Caucasian, 60.3% Hispanic, 10.6% African American, 7.3% Other. The median household income of the city was reported as $33,679.

Self-report measures were completed during the school day for approximately one hour. Measures included the Peer Experiences Questionnaire (bullying) (with five revised items), The Center for Epidemiological Studies-Depression (CES-D) (depression symptoms), the UCLA Loneliness Scale (loneliness), the Self-Perception Profile for Adolescents (self-esteem), the Oppositional Defiant Disorder and Conduct Disorder modules from the Diagnostic Interview Schedule for Children Predictive Scales (externalizing symptoms), and the Close Friend subscale of the Social Support Scale for Children and Adolescents (close friend social support). All measures were described in detail, including a brief discussion of psychometric properties.

Principal Components Factor Analysis, MANOVA, and Hierarchical Linear

Regression were utilized to analyze the data. Results indicated that relational

aggression is a distinct construct from overt aggression. Further, relational

aggression was more common than overt forms of bullying. Interestingly, boys were

said to have experienced relational aggression at a similar rate to girls. Differences

among racial groups did not exist for any of the variables examined. Experiencing

relational aggression was significantly associated with symptoms of depression, low

self-esteem, loneliness, lower levels of close friend support, and externalizing

symptoms. Of particular significance, experiencing relational aggression accounted

for more than twice as much variability in girls' loneliness and low self-esteem

compared to overt bully victimization.

This study offered a detailed and clear examination of patterns associated

with relational aggression victimization among adolescents. Although the authors

described the layout and psychometric properties of the measures utilized, the

description of the constructs was somewhat vague (e.g., relational aggression).

Generalizability is limited due to the specific population under study (a single high

school).

Schneider et al. (2012) investigated the psychological correlates, if any, of

different forms of bullying, as well as the correlations among different forms of

bullying. Participants were drawn from a large biennial health census distributed in

the greater Boston area, including ninth to 12th grade students at 22 different high

schools. The sample was representative of the area's demographics. Overall, 15.8%

of students reported cyberbullying and 25.9% reported school bullying in the past

12 months. The correlation between the two forms of bullying was significant, with 59.7% of cyberbullying victims reporting experiences with school bullying and 36.3% of school-bullying victims reporting cyberbullying experiences. Cyberbullying was higher among girls than among boys, whereas school bullying was similar between genders.

Cyberbullying decreased slightly between ninth and 12th grade, while school bullying decreased substantially. There were no significant findings in overall reporting of any form of bullying by race/ethnicity. Students receiving mostly Ds and Fs were twice as likely as students receiving As to be victims of both forms of bullying, while students with low school attachment were three times as likely to be victims of both forms of bullying. The authors highlighted that even students experiencing cyberbullying only reported lower school attachment. Non-heterosexually identified youth were more likely than their heterosexually identified peers to experience both cyberbullying and school bullying.

Importantly, bully victimization was highly associated with psychological distress across multiple domains, especially when the individual experienced both cyberbullying and school bullying (followed by cyberbullying only). The researchers reported that their study was limited by single-item questions used to address inquiries about bullying and psychological distress. This study further highlights the importance of including cyberbullying when examining bullying experiences of youth, which will be extended upon in the present study. This is especially salient, as cyberbullying decreases less over time when compared to school bullying. Because

girls are more often the victims of cyber-attacks, this may be relevant for older populations of girls.

Another interesting feature that may relate to the current investigation is that no relationship was found between bullying behavior and race/ethnicity, a similar finding to that of Nansel et al. (2004). Due to the likelihood that the current sample will be predominately Caucasian, or at most, will not be nationally representative, this evidence may reduce concerns about cultural effects. Lastly, the variable of school attachment is often seen in the resilience literature as a protective factor for mental health problems. In this study, school attachment and bully victimization were negatively correlated. The present study will extend upon this finding by using school attachment (one measurement of resilience) as a moderating factor between bully victimization and psychosocial adjustment in order to clarify the relationship among the variables.

Smokowski et al. (2014) examined various forms of bully victimization and the relationship to negative psychological outcomes among 3,127 adolescents in sixth to eighth grade in two rural counties (28 schools) within the Southeastern United States. This longitudinal study compared responses over the course of one year, at two distinct time periods (spring of 2011 and spring of 2012). The study included a racially diverse sample, including 26.8% Native American, 27.3% White, 24.3% African American, 8.3% Hispanic, and 12.1% Mixed Race. The average age of participants was 12.7 years old. The authors reported that two-thirds of the sample received free or reduced lunch.

The researchers drew their data from The School Stress Profile, which queries participants on a wide range of attitudes and perceptions about health, risk behaviors, general wellbeing, family, friends, and school. Internal consistency of the scales was general high, although other psychometric properties of the instrument were not included. The authors provided detailed explanations of the specific scales utilized in the study. The researchers noted that previous literature indicated that nearly 20% of adolescents reported bully victimization within the last year, with the highest rates among girls and Caucasian youth.

In terms of school bullying, nearly 70% of the sample reported no experience with bully victimization. Thirty-one percent of participants experienced either past or current victimization, with 11% of this group reporting chronic victimization. In terms of cyberbullying, 85% of the sample reported no history of victimization. Of the 15% who endorsed cyberbullying, 3% reported chronic victimization.

Results indicated that victims of bullying reported significantly worse developmental outcomes compared to non-victims. Chronic victims experienced the worst outcomes, followed by current victims and past victims, respectively. Both chronic and current victimization predicted lower school satisfaction and more school hassles. Physical and verbal bully victimization was associated with more problems compared to cyberbullying victimization. Past victimization was associated with increasing school problems and victimization over time. Higher levels of perceived parent and teacher support were inversely related to chronic victimization. Participants reporting current physical/verbal and cyberbullying victimization and chronic cyberbullying victimization reported lower levels of

friend support. Past physical/verbal victimization, chronic physical/verbal victimization, and current cyberbullying victimization were linked to lower levels of optimism. Further, self-esteem was inversely related to current and chronic cyberbullying victimization.

This study included a large and diverse sample size and demonstrated the strong and well-documented association between bully victimization and problematic psychosocial outcomes in youth. However, this study did not distinguish between girls and boys and therefore may not be representative of the unique experiences of girls. Similar to the aforementioned literature, this study does not take into account potential buffers that may protect youth against the negative impact of bully victimization. The current study will extend upon this research and address moderating factors in the relationship between bully victimization and psychological adjustment problems.

International and Cultural Implications of Bully Victimization

Alikasifoglu et al. (2007) developed a cross-sectional design study utilizing the Health Behavior in School-Aged Children questionnaire (HBSC) and the Achenbach Youth Self-Report (YSR) to measure bullying and a host of other health-related behaviors for ninth through 11th graders in 26 schools in Istanbul, Turkey. Overall, the researchers found that adolescents involved in bullying (as victims, bullies, or bully-victims) were significantly more likely to have higher scores on internalizing, externalizing (except female bullies) and total problems. Specifically, 22% victims, 9.4% bully-victims, and 9.2% bullies comprised the 40% of those who were

involved in bullying. Males were more involved in bullying than females, and ninth graders were more likely to be victims than participants in other grades.

Victims were more likely than non-victims to have a lower SES, difficulty talking to opposite gender friends, and difficulty making new friends. Victims were no more likely than uninvolved youth to engage in substance use and sexual activity. Bully-victims were more likely to have less educated mothers and engage in substance use and sexual activity. Both victims and bully-victims were more likely to feel unsafe at school. Overall, youth involved in bullying in this study (victims, bully-victims, and bullies) experienced similar mental health problems, with the exception of problems with social relationships and lower SES for the victim group. Those involved in bullying were significantly more likely than non-involved youth to have higher scores on internalizing, externalizing (except female bullies) and total problems, and were more likely to engage in the following health-compromising activities: fighting, watching <4 hours of TV/day, and skipping class/school.

The rates of victimization in this study were high, but as noted by the authors, there is a high rate of variability across studies examining bullying. The authors noted that this could be due to methodological differences, age and/or cultural differences, differences in school systems/school environments, and/or linguistic issues. Variability for rates of victimization will also apply to the current research and should be mentioned in the results. The authors made an overt reference to the problem with their bullying measure, stating that it does not capture indirect or relational forms of bullying. They noted that this oversight may not catch girls' experiences with bullying, as well as the experience of older children. It is

interesting to consider that rates of bullying are said to taper off over time, yet this could be due to the change in type of bullying (i.e., overt to covert). The researcher in this current study will consider indirect and relational bullying, which may clarify whether this tapering off is due to methodological problems as mentioned in this article.

Nansel et al. (2004) investigated whether the relationship between bullying and psychological adjustment is consistent across countries by standard measures and methods. The authors utilized derived data from the HBSC Study, which included a cross-sectional self-report survey on psychosocial adjustment and bullying involvement across 25 different countries. The authors did not provide psychometric data for the HSBC. The HSBC was not created solely for use with this study, but rather, was used by the researchers as a data set for examining bullying cross-nationally.

Participants included 113,200 children with average ages of 11.5, 13.5, and 15.5. The authors noted that the sampling design provided nationally representative estimates, utilizing a cluster sampling method of individual classrooms (with the exception of Greenland, which sampled the country's entire student population). To ensure comparability, the HBSC required internal consistency of plus or minus three percent with sample design effects no more than 1.4 times greater than would be obtained from a random sample. The goal of this methodological procedure was to ensure that the cluster sampling method in each country was representative of their population. The authors did not address concerns about cultural nuances (a standard definition of bullying was provided) or language concerns, although the

questionnaires were translated and administered in each country's national language. Domains of psychosocial adjustment included health problems, emotional adjustment, school adjustment, relationships with classmates, alcohol use, and weapon-carrying.

The researchers utilized factor analysis to remove psychosocial adjustment factors that did not load over a cutoff of 0.4, and performed a logistic regression analysis with covariates of age and sex to analyze the data. Involvement in bullying, whether victim, bully, or bully-victim, ranged from nine percent in Sweden to 54% in Lithuania. Across all countries, involvement in bullying was associated with poorer psychosocial adjustment. In all countries, victims demonstrated poorer emotional adjustment than bullies, and in all but two countries, showed poorer relationships with classmates. In contrast, bullies reported poorer school adjustment (with the exception of two countries) and more frequent alcohol use than victims. Bully/victims reported difficulties similar to both victims and bullies, experiencing poor emotional adjustment, poor relationships with classmates, and health problems in addition to poor school adjustment and alcohol use. In some cases, their problems were significantly worse than either pure bullies or victims.

Among the six countries that assessed weapon-carrying, Israel, The Republic of Ireland, and the United States reported a 1.98 to 2.27 greater odds of weapon carrying among victims. Both bullies and bully/victims demonstrated significantly greater odds of weapon carrying than uninvolved youth (with the exception of Hungary) with odds ratios ranging from 2.77 to 4.34 for bullies and 1.96 to 8.50 for bully/victims. The researchers noted that the results from this study point to the

universality of the impact of bullying experiences, and more prevention programs should be adapted to address the issue. This study does not, however, provide an in-depth analysis of bullying behaviors around the globe, as the HSBC covers a broad range of health topics related to youth. In addition, the psychometric properties of the HSBC and the bullying prompt are unknown (or not presented in the article) and it is therefore unclear what conclusions may be drawn. However, this study is the first to examine the impact of bullying across the globe and helps to broaden the cultural understanding of bullying behavior.

Peskin, Tortolero, and Markham (2006) sought to determine what, if any, differences exist among Latino/a and African American youth in compared to Caucasian youth as it relates to bullying behaviors. The authors selected three U.S. middle schools and three high schools with predominantly African American and Hispanic populations, with specific classrooms randomly selected. Questionnaires querying about bullying behavior were administered in class. Overall, seven percent of the sample was classified as bullies, 12% as victims, and five percent as bully-victims. African American students were more likely Hispanic youth to be victims, bully-victims, and bullies. No significant differences were found for gender, although boys had higher rates of name-calling and physical violence.

The highest level of victimization was reported in sixth grade, with one in five reporting victimization. This pattern steadily decreased until 12th grade, with a spike in ninth grade. The spike is presumably due to issues related to transition (going from middle to high school). The prevalence of bully-victim status varies considerably by grade level with no apparent pattern. The most common form of

bullying was name-calling. Males and females differed in their endorsement of different types of bullying.

The researchers concluded that bullying is prevalent in urban, low income, African American and Hispanic middle- and high-school youth. This study used a bullying measure format similar to the present study. Interestingly, no gender differences in victimization or bullying were found in this study, which is quite possibly due to the questionnaire used, as it queries specific behaviors rather than providing a general definition of bullying, then asking about frequency.

Indeed, the authors pointed out that their methodology overcomes the problems of social desirability and misinterpretation found from the "definition/prompt and frequency" style that is common in bullying studies. Participants may simply glaze over the definition provided for bullying (or misunderstand it), then ascribe their own understanding of bullying to answer the questions, which is typically not accurate. It also invites participants to overlook subtler forms of bullying that are more common among females (thus, demonstrated by lower rates of female bullying experiences found in many studies). The researchers also shed light on the decreasing nature of bullying from sixth to 12th grade, with a peak during the transition period between eighth and ninth grade, pointing to environmental factors that make youth more vulnerable during this time. This study is a very well conducted and methodologically sound report.

Vervoort, Scholte, and Overbeek (2010) hypothesized that Dutch students will be more victimized in classes with high proportions of ethnic minority students, and ethnic minority students will be more victimized in classes with low proportions of

ethnic minority students. Eighth grade students were randomly sampled from schools within a 100-kilometer radius of the research facility. Schools granted permission, and consent was collected from both students and parents. Peer nomination-based sociometry surveys were administered to the students.

The relationship between ethnicity and victimization was only significant when considering ethnic composition of the class. School classes with 25% or higher levels of ethnic minority students reported higher levels of victimization than classes with fewer ethnic minorities. Ethnic minorities who were in classes that were less ethnically diverse were no more victimized than any other students (discounting a "misfit" theory). Additionally, the higher levels of victimization in more ethnically diverse classrooms were not directed specifically at any target group (equal opportunity victimization). In highly diverse classrooms, ethnic minority children bullied more, but it was not targeted specifically at the majority group. In low-diversity classrooms, bullies were equal across groups.

Interestingly, ethnic minority girls are more bullied than ethnic minority boys, while the opposite is true for the majority group. Previous studies examining the link between bullying and ethnicity have been inconclusive, yet the ethnic composition of a school or school class may affect rates of bully victimization, pointing to the importance of considering the systems involved in bullying behavior. This study is important because it points out the role of systems in bullying behaviors. More specifically, this study sheds light on the role of ethnicity in victimization.

The authors suggested that more diverse classrooms allow for minority students to bully more (not necessarily towards any particular group) because they have more confidence to challenge the position of the majority group and gain some form of social dominance. The findings of this study also inadvertently suggest that bullying does not appear to be racist in nature, which is in line with other research. Importantly, this study demonstrates that being an ethnic minority does not make one more of a target than being a majority group member. This evidence may be relevant to the current study, as the researcher may not have access to an ethnically diverse sample.

Girls' Developmental Considerations and Bully Victimization

Bjorkqvist et al. (1992) examined gender differences related to aggressive behavior among Finnish school children. Two different age groups (eight-year-olds with a sample size of 85 and 15 year-olds with a sample size of 128) provided peer nominations with Likert-style responses of their classmates as well as self-ratings of their own behavior. Peer nomination surveys are a method of survey research that measure social statuses of a peer group by asking about the degree to which one is liked or disliked by their peers. The researchers also conducted a sociometry analysis of social networks in the classrooms. Further, the data collected by the researchers was compared to research from a previous study with 11-year-olds. The authors conducted an exploratory factor analysis to determine the subtypes of bullying present in their sample.

Indirect aggression consisted of gossiping, suggested shunning of the other, spreading vicious rumors as revenge, breaking contact, and becoming friends with

someone else as revenge. Direct verbal aggression was described as name-calling, profanity, trying to make the other look stupid, "showers abuse," and arguing. Withdrawal was described as sulking, withdrawing from the situation, and pretending to not know the person. Direct physical aggression included hitting, throwing objects, pushing, tripping, et cetera.

In the eight-year-old cohort, boys scored significantly higher on measures of profanity, "showers abuse," and kicks/strikes. Girls scored significantly higher on withdrawal, and slightly higher on indirect aggression (although this finding was not significant). No differences existed for friendship/social structures within this cohort. In the 15-year-old cohort, boys scored significantly higher on physical aggression, while girls scored significantly higher on indirect aggression and withdrawal. Direct verbal aggression was equal between the sexes.

In summary, developmental trends exist among males and females within different types of bullying behavior. Males engaged in more physical aggression across all age groups, while girls engaged in slightly more indirect forms of aggression, which increased through age 15. Direct verbal aggression was equal for boys and girls by age 15. This study is of key importance to the current investigation, as it provided data to back up the claim that girls' experiences with bullying are underrepresented by much of the current body of literature due to methodological issues and instrumentation.

The authors stated that indirect aggression is a subtype of bullying in which the perpetrator attempts to do harm, yet makes it seem as though there has been no intention to hurt the other. This may take the form of anonymous attacks, including

cyberbullying. The authors noted that questionnaires often address physical and verbal aggression in depth, yet overlook indirect aggression. Even in questionnaires that leave the definition of bullying more open-ended, many youth are hesitant to identify the behaviors associated with indirect aggression as bullying, possibly due to a lack of understanding/failure to recognize, unwillingness to admit, or feelings of shame. The researchers highlighted the developmental trajectories of bullying behavior, noting that bullying among younger children is more overt and concrete due to lack of verbal abilities, social prowess, and inability to use others to manipulate relationships. However, as children grow older, stronger cognitive abilities lead to verbal aggression. Lastly, the development of social skills opens the door for indirect aggression, which relies upon use of one's social network.

Overall, this study made three important points. First, it discusses the lack of understanding of girl bullying due to methodological issues and instrumentation. Second, it shed light on the different types of bullying that girls and boys experience. Third, it provided a framework for how to interpret bullying from a developmental perspective.

Crick and Grotpeter (1995) asserted that previous findings suggesting that the prevalence of bully victimization is higher among boys than girls may be due to the forms of aggression assessed, rather than a true gender disparity. They noted that the complexity and subtly of girls' aggressive behavior may be perceived as difficult to study scientifically. The researchers hypothesized that in general, children attempt to inflict harm on peers by damaging the goals that are valued by their peer group (gender socialization). They highlighted gender socialization literature that

suggests that girls are more likely to focus on relational issues during social interaction, when compared to boys.

The main hypothesis proposed by the researchers was that aggressive behavior among girls would be focused on damaging another child's relationships/friendships or inclusion by the peer group. Examples of relational aggression included excluding from play, purposefully withdrawing friendship or acceptance in order to hurt or control the child, and spreading rumors so other children will reject the child. The authors' goals were to assess the gender differences in relational aggression, assess the degree to which relational aggression is a separate construct from overt aggression, and to determine whether relational aggression is related to social-psychological adjustment problems. Participants included 491 third- through sixth-grade students from four different public schools in a medium-sized Midwestern town. The sample included a high proportion of African American participants, especially when considering other research studies on bullying: 37% African American, 60% Caucasian, and three percent "Other."

The authors utilized several different measures including a peer nomination scale (developed specifically for this study), The Social Anxiety Scale (modified), the Asher and Wheeler Loneliness Scale (1985), Children's Depression Inventory (modified), and an adaptation of the Children's Peer Relations Scale. The researchers provided a clear rationale for their decisions to modify instruments, mainly through adding filler items in order to soften content. Data analysis occurred at several levels. Principal components factor analyses, followed by a correlational analysis were conducted to determine whether relational aggression emerged as a

factor separate from overt aggression. Children were classified as either relationally aggressive, overtly aggressive, both types of aggressive, or nonaggressive through standardization of scores (aggressive children were one or more standard deviations from the mean). The researchers conducted an analysis of variance to determine whether girls were more relationally aggressive than boys. The relationships among relational aggression and the several social-psychological adjustment factors were measured by an analysis of covariance, with overt aggression as a covariate due to the moderate correlation between relational and overt aggression detected.

The researchers' findings supported their hypothesis: overall aggressive behaviors were fairly equal among boys and girls, yet relational aggression was significantly more common among girls (with overt aggression being significantly more common among boys). The researchers noted that although a moderate correlation was detected between overt and relational aggression (.54), this was expected, as both types of behaviors represent the overarching category of aggression. They pointed out that relational aggression was differentiated enough from overt aggression to be considered a separate construct. Relationally aggressive girls were significantly lonelier than nonaggressive peers (this finding was not significant for relationally aggressive boys). Relationally aggressive children were also more likely to report higher levels of depression than nonaggressive children. Further, relationally aggressive girls perceived themselves as more poorly accepted by peers than nonaggressive children, and reported more isolation from peers.

In terms of group-type as measured by peer nominations, "controversial" children were more likely to be relationally aggressive than popular, average, neglected, or rejected peers. "Controversial" children were those who were highly liked and highly disliked by their peers at similar rates. The authors stated that controversial children may play a key role in controlling the structure and nature of peer group interactions and their popularity with some peers may create a context in which their social authority allows them to manipulate relationships among other children. The researchers concluded that relationally aggressive children are more typically girls that are unhappy and distressed about their peer relationships.

This study was very well written, based firmly in developmental theory and current empirical research. The authors did an excellent job examining the high number of variables present in the study. The multiple types of instruments utilized may be potentially dangerous for confounding effects of statistical error. The experimentwise error rate that may result is a potential threat to statistical conclusion validity. In addition, the instrument used to identify relationally aggressive children was not a standardized instrument, and therefore results should be interpreted with caution. Although the decision to modify some of the instruments was based on sound rationale, this may also limit generalizability. This study supports the present researcher's assertions that girls experience bullying as much as boys do through relational aggression, relational aggression is often discounted in the research, and relational aggression is psychologically harmful.

Remillard and Lamb (2005) utilized an exploratory correlational analysis to examine the variables involved in the perpetration of relationally aggressive acts

among female friends. Variables included closeness of the relationship between girls, the type of relationally aggressive act, the reaction of the victim at the time of the incident, and changes in the relationship after the incident. The authors also explored whether certain coping mechanisms were related to the relationship variables. The participants included a sample of 82 female middle school and high school students (sixth to 12th grade) from rural and urban settings. The researchers did not report where their sample was obtained, or whether the study was conducted in the United States or abroad. The sample was predominately White (80%), with 13% "Other" and one percent Black.

The researchers' questionnaires included a request for a narrative account of relational aggression in which the participant was victimized followed by several Likert-scale questions regarding the specifics of the incident. Following the relational aggression measure, the participants completed the Revised Ways of Coping Scale, and then concluded with questions about the narrative account. All participants described incidents of relational aggression, with the majority reporting spreading rumors or gossiping (44%), followed by exclusion or ignoring (29%), aggression concerning boys (17%), and telling secrets (10%). A moderate positive correlation was found between closeness of the relationship at the time of the incident and how hurt the participant felt by the incident. Additionally, a strong positive correlation was found between experience of hurt and feelings of anger. Approximately 60% of the girls felt less close to their aggressor friend after the incident, and 40% reported no change or improved closeness after the incident.

Results for coping mechanisms indicated that the more hurt the participant felt, the more they engaged in wishful thinking, blamed themselves, engaged in tension reduction, and kept to themselves. The only coping mechanism found to correlate with a continuation of the close relationship was seeking social support. The authors indicated that the ability to express negative feelings while avoiding confrontation might be the underlying factor that facilitates continuation of the relationship.

This study, as in previous studies reported here, relied upon a researcher-created bullying questionnaire, rather than a psychometrically sound instrument. In addition, the lack of sampling methodology and participant demographic information is concerning as far as data interpretation is concerned. The use of the Ways of Coping Scale opens the door to examine resiliency factors in victims of bullying, yet is very limited in scope and depth. The present study aims to fill in some of these gaps. The researchers recommended a further exploration of the mechanism of social support to gain a clearer picture of how this facilitates relationships after relationally aggressive acts. This recommendation may be partially answered by the current study, as individuals who demonstrate resilience may exhibit more coping behaviors and subsequently are more likely to attempt to work through relationship problems.

Cyberbullying

Burnett et al. (2013) investigated the relationship between social standing and electronic bullying in a single urban high school in Southern California, hypothesizing that high levels of popularity and low levels of social acceptance

would be associated with electronic bully victimization. The researchers also predicted that popular youth would engage in more bullying behaviors. The study included 415 participants with an average age of 14.68. The sample was primarily Hispanic: 70% Hispanic, 6% European American, 4% Asian American, 3% African American, and 13% Other. The families served by the school were described as impoverished.

The study involved peer nomination scales to measure popularity and social acceptance, prompting participants to select up to nine classmates from a complete list of students that they deemed "popular" and those that they "really liked." The authors provided a rationale for the decision to allow for nine nominations on each variable, citing the body of literature. Bullying behavior was measured by a list of questions asking about different experiences including both overt and covert forms of bullying. Structural equation modeling was utilized to determine patterns of association among popularity, social acceptance, and bullying. Data collection occurred in two waves, approximately one year apart.

Results indicated that girls tend to be more electronically aggressive than boys, although victimization between the genders occurred at similar rates. According to the authors, electronically aggressive girls experienced an increase in popularity over time. Further, popular girls became more electronically aggressive from year 1 to year 2. The researchers noted that electronically aggressive girls might utilize this form of aggression to uphold their increasing social status over time. Interestingly, electronic bullying was not related to social acceptance among girls. The authors suggested that although bullies may be disliked by victims and

rejected by a subset of their classmates, they might possess significant social prowess to be liked by a larger portion of their peers. A small, positive correlation existed between popularity and bully victimization among girls. According to these results, popularity is a risk factor for bully victimization.

The authors noted that their findings contrast somewhat with the body of literature, which has often linked social acceptance with lower levels of bully victimization. The researchers suggested that popular girls who are socially accepted may have more exposure and access to a broad social network and subsequent opportunities to bully and to be victimized. Given that data were collected at a single high school with a specific demographic profile, generalizability may be limited. The findings of this study illuminate the relationship between cyber bully victimization and social factors, suggesting that more socially inclined girls may be more vulnerable to victimization. Further, this study highlights the importance of investigating how social networks and peer relationship patterns affect adolescents' experience with bully victimization.

Fredstrom, Adams, and Gilman (2011) aimed to address the following: (a) extend previous research on psychological adjustment outcomes for bully victims and (b) examine the differences in psychological adjustment between school-based victimization and electronic victimization. The researchers hypothesized that electronic-based victimization would have equally significant negative psychological outcomes, even after controlling for concurrent school-based victimization. They also hypothesized that in a comparison of phone-based (i.e., texting) victimization and computer-based victimization, phone-based would be associated with higher

rates of anxiety and depression because the individual may hide and internalize the incidents more, and they would be more likely to know the perpetrator. The authors also hypothesized that computer-based victimization would be related to higher rates of social stress, due to the accessibility of the messages to the peer network and the ability of the perpetrator to potentially remain anonymous. Participants included 802 ninth-grade students (mean age of 15.84 years old) from four high schools in the Southeastern United States, primarily of Caucasian descent (82%). The researchers noted that the school districts did not allow the gathering of socioeconomic data, and therefore this information was not available.

The participants received the commonly accepted definition of bullying as defined by Olweus (1993, as cited in Fredstrom et al., 2011). However, due to the unique context of electronic bully victimization, existence of a power differential and chronicity were not required when considering this version of bullying. Both school-based and electronic forms of bullying were assessed for frequency using a Likert-style questionnaire. Electronic forms of bullying were further broken down into the following categories: emailing, chat rooming, text messaging, phone calling, online posting, picture/video clip. Psychological adjustment was measured with the Behavioral Assessment System for Children Second Edition (BASC-2). The researchers mentioned that the instrument has sound psychometric properties. Instruments were presented in a counterbalanced order across participants.

The researchers found that 27.1% of participants reported at least one school-based bullying incident in the past year. For electronic victimization, 24.7% reported an incident within the past year. Of those reporting electronic forms of

victimization, the most common subtypes were text messaging (64.2%) and phone calling (55.9%), following by online postings (27.5%), email (26.4%), chat rooms (15.5%), and picture/video clips (6.7%). The researchers conducted six linear multiple regressions (one for each BASC-2 scale) for both school-based and electronic victimization. Detailed data analyses were also provided with a scientific rationale provided for each decision point. In addition, six analyses of variance were conducted to determine what, if any, significant differences in adjustment existed for phone-based versus computer-based victimization. The authors noted that they utilized statistical methods in order to control for family-wise error rate and z-score collinearity.

Findings indicated that higher rates of Internet usage were associated with higher rates of electronic victimization. A modest, positive correlation existed between both victimization contexts (school and electronic), suggesting that there is some overlap and some distinction between the two forms. Electronic victimization was associated with all six BASC-2 subscales, while school-based victimization was associated with five (self-efficacy was non-significant). After controlling for the overlap between the two forms of victimization, electronic victimization was still a significant predictor of five BASC-2 subscales including low self-esteem, high rates of social stress, anxiousness, depressive symptoms, and locus of control (self-efficacy was non-significant).

Over half of those reporting electronic victimization endorsed victimization through more than one electronic type. Participants who reported phone-based victimization did not differ in psychological adjustment compared to those who

experienced school-based victimization. However, those who were victimized via computer experienced higher rates of social stress, anxiety, depressive symptoms, external locus of control, and lower self-esteem when compared to the electronic victimization group as a whole.

The authors presented limitations in their research, namely, inability to determine directionality, lack of specificity in types of bullying assessed (i.e., verbal, physical, indirect, et cetera), and unclear sense of whether electronic bullying during the school day constituted school-based or electronic-based victimization. In terms of method and data analysis, the study was well constructed with detailed descriptions of statistical procedure. However, similar to much of the current literature on bullying, no standard instrument was used to assess victimization. Further, it was unclear whether the authors performed any preliminary analyses on their victimization questionnaire to determine the validity and reliability of the items and overall instrument. It was also unclear whether electronic victimization was related to equal or higher rates of psychological adjustment problems than non-electronic forms of victimization. Overall, this study provides strong evidence for the inclusion of electronic forms of victimization when researching bullying behavior.

Juvonen and Gross (2008) suggested that the lack of adult supervision online in conjunction with the perception of anonymity, and potential to spread messages to larger audiences has fueled an increase in cyberbullying, especially among girls. Compounding this issue is that adolescents may be reluctant to let adults know about victimization experiences out of fear that parents may restrict their media

use. The researchers aimed to extend upon previous research to determine whether cyberbullying provides a unique context for victimization experiences, separate from school.

The researchers provided a detailed description of their recruitment methodology. In order to minimize selection bias, the researchers did not refer to bullying or cyberbullying specifically. The sample included 1,454 participants recruited from a popular teen website, 75% of whom were female. The sample was primarily Caucasian (66%), and represented all 50 states.

Internet use was examined using Likert-scales that queried frequency of use, types of electronic communication utilized, and history of usage. Bullying experiences were measured by frequency and type on Likert-scales. The term "bullying" was purposefully withheld, instead providing the prompt, "mean things that someone does that upsets or offends someone else." Participants were questioned about social anxiety utilizing items from an existing instrument. Participants were also asked about whether they knew who bullied them, retaliation attempts, and reporting to adults. The researchers calculated odds ratios through logistic regression analyses to examine the risk factors of repeated cyberbullying. Associations between social anxiety and school-based versus online bullying were examined utilizing hierarchical multiple regression.

Results indicated that older adolescents and girls were more frequent users of the Internet and phone-based media compared to boys and younger teens. Overall, 72% of participants reported at least one experience of online victimization and 77% of participants reported at least one school-based victimization incident.

The authors noted that 85% of the adolescents who reported at least one incident of online victimization also reported at least one incident of school-based victimization within the past year. Most incidents were reported as infrequent, with 43% of the respondents endorsing one to three incidents in the last year, 13% reporting four to six incidents in the last year, and 19% reporting seven or more incidents in the last year. Within online victimizing experiences, the most commonly reported types were name-calling and insults. Instant messaging and message boards were the most common tool used in the attacks. Approximately 90% of participants reported that they did not tell their parents about online victimization.

The authors concluded that online victimization is most frequently an extension of school-based victimization rather than a completely separate entity, and that heavy Internet and media use is a risk factor for victimization. This study provided interesting information about the role of electronic media in the victimization experiences of adolescents. The fact that girls are more heavy electronic media users may increase chances for victimization. The study did not use valid and reliable instruments in their analyses and therefore, it is unclear whether their results are generalizable or represent an accurate representation of the participants' experience.

The high levels of reported victimization may be related to the decision to not include a formalized description of bullying. In most bullying studies, bullying is described as chronic over time, rather than "mean," isolated incidents. However, it is also important to consider how the term bullying may affect participants' perceptions. Another problem with the study as it relates to the present study is the

lack of differentiation between male and female experience for types of victimization and modality of attacks.

Smith et al. (2008) examined the cyberbullying behaviors of London youth. The main research question included the differential impact of cyber versus traditional bullying and the perceptions of cyberbullying among adolescents. All secondary schools in London were invited to participate with a total of 14 schools completing the study. Questionnaires were given to one boy and one girl selected randomly in each grade from years seven through 10, for a total of 92 participants. Ethnicity of the participants was reported to be a good representation of the London area, including 53 White, 10 Afro-Caribbean, seven Black-African, seven Indian, one Chinese, three Mixed Race, and 10 "Other" participants.

The questionnaire portion of the study was followed by focus groups comprising of 47 participants ages 11 to 15 in six schools (different from those who received questionnaires). Each focus group contained seven to eight participants and followed a semi-structured format. Responses were recorded and content was analyzed for main themes. A concordance rate for coding was reported at 83.5%.

For incidence rates of traditional bullying in the last two months, 14.1% of participants reported being bullied several times per week, 31.5% reported being bullied only once or twice, and 54.3% reported not being bullied. For cyberbullying, 6.6% reported being bullied several times per week, 15.6% reported being bullied once or twice, and 77.8% reported not being cyber-bullied in the last two months. In the focus groups, most participants believed that a high percentage of youth would report experiences with cyberbullying. When they were informed that only 22% of

study participants reported cyberbullying victimization in the past two months, the focus group participants were highly skeptical, providing rationales such as "not many people would admit to it" and "because they get threatened if they told."

The most frequent medium for cyberbullying was phone calls, followed by instant messaging, and texting, respectively. Focus groups reported that text messaging was probably the most common form, although the form of greatest concern was video/picture clip. Cyberbullying occurred most frequently outside of school rather than in school, which may be largely influenced by the banning of phones during school hours. In terms of who was perpetrating the cyberbullying behavior, participants reported that 48.7% were in the same grade, 8.5% were from a higher grade, and 22% from a different school. The researchers also noted that 20.7% of cyber-bully victims did not know who the perpetrator was. Gender of bullies was somewhat unknown (25.7%), yet of those who knew the perpetrator, the majority reported that they were girls.

Overall, girls were more likely to be victimized by cyber-bullies and cyber-bullies were more likely to be girls. Although cyberbullying was reported with less frequency than traditional bullying, duration of attacks tended to be significant. The researchers reported that 56.5% experienced cyber attacks for one to two weeks, 18.8% for a couple of months, 5.8% six months, 8.7% for a year, and 10.1% for several years. Findings from this study reinforced previous findings indicating that girls are disproportionately involved in cyberbullying, although it appears that cyberbullying is not as common as traditional bullying. Although this study drew similar conclusions to other studies, the sampling technique utilized may have

produced bias results, as teachers were asked to "randomly" select one boy and one girl from each grade, with no standard sampling procedure recommended. In addition, the small sample sizes when analyzed each by grade and gender may limit the generalizability of results.

Snell and Englander (2010) proposed that cyberbullying is consistent with the types of indirect bullying that is more commonly associated with girls. The researchers aimed to determine whether gender differences within the context of cyberbullying exist. Participants included 213 college students at a suburban mid-sized public university. The participants completed an online survey composed of 218 questions related to bullying and cyberbullying, as well as a number of demographic questions. The authors did not state what the timeline for the victimization was, and therefore it is unclear whether participants were reporting on past or current instances.

Overall, girls experienced more cyberbullying victimization than boys. The use of the Internet to spread hurtful rumors or lies emerged as the most common type of victimization among girls (approximately 42%). Online stalking was also commonly endorsed (approximately 30%) by girls. Other types of victimization experienced by girls included harassing or threatening comments on their "Wall" or social media page (approximately 25%), receiving threatening/bullying instant messages (23%), receiving lies or false, humiliating stories on their wall (20%), receiving a threatening text message (17%), someone posting a negative photo of them (12%), and someone creating a fake profile/web page about them (10%).

The most concerning finding reported by the researchers was that 27% of girls surveyed who had "sexted" stated that they had been coerced, blackmailed, or threatened into doing so. The authors mentioned that warning students about the seriousness of "sexting" may backfire, as individuals who are coerced into sending a photo may be afraid to report out of fear that they will be prosecuted for the distribution of child pornography. The researchers presented a few potential interventions for addressing cyberbullying including student and parent programs. This study provided further support for the problem of girl bullying through the use of media outlets. Cyberbullying is by nature a more relational or indirect form of victimization, which is more commonly utilized by girls. The researchers also mentioned that overlap existed between school and electronic forms of bullying, indicating that school-based victims should be considered at risk for cyber attacks.

The researchers did not support their data with information about statistical and methodological procedures, nor did they present their data in a way that was easy to understand (the only place percentages were reported was on charts that were difficult to read, hence the approximations reported in this annotation). Therefore, potential methodological flaws and threats to validity and reliability are difficult to assess in this study. Additionally, the researchers did not use a standardized instrument for data collection, nor did they conduct a preliminary investigation to determine whether their items were actually measuring a specified construct.

Resilience Factors and Psychological Adjustment

Luthar et al. (2000) aimed to summarize and critically analyze the theoretical construct of resilience, provide a case for the scientific study of the construct, and to provide guidelines on best practices when investigating resilience. The authors stated that in current resilience research, three commonly accepted dimensions are considered critical to understanding competence in the face of adversity: attributes of the child, familial characteristics, and characteristics of the social environment (school, community et cetera). These three dimensions are sometimes referred to as the "triarchic" model or conceptualization of resilience. However, the authors commented that beyond the acceptance of the dimensions that impact resilience, there is much disagreement on how to study the construct.

One major problem is the differences in how resilience is operationalized. This issue is related to how "adversity" is defined and what constitutes positive adjustment. Problems with the definition of resilience have led some to question whether resilience studies are looking at completely different phenomena. However, the authors pointed out that the variability of methods used in scientific inquiry allow for an expanded understanding of the construct at hand.

In addition, several themes have emerged across studies that largely support the three dimensions discussed above. The authors stated that researchers studying resilience should aim to carefully operationalize resilience for their study, including a specific definition for the adversity under investigation as well as the factors that define competence. The authors discussed the difference between resilience and resiliency, sharing the same views as others in the field; namely, resiliency is based

on the trait of ego-resiliency and refers to specific personality characteristics that are independent of adversity circumstances. The authors cautioned that resilience should not be represented as a personality characteristic, as this may lead to perceptions that individuals are at fault for not having the guile to overcome life's challenges.

Another key issue presented by the authors is that resilience research involves a spectrum of different adjustment domains that must be explicitly addressed and considered separately (i.e., academic striving and peer acceptance). The authors also suggested selecting factors that are known to relate to the risk variable. For example, among those at risk for developing a mood disorder, the resilience factors to focus on may include achievement of self-regulation and other similar protective factors. Concerns about what level of functioning constitutes resilience are flushed out, encouraging researchers to make this determination based on how severe the adversity is.

The authors strongly recommended grounding resilience research in theory. Beyond the triarchic conceptualization described above, they also discussed the ecological-transactional model (for example, Brofennbrenner) and the structural-organizational perspective (individual choice providing the context for interactions with the external world). In the last portion of the report, the authors provided suggestions for future research including careful operationalizing of variables, describing findings only within the domains that the resilience is manifested, and designing studies in a well-defined theoretical framework. This report, arranged by well-known resilience researchers, provides structure as well as a theoretical

background on resilience. Using the suggestions outlined in this article will help the researcher determine how to describe resilience within the context of the present investigation, paying carefully attention to how the domains the researcher wishes to explore relate to psychological adjustment outcomes for bullied youth.

Fergus and Zimmerman (2005) provided an overview of the recent research on resilience and youth, presenting three models of resilience theory, and discussing issues and limitations within resilience theory. The authors described resilience as the process of overcoming the negative effects of risk exposure, successful coping with negative experiences, and avoiding negative trajectories that are associated with risk or negative situations. Further, they stated that resilience requires the presence of risk exposure. The authors stated that resilience theory is strength-focused, rather than deficit-focused. The authors broke down resilience into two broad categories: assets (intrinsic qualities) and resources (based on the environment/context).

The authors described three prevalent models of resilience including compensatory, protective factor, and challenge. In the compensatory model, a promotive factor counteracts or deflects a risk factor. In this model, there is a direct effect between the promotive factor and the risk factor. In the protective factor model, resilience factors moderate or reduce the effects of a risk on a negative outcome. Lastly, in the challenge model, exposure to low and high levels of a risk factor are associated with negative outcomes, but moderate levels are associated with less negative, or even positive outcomes. This is attributed to the fact that the

individual is given an opportunity to learn how to overcome a challenge at reasonable levels.

The authors pointed out that resilience is specific to the context, population, risk factors, and promotive factors involved, and the likely outcomes. Additionally, specific assets may be linked to specific risk and outcome pairings. As such, the authors suggested that self-report instruments may not be in line with resilience theory. The authors pointed out that by attributing resilience to trait-like characteristics, the blame for negative outcomes might fall upon the individual. In addition, prevention efforts may be thwarted, as traits are not something that is likely to change. Several limitations of resilience research are highlighted, including the need to consider regression towards the mean as a reason why those exposed to a risk show less negative outcomes over time (rather than a promotive factor). In addition, the authors pointed out that promotive factors may not operate independently, but rather, they interact together to influence outcomes.

This article provided important background on models of resilience theory and considerations that will be important when evaluating data in the current investigation. Specifically, the idea that certain assets and resources may be associated with buffering the negative effects of bully victimization highlights the importance of the present study. Since the longitudinal effects of bully victimization on psychological adjustment have been well-documented in the literature, regression towards the mean is not a large concern for the present study. The article did not include original research, but provided an overview of the theory behind the concept of resilience. In the present investigation, resilience will be measured with a

standardized instrument so it is therefore important to provide a strong rationale for doing so, as highlighted in this article.

Fleshman and Schoenberg (2011) highlighted key research findings from the Girl Scout Institute related to the development of resilience characteristics among African American and Hispanic girls. The authors provided a summary of recent research findings from the Girl Scout Institute, including a nationwide survey of girls ages eight to 17. The authors also integrated findings from other researchers in order to discuss the bidirectional relationship between resilience, leadership, and advocacy among girls.

African American and Hispanic girls rated themselves higher than Caucasian and Asian American girls on a number of characteristics such as overall self-confidence, creativity, caring, problem-solving, collaborative decision making, using inclusive approaches, and learning by sharing different perspectives. The authors noted that the plight of minority youth and the struggles they face may foster the development of resilience factors. The authors cited the American Psychological Association's Task Force on Resilience and Strength in Black Children and Adolescents (2008) describing resilience development as an interaction among one's strengths, resources, and risk factors that occur across time and contexts. Beyond the three well-established variables in resilience development (the self, the family, and the community), the authors suggested that for African American and Hispanic children, a fourth factor of culture and ethnic identity may act as a significant mechanism in the development of resilience.

The authors reported that African American girls endorsed higher levels self-esteem, flexibility of gender roles, and positive body image compared to Caucasian girls. The authors believed that these characteristics stem from positive influences of their culture, and may even provide a buffer against media images targeting young women. The authors cited research by Gordon (1996) indicating that perception of cognitive abilities and sense of belongingness distinguished resilient from non-resilient Hispanic girls. The role of supportive family appears to foster the growth of resilience for both African American and Hispanic girls, according to the authors. Within the community, the authors highlighted research on the role of religion and resilience development, especially among African American youth. Racial socialization, including the promotion of cultural pride and history, has been linked to resilience in African American youth. Additionally, the ability to navigate the mainstream and their own cultures successfully has been correlated with resilience traits in Hispanic girls.

This article provided a perspective on resilience that is culture-bound, and not typically highlighted in other studies on resilience factors. In addition to the idea of ethnic identity as a resource for resilience development, the authors highlighted specific attributes of culture that promote resilience, such as the process of acculturation, flexibility of gender roles, and perceptions of cognitive ability. The article suggested that resilience may look different cross-culturally, with different environmental characteristics influencing resiliency traits. However, there was some overlap in this article and other research on resilience presented in this document. Namely, the presence of optimism and social support/belongingness was

relevant across the literature. This article was written for the lay community and does not provide empirically derived information regarding data collection and analysis. Additionally, the authors cited a substantial amount of information from secondary sources.

Martel et al. (2007) aimed to assess the relationship between executive functions and resiliency traits in children. The sample included 498 children sourced from an ongoing longitudinal study of executive function in children with substance abusing and non-abusing parents. Descriptive statistics for the sample were not provided. Measures were taken when the children were 12 to 14 years old, and again at 15 to 17 years old. Executive function was measured by a number of neuropsychological instruments with known validity and reliability adequate for psychological research including: the California Q-sort, Wisconsin Card Sorting Task, Stopping Task, Symbol-Digit Modalities Test, Controlled Oral Word Association Task, Stroop Color-Word Interference Test, and the Tower of Hanoi. Academic achievement was measured with the WRAT-Revised and the WRAT-III. Social competence and child problem behaviors were measured using the Achenbach CBCL and TRF forms.

Various statistical methods were employed including linear correlations, t-tests, and regression analysis to interpret the data. The researchers reported that a positive relationship existed between resiliency and executive function. They postulated that on one hand, early resiliency might contribute to a strengthening of executive functions during development by allowing for successful coping in the face of problem-solving. On the other hand, the researchers suggested that early

executive functions may support the development of resiliency by enhancing coping skills. A third possibility offered by the researchers is that there may be overlap in frontal lobe areas that promote resiliency and executive functions.

This article was extremely challenging to understand in terms of jargon, level of statistical sophistication, and following from study goals to outcomes. The researchers did not provide a strong rationale for their measures and how they related to the construct of resiliency, as this was not directly measured but appeared to be indirectly inferred. Further, the sample was not well-described. Although the researchers examined the possible biological influences of resiliency, environmental factors that are known to contribute to resiliency were not assessed. Generally, it appears that executive functions and resiliency factors are somewhat connected, suggesting that there is a biological component involving certain areas of the frontal lobe. This study supports the use of resiliency measures aimed at individual traits.

Rink and Tricker (2005) presented an overview of resilience research, summarizing the protective factor model and the compensatory model. The authors highlighted the dynamic influence of individual traits, family, community, and values/norms/cultural beliefs on the development of resilience, labeling a number of well-researched promotive factors in each domain. The authors supported the findings mentioned in other studies on resilience. The authors provided a number of examples of promotive factors that are linked to resilience. However, this article is not original research, and simply highlights previous literature, which is mostly from the 1990's.

Zunic-Pavlovic, Pavlovic, Kovacevic-Lepojevic, Glumbic, and Kovacevic (2013) conducted a study on the role of resiliency in adjustment outcomes for adolescents. Their sample included 805 adolescents ages 15 to 18 from seven high schools in Kraljevo, Serbia, with four randomly selected classrooms participating from each school. The researchers utilized the Reynolds Adolescent Adjustment Screening inventory as a measure of psychological adjustment problems, which contains internalizing (emotional distress and positive/negative self) and externalizing (antisocial behavior and anger control problems) domains. Internal consistency was reported as acceptable. Resiliency was measured using the Resiliency Scales for Children and Adolescents (RSCA), which is composed of three main scales: Sense of Mastery, Sense of Relatedness, and Emotional Reactivity. The RSCA was reported to have strong psychometric properties.

The researchers analyzed their data using multiple methods, including descriptive statistics (means and standard deviation's for variables in the study were run for the entire sample, as well as boys and girls separately), correlational analysis (resiliency x adjustment, age x adjustment, gender x adjustment), and hierarchical regression analysis (for example, how much does resiliency account for the variance in adjustment problems?). The authors reported a number of results at the various levels of analysis. At the descriptive level, girls reported higher levels of emotional distress, as well as generally higher scores on the resiliency measures (with the exception of Comfort with Others, Recovery, and Impairment). At the correlational analysis level, a negative correlation was found between adjustment problems and a sense of relatedness and sense of mastery.

A positive correlation was observed between adjustment problems and emotional reactivity. Emotional distress was highly negatively related to optimism, self-efficacy, adaptability, sense of trust, perceived access to support, and tolerance of others. Emotional distress was significantly positively correlated with sensitivity, recovery, and impairment. A negative correlation was observed between negative self-problems and optimism, self-efficacy, adaptability, trust, support, comfort, and tolerance. Negative self-problems were positively related to sensitivity, recovery, and impairment. Additionally, female gender was related to higher levels of emotional distress, optimism, self-efficacy, adaptability, trust, support, tolerance, and sensitivity.

Within the regression analysis, the authors reported that resiliency contributed significantly to the variance in adjustment problems among their sample of adolescents, more so than both gender and age. For example, resiliency accounted for 32% of the variance in emotional distress and 21% of the variance in negative self-problems. Less optimism combined with more comfort, sensitivity, recovery, and impairment significantly predicted higher levels of emotional distress. Those with reports of poor optimism, trust, support and comfort, along with higher sensitivity predicted negative self-problems.

The authors chose to examine resiliency as an internal characteristic, rather than including external/environmental factors. In terms of their instrumentation, the use of the Reynolds may not be the best choice. This instrument is meant for use as a brief screener, and may not fully capture specific adjustment problems in youth. Further, the psychometric properties are not as high as other similar instruments,

such as the Achenbach YSR or the BASC-2. However, this choice may have allowed the authors to minimize the amount of time it took their participants to fill out the measures.

As noted in the article, the psychometric properties of the RSCA are highly sound, and the instrument takes into account the intrinsic factors of resiliency that are highly researched and accepted in the field of resiliency research. However, the subscales were not clearly defined so it was hard as a reader to determine what "impairment" was, for instance. Providing more clear information about the resiliency factors would have been helpful. This study also pointed out that girls are more susceptible to emotional distress and negative self-problems than boys; yet also tend to report more resiliency. The present study will highlight the plight of girls and their specific experience with emotional adjustment and the resiliency factors that contribute to both positive and negative outcomes.

Chapter III: Method

Instruments

The principal investigator reviewed the literature on instrumentation appropriate for use in the population under study to determine the measures to be utilized. Considerations for inclusion involved age range norms, constructs examined, length and time for completion, and psychometric properties of the instrument. In addition, accessibility of the instrument and the required level of training for administration were considered. Each instrument is discussed in detail below.

Demographic data. Demographic information relevant to this study was included on a separate questionnaire. Demographic characteristics were selected based on known factors related to psychological adjustment, resilience, and experience with bully victimization. Some factors, such as household income or home life factors were not included, as this sensitive information may not be appropriate for the school environment and/or it may not be known to the participants. Categorical demographic data were dummy coded and analyzed to explore group differences and correlations among demographic factors and characteristics of the sample. Demographic data included grade level (9th, 10th, or 11th), age (14 to 16), race/ethnicity, Grade Point Average (GPA), and school attended (public or private). Race/ethnicity categories were as follows: Caucasian, East Asian, Southeast Asian, Hispanic, African American/Black, Biracial, and Other. GPA was broken out into the following categories: 1.0 - 2.0, 2.1 - 2.5, 2.6 - 3.0, 3.1 - 3.5, 3.6 - 4.0.

Internal resilience factors. The Resilience Scale for Children and

Adolescents (RSCA) (Prince-Embury, 2006) is a nationally representative and norm-

based self-report measure for assessing intrinsic attributes of resilience in children

ages nine to 18. The 64-item instrument includes three stand-alone global scales

and 10 subscales: (a) Sense of Mastery Scale: Optimism, Self-Efficacy, and

Adaptability (20 items total); (b) Sense of Relatedness Scale: Trust, Support,

Comfort, and Tolerance (24 items total); and (c) Emotional Reactivity Scale:

Sensitivity, Recovery, and Impairment (20 items total). Global scales are reported as

t scores, with a mean of 50 and a standard deviation of 10. Scores of 60 and above

on the Emotional Reactivity Scale and 40 and below on the Sense of Mastery and

Sense of Relatedness Scales are considered clinically significant. Derived from the

three global scales are two index scores: Resilience Resource and Resilience

Vulnerability. The Resilience Resource Index includes the Sense of Mastery Scale

and the Sense of Relatedness Scale. The Resilience Vulnerability Index describes the

discrepancy between the youth's Emotional Reactivity Scale and the Resilience

Resource Index. Index scores are reported as t scores with a mean of 50 and a

standard deviation of 10. Scores of 40 and below on the Resilience Resource Index

and 60 and above on the Resilience Vulnerability Index are considered clinically

significant.

According to the instrument authors, the questionnaire requires a third-

grade-reading level. The technical manual stated that the conceptual framework for

the operational definition of resiliency as measured by the instrument stems from

the notion of ego resiliency first described by Block and Block (1980) (as cited in

Prince-Embury, 2006). The three global scales are also rooted in theoretical models of psychosocial development. The scales and subscales first formulated theoretically were then evaluated empirically to determine which factors measured each construct.

Within the Sense of Mastery Scale, the subscale of Optimism is defined as a positive attitude towards the world and life, and about an individual's life specifically. The subscale of Self-Efficacy is defined as a person's approach to life challenges and a sense that one can overcome their environment. Adaptability is described as an individual's receptivity to feedback, ability to learn from mistakes, and the willingness to ask for assistance when needed.

Within the Sense of Relatedness Scale, Sense of Trust is described as one's perception about the degree to which others are reliable and accepting, and the degree to which the individual can be genuine in the relationship. The Perceived Access to Support subscale is defined as one's belief as to whether there are other people they can turn to when faced with difficult circumstances. The Comfort With Others subscale is said to measure one's ability to be in the presence of others without discomfort or anxiety. The Tolerance of Differences subscale measures one's belief that she or he can safely express differences within a relationship.

Within the Emotional Reactivity Scale, the Sensitivity subscale measures the threshold for reaction and intensity of reaction to emotionally arousing stimuli. The Recovery subscale is defined as one's ability to bounce back from emotional arousal. The Impairment subscale measures the degree to which the person can maintain emotional balance when aroused.

Psychometric properties of the instrument were presented in the technical manual. The original sample was stratified across a number of demographic variables based on information provided by the U.S. Census Bureau, in order to create a nationally-representative norm base. Internal consistency across three age bands (nine to 11; 12 to 14; and 15 to 18) for the three global scales is moderate to high (.85 - .95). High internal consistency is also reported for all age bands within the two index scores, Resource and Vulnerability, at .93, .94, and .97, respectively. Subscale internal consistencies varied from .56 to .92 across the age bands. Generally, internal consistencies increased with each age band.

Test-retest reliability was moderate to high across age bands and gender. Females showed more consistency over time compared to males. Confirmatory factor analysis was utilized to test the factor structure and assess instrument validity. The analysis revealed the model was supported. Evidence of convergent and divergent validity was supported through significant correlations with other psychometrically-sound measures such as the Beck Youth Inventories--Second Edition and the Piers-Harris 2.

Prince-Embury (2011) summarized the theoretical constructs underlying each global scale on the RSCA. The author reported that the RSCA addresses intrinsic resiliency factors from a developmentally appropriate perspective and has sound psychometric properties. The Sense of Mastery Scale was described as an individual's self-efficacy and one's ability to interface with and enjoy cause and effect relationships in the environment. The author cited White (1959), stating that a sense of mastery is driven by an intrinsically rewarding natural curiosity. The

Sense of Relatedness Scale refers to the perceived support an individual receives from their interpersonal relationships in a given situation as well as the cumulative effects of healthy interpersonal relationships shielding them from negative psychological outcomes. Lastly, the Emotional Reactivity Scale measures an individual's arousability or threshold of tolerance prior to an exposure of an adverse event.

The present investigation utilized the three stand-alone global scales—Sense of Mastery, Sense of Relatedness, and Emotional Reactivity—as independent variables in the exploratory analysis. The two index-level scales served as both independent variables and as moderating variables. The Resource Index will be referred to throughout this study as Internal Resilience. The Vulnerability Index will be referred to as Resilience Vulnerability.

External resiliency factors. External factors that are related to resilience in youth were assessed by utilizing specified items on the Competence Composite of the YSR, including participation in sports, hobbies, and clubs/organizations/groups, number of friends and frequency of time spent with friends, and relationship with parents. A discussion of the psychometric properties of the YSR and more detailed information on the Competence Composite can be found in the section on psychological adjustment measures below. External Resilience was defined as the t score obtained on this measure.

Psychological adjustment. The Youth Self-Report (YSR) (Achenbach, 2001) is a Likert-style questionnaire with eight empirically derived syndrome scales including: Withdrawn/Depressed, Somatic Complaints, Anxious/Depressed, Rule-

Breaking Behavior, Aggressive Behavior, Social Problems, Thought Problems, and

Attention Problems, yielding Externalizing and Internalizing composites and a Total

Problems composite score. Both syndrome scales and composites are reported as *t*

scores with a mean of 50 and a standard deviation of 10. Scores of 60 and higher are

considered clinically significant. In addition, the YSR includes a Competence

composite that assesses participation in a variety of activities and social

interactions. Previous literature provides a broad and varied definition of external

resilience factors, including relationship and involvement with school, family, and

peers; engagement and efficacy in organized activities, and academic performance

(Fergus & Zimmerman, 2005; Luthar et al., 2000; Rink & Tricker, 2005). Therefore,

the Competence composite will serve as a measure of External Resilience in the

present study. This composite is also reported as *t* scores. The technical manual

provides detailed information on the psychometric properties of the instrument, as

well as a background on test construction and norming procedures. The YSR

normative data were constructed by utilizing a national probability sample of non-

referred children from 1999–2000, with a total of 1,057 youth. This sample is said to

be representative of the United States population on a number of demographic

factors.

The manual states that the empirically derived syndrome scales were

developed using factor analyses of the correlations among questionnaire items. To

further solidify the level of internal reliability among composite and syndrome scale

scores, the researchers reported Cronbach's alpha: syndrome scales = .71 - .86 and

composite scores > .90. In terms of test-retest reliability for the YSR, Pearson

correlations were calculated for both composite and syndrome scale scores. For the

Competence composite, $r = .89$ and for the Total Problems composite

$r = .87$. Test-retest Pearson correlations for syndrome scale scores varied from

.67 - .88. Longitudinal stability of the YSR was measured over a seven-month period

for a sample of children ages 11 to 14. Average Pearson correlations were calculated

as .54 on the Adaptive/Competence scales and .53 on the syndrome scales.

The authors stated that the content validity of the YSR is strong, citing four

decades of research and refinement. They noted that all questionnaire items

discriminate significantly ($p < .01$) between demographically similar referred and

non-referred children. In terms of criterion validity, YSR syndrome scales

demonstrated significant discrimination ($p < .01$) between referred and non-

referred children utilizing multiple methods including odds ratios, discriminant

analyses, and multiple regressions. Further, the authors stated that the clinical cut-

points were established utilizing criterion validity data. Lastly, construct validity

was addressed utilizing factor analyses to determine what contributed to each

particular scale. In terms of concrete validity studies, the data is minimal yet the

authors report evidence that the YSR correlates diagnostically to other similar

measures of youth behavior and affect.

The criterion variable utilized in the current study is psychological

adjustment as assessed by the Internalizing composite scaled scores on the YSR.

Therefore, Psychological Adjustment Problems will be operationally defined as self-

reported internalizing problems among adolescent girls. This is consistent with the

literature that indicates that bully victimization is more associated with

internalizing problems compared to externalizing problems. Subscale scores within the Internalizing composite will not be analyzed individually in order to increase reliability, as the subscales have lower reliability than the composite scores.

Experience with bullying. The Multidimensional Peer-Victimization Scale (MPVS) created by Mynard and Joseph (2000) was highlighted in the Centers for Disease Control and Prevention's (CDC) official report on recommended bullying instruments (2011) used for research purposes. The MPVS is a victim-only, 16-item measure for ages 11 to 16 with four subscales assessing physical and verbal victimization, social manipulation, and property attacks. Mynard and Joseph developed the MPVS utilizing empirical methodology to determine what factors account for the variance in bully victimization. The preliminary study that resulted in the creation of the instrument aimed to (a) use Principal Components Analysis to delineate different types of peer-victimization, and (b) develop a psychometric self-report measure of different types of peer-victimization suitable for use in the study of peer-victimization and the relevant correlates.

The original sample consisted of 812 students ages 11 to 16 in Essex, England who were provided with a definition of bullying that included two key criteria: intent and imbalance of power. The participants then completed an anonymous self-report questionnaire asking whether they experienced bullying at school (yes/no) and the frequency to which they encountered 45 victimizing experiences during the last school year (Likert scale with 0 = not at all; 1 = once; 2 = more than once). The researchers reported some descriptive statistics on victimizing frequencies for gender and type of bullying, and conducted a Principal Components Analysis (PCA)

to determine which, if any, victimizing experiences significantly accounted for the variance in reported victimization.

Overall, 43% of the sample (169 boys and 180 girls) endorsed at least one experience with bully victimization. Specifically, among the girls who were bullied (44% of all girls sampled), 23% were bullied by boys, 40% were bullied by girls, and 37% were bullied by both boys and girls. All 45 items and all participant responses were utilized to conduct PCA. A nine-factor solution accounted for 54.8% of the variance. Items with factor loadings greater than .50 were selected. In line with statistical standards, the researchers threw out factors with less than 4-item loadings at the .50 level. This produced four factors: physical victimization, verbal victimization, social manipulation, and property attacks.

For each of these factors, the top four items with the highest factor loadings were retained for inclusion in each of the four subscales. These subscales and their corresponding items were then re-entered into the PCA model, again yielding the previously discussed four factors. All items loaded above .49 on their proposed factor and below .38 on all other factors. Internal reliability for each subscale was satisfactory: Physical Victimization = .85, Verbal Victimization = .75, Social Manipulation = .77, and Property Attacks = .73. Convergent validity was measured by comparing the endorsement of victimizing experiences on the questionnaire with self-reported victims and non-victims. Self-nominated victims scored significantly higher on each of the four subscales.

In terms of gender differences, girls scored significantly higher on social manipulation and equally to boys on verbal aggression. The researchers did not

report demographics beyond gender and age, limiting generalizability. Due to this issue, it is unclear whether the instrument is appropriate for populations that differ from the one sampled in this study, especially given that the background of those who will be sampled is not yet known.

This study produced a potentially useful instrument for the study of bully victimization, utilizing empirically derived data to determine what factors are important to examine when asking about bully victimization. This study also verifies that females are not only bullied at similar rates (or higher) to males, but also, the bullying they experience is typically social in nature. As this type of bullying has often been left out of the research on bullying (due to lack of bullying-specific instrumentation or instruments that do not account for relational aggression), girls' experiences have not been quantified appropriately in much of the literature. Additionally, studies looking at bully victimization may have found higher rates among males due to sampling a younger age range. As stated by other current researchers, relational forms of bullying are more common in the older age range due to the cognitive sophistication necessary to carry out the attacks.

This instrument may provide a clearer picture of how adolescents are victimized. However, future research should study the instrument's reliability and validity in various populations to determine whether the instrument is appropriate for use in different settings. Compared to the other bully victimization instruments reviewed for possible use in the present study, the MPVS accounts for relational aggression far and above the others. Although the MPVS does not account for

cyberbullying, no instruments that empirically measured both cyberbullying and relational aggression were available.

Self-reported experience with bully victimization as measured by the MPVS will be utilized in the present study as a predictor. In addition to the four domains assessed on the MPVS, an additional Likert-style question regarding exposure to cyberbullying will be included. Bully Victimization is defined as a raw count of bullying incidences within the last year, across all four domains.

Construction of the Survey

In May 2014, the principal investigator contacted the publishers (Appendix A) of each copywrited instrument in order to gain permission to utilize and reproduce the questionnaires. Permissions and guidelines provided by the publisher were followed according to instructions. Surveys were compiled into a single document, and appeared exactly as in the original instrument (for example, no words were substituted or changed). The principal investigator attempted to follow the formatting of the surveys as accurately as possible, including gridlines, boxes, and spacing. One additional item was added to the MPVS to address the issue of cyberbullying: "Posted something mean or untrue about me online." The principal investigator piloted the survey with one high school student with parental permission to determine approximate completion time (this survey was not included in data analysis). Total time for completion was approximately 15 minutes. Questionnaires were anonymous and presented in a fixed order: demographic questionnaire, RSCA, Competence and Internalizing composites of the YSR, and an adapted version of the MPVS (addition of one Likert-style question regarding

experience with cyberbullying victimization). Questionnaires were assigned a

random number for coding purposes.

Sample

Participants were sourced via a two-stage convenience sampling procedure.

During the first stage in spring 2014, proposals were emailed to nine school districts

and two private schools in King County, WA that were within approximately 20

miles of the researcher, inviting them to participate in the study (Appendix B). As an

incentive, the school districts were offered a free, in-service training on bullying

prevention and response, and access to the results of the study for district planning

purposes. Each district varied in their process of reviewing research proposals. For

example, some school boards reviewed the request informally; some provided the

researcher with an application to be reviewed by district officials, while others

forwarded requests to individual school principals. The researcher was granted

permission from one school district (serves one high school) and one private high

school. All girls between the ages of 14 to 16 with a self-determined reading level of

sixth grade or higher currently enrolled in one of the two schools were invited to

participate in the study.

The public school is located in a small, affluent community with a population

of 24,359 and an annual median household income of $126,359, according to the

U.S. Census Bureau (2013). The city contains only one public high school. This

high-achieving 9th to 12th grade school has been recognized at both the state and

national level for high academic achievement and rigor, recognizing eight National

Merit Scholars in the 2013-2014 school year and placement of 93% of graduating

seniors in college programs, according to the school website. Anticipated enrollment for the 2014–2015 school year included 1,472 students. Racial demographics for the school are as follows: 76% Caucasian, 20% Asian, 2.6% Multiracial, 1% African American, and 0.4% American Indian.

The private school is a small, Catholic 6th to 12th grade school (separate co-located middle school and high school campus) located in an upper-middle class suburban community of 50,169 people and an annual median household income of $143, 919, according to the U.S. Census Bureau (2013). The school enrolled 669 high school students for the 2014–2015 school year. Similar to the public school, the private school is known as a high-achieving and academically challenging institution, with 99% of 2014 graduates attending college programs, according to the school website. Racial demographics for the school are as follows: 76.7% Caucasian, 8.7% Asian, 5% Multiracial, 3.2% African American, 3.7% Hispanic, and 2.7% American Indian/Pacific Islander.

A power analysis using the guidelines outlined by Cohen (1992) revealed that 67 participants would be necessary to detect a medium effect size (.15) with an alpha coefficient of .05, and .80 power. In considering potential drop-outs, absences on data collection dates, and potential unusable data, the random sample targeted a minimum of 100 individuals.

Procedure

The process of recruiting participants and administering surveys varied based on the recommendations of the individual schools. In both cases, the researcher collaborated with school officials to determine the procedures. Planning

the specific procedures for both recruitment and data collection was a fluid, ongoing process requiring regular communication, coordination, and flexibility. As an incentive to participate, all participants at both schools were offered free snacks (donuts or cookies) at the time of survey administration and entered into a raffle to win a $150 Amazon gift card. In an effort to limit harm, informational brochures and resources for mental health services, community support, and school-based counseling were available to all participants.

Public school. At the public school, the investigator set up a small booth during the student registration period on August 25, 2014 and August 29, 2014. Donuts were provided. Approximately 1,058 students and their parents were expected at this event. Booths for a variety of school activities, required payments, and equipment check-out were set up in a circuit that students followed down several hallways. The investigator recruited students as they walked by, providing a brief overview of the study (as outlined in the informed consent) and answering any questions asked. Informed consent was obtained from parents and assent from participants at this time. Because surveys were administered at the time of recruitment, a parent or legal guardian had to be present at the registration period in order for the student to participate. Surveys were completed at a separate table behind the recruitment booth. Participants were provided with pens (all identical). Participants were given colored rectangular cardstock for shielding their answers to ensure privacy. When participants turned in their survey, they entered their names and emails into the raffle using folded notecards.

Private school. On September 10, 2014, the researcher attended

Curriculum Night on the school campus. The researcher set up a small booth, similar

to the display created for the public school. Cookies were provided. During the

welcome address, the Dean of Students provided a verbal description of the project

as prepared by the researcher, and invited families to visit the booth to learn more

about the research and provide consent for their daughters. Parents were informed

that students with parent permission on record would be invited to participate at a

later date, and participation would be optional at the discretion of the student. For

the duration of Curriculum Night, the researcher was available to collect consent

forms, answer questions, and provide more information regarding the study.

Parents who provided consent were advised to let their children know that the

school would contact them regarding participation in the study. A total of 28

consent forms were collected.

On September 15, 2014, students identified as eligible to participate (14- to

16-year-old girls with parental consent on file) were contacted by the Dean of

Students to invite them to participate in the study. Students were instructed to

attend a brief informational session with the researcher to learn more about the

study and participation. Interested students met with the researcher in a reserved

classroom during an open period during the school day. This open period is typically

used for students to work on homework, meet with school staff, et cetera.

Prospective participants were given a verbal summary of the consent form outlining

the purpose of the study and procedures for participation. Students were then

recruited by signing the assent section of the informed consent document.

Participants were given colored rectangular cardstock for shielding their answers to ensure privacy. When participants turned in their survey, they entered their names and emails into the raffle using folded notecards.

Participants

A total of 117 girls agreed to participate in the study. After excluding ineligible participants and accounting for dropouts, 111 individuals participated in the study. Of the 111 participants, 90 were from the public school and 21 were from the private school. Nine surveys were not fully completed and were removed from further analysis. A total of 102 cases were included in the preliminary analysis (Figure 1). The sample included approximately 16% of eligible individuals at the public school, and 8.5% of eligible individuals at the private school. Demographic data for the participants is presented in Table 1. Median age of participants was 15 and the modal grade level was 9th grade. Modal race/ethnicity was Caucasian. Modal GPA was 3.6 – 4.0.

Figure 1. Participant recruitment flowchart.

Table 1

Demographics of the Sample

Variable		Sample					
		Overall (*n* = 102)		Public School (*n* = 81)		Private School (*n* = 21)	
		N	%	*N*	%	*N*	%
Age							
	14	44	43.1	37	35.7	7	33.3
	15	30	29.4	22	27.2	8	38.1
	16	28	27.5	22	27.2	6	28.6
Grade							
	9th	42	41.2	34	42.0	8	38.1
	10th	31	30.4	24	29.6	7	33.3
	11th	29	28.4	23	28.4	6	28.6
Race/Ethn							
	Caucasian	79	77.9	62	76.5	17	81.0
	East Asian	7	6.9	7	8.6	0	0.0
	Biracial	6	5.9	5	6.2	1	4.8
	Other	5	4.9	4	4.9	1	4.8
	Southeast Asian	4	3.9	2	2.5	2	9.5
	Hispanic	1	1.0	1	1.2	0	0.0
	AfAmr/Black	0	0.0	0	0.0	0	0.0
GPA							
	1.0 - 2.0	1	1.0	0	0.0	1	4.8
	2.1 - 2.5	1	1.0	1	1.2	0	0.0
	2.6 - 3.0	6	5.9	5	6.2	1	4.8
	3.1 - 3.5	28	27.5	23	28.4	5	23.8
	3.6 - 4.0	66	64.7	52	64.2	14	66.7

Securing confidential data. All surveys and consent forms were collected into separate folders for confidentiality purposes. Both documents were stored in a locked filing cabinet at the home of the principal investigator. The home has three locks at the entrance, as well as a live-response security alarm system. Surveys did not contain names or identifying information that could single out an individual student. The researcher did not contact any participants before or after the data collection period, with the exception of notifying the raffle winner via email and mailing out the Amazon gift card.

Data Analysis

Surveys were tabulated according to the scoring procedures of each instrument. All calculations were checked twice by the principal investigator and an assistant, with all work shown on surveys for fidelity purposes. Data were entered into the SPSS program for analysis. Data entry into SPSS was verified by a research assistant. The researcher followed the guidelines in Mertler and Vannatta (2010) for pre-analysis data screening to check for missing data, outliers, normality, linearity, and homoscedasticity. The two schools were analyzed separately during the pre-analysis due to assumed differences between the samples. Categorical variables utilized in the regression analysis were recoded into dummy variables.

Missing data. Data were scanned for missing values and cross-referenced for typos with the help of a research assistant. No missing values were detected. Typos were corrected as needed.

Outliers. Univariate outliers were examined with histograms, frequency distributions, boxplots, and stem-and-leaf plots. Several outliers were identified and

recoded according to the procedures outlined in Mertler and Vannatta (2010) to correct extreme values by altering them to a value that is within the extreme tail of the accepted distribution. Two variables—physical bullying and cyberbullying— were removed from further analysis, due to the high number of outliers. To assess multivariate outliers, Mahalanobis' Distance was calculated. The critical value for chi-square (X^2) with nine degrees of freedom was 27.88 when $p < .001$. Based on this result, three cases ($X^2 = 89.50$, $X^2 = 80.66$, and $X^2 = 32.06$) were removed from further analysis.

Normality, linearity, and homoscedasicity. Univariate normality was examined utilizing normal Q-Q plots and corresponding data on skew, kurtosis, and the Kolmogorov-Smirnov statistic for all continuous variables. The transformation method used was based on recommendations from Mertler and Vannatta (2010). Transformations for both original and recoded variables were attempted and evaluated side by side. Retained variables were those that exhibited the most normal distribution for each of the corresponding constructs (Table 2). GPA and Race/Ethnicity were recoded into fewer groups due to small sample (fewer than 20 participants in a category) in many categories. Race/Ethnicity was recoded to Caucasian and Other Race. GPA was recoded into 1.0 - 3.0, 3.1 - 3.5, and 3.6 - 4.0.

Table 2

Variable Transformations

Original Variable	Violation of Normality	Transformation	Retained Variable
Psychological Adjustment Problems	moderate positive skew	Square root	transformed
Bully Victimization	substantial positive skew	Log	transformed
Verbal Bullying	moderate positive skew	Square root	Original
Social Manipulation	substantial positive skew	Log	transformed
Property Attacks	moderate positive skew	Square root	transformed
Internal Resilience	moderate negative skew	reflect & square root	Original
Resilience Vulnerability	moderate positive skew	Square root	transformed
Sense of Mastery	moderate negative skew	reflect & square root	Original
Sense of Relatedness	substantial negative skew	reflect & square root	transformed
Emotional Reactivity	--	--	--
External Resilience	moderate negative skew	reflect & square root	Original

Bivariate normality was then examined with a scatterplot matrix utilizing the variables obtained in the preceding steps. Demographic variables, Psychological Adjustment Problems, Bully Victimization (total score of instances), Sense of Mastery, Sense of Relatedness, Emotional Reactivity, Resilience Vulnerability, and Internal Resilience were generally elliptical. Bully Victimization subscales were non-elliptical, even with attempted transformations. External Resilience was slightly non-elliptical (with appropriate transformations), but to a less significant degree. Variables retained for data analysis were as follows: demographic variables, Psychological Adjustment Problems, External Resilience, Internal Resilience, Resilience Vulnerability, Sense of Mastery, Sense of Relatedness, Emotional Reactivity, and Bully Victimization. Specifically, the bully victimization subscales of the MPVS were not included in the analysis due to violations of normality and linearity.

Homoscedasticity was evaluated to determine whether the two samples (public and private school) demonstrated homogeneity of variance. Using Levene's test, it was determined that there were no significant differences between the two samples.

Descriptive statistics and bivariate analysis. Descriptive statistics were examined across predictor and criterion variables. Next, all variables were compared utilizing inferential statistics to examine interrelationships and group differences. Preliminary hypotheses were as follows: (a) a positive relationship between Bully Victimization and Psychological Adjustment Problems; (b) an inverse

relationship between Bully Victimization and both Internal and External Resilience; (c) a positive relationship between Bully Victimization and Resilience Vulnerability; and (d) younger girls and lower grade levels will report more Bully Victimization compared to older girls and higher grade levels. In addition to these hypotheses, an exploratory analysis examined relationships among all of the variables under study.

Testing for moderating variables. The goal of testing for moderators is to establish whether the prediction of the criterion variable from a predictor variable differs across a third variable, the moderator. The moderating variable contributes to the strength and direction of the relationship between the predictor and criterion variables. The predictor and criterion variable are assumed to share a relationship, while the moderator is hypothesized to exert an influence on this relationship. In the present study, resilience (whether Internal Resilience, Resilience Vulnerability, or External Resilience) are hypothesized to moderate the theoretical assumed relationship between Bully Victimization and Psychological Adjustment Problems (Hypothesis 5).

To address issues with multicollinearity, continuous predictor variables—Bully Victimization, Internal Resilience, Resilience Vulnerability, and External Resilience—were centered, according to the procedures outlined in Stevens (2001). An interaction term was then created to examine the moderating effect of resilience factors, above and beyond what is accounted for by Bully Victimization and resilience factors independently. The interaction term, or moderator, was also centered.

The main hypothesis was that after controlling for demographic characteristics, the relationship between Bully Victimization and Psychological Adjustment Problems will vary depending on level of resilience (whether Internal Resilience, Resilience Vulnerability, or External Resilience). Multiple regression analysis was the statistical method used to test this hypothesis.

Hierarchical multiple regression. The goal of hierarchical multiple regression in the current study is to determine whether resilience factors buffer adolescent girls from Psychological Adjustment Problems, in light of experiences with Bully Victimization. According to the recommendations by Stevens (2001), a ratio of 15 cases to one variable should be considered in the regression, in order to achieve a parsimonious solution. Based on a total of 99 cases, six predictor variables were included in the regression equation using a hierarchical method, with grade level, race/ethnicity, and school entered on the first step, Bully Victimization entered on the second step, resilience entered on the third step, and the moderator (the interaction between Bully Victimization and resilience) entered on the fourth step. Psychological Adjustment Problems served as the criterion variable. Entering dummy-coded demographic variables on the first step allowed the researcher to control for the contributions of race, grade level, and school in order to examine the unique impact of Bully Victimization, resilience, and the interaction term on Psychological Adjustment Problems.

Chapter IV: Results

Descriptive Statistics

Psychological adjustment problems. In the overall sample, 25.5% of the

participants reported clinically significant levels of internalizing problems such as

depression, anxiety, and somatic complaints. The mean score on the measure of

psychological adjustment was in the average range (M = 53.85, SD = 15.163). Of the

public school participants, 19.23% reported clinically significant levels of

internalizing problems, although the mean score was in the average range

(M = 51.17, SD = 14.596). Private school participants reported significantly higher

levels of internalizing problems, with nearly half of the participants scoring in the

clinically significant range. The mean score for private school students also fell in

the average range (M = 62.19, SD = 14.105).

Bully victimization. Nearly three quarters of the participants endorsed at

least one bullying incident within the last school year, with an average of

approximately six instances (M = 6.02, SD = 6.579) during the last school year.

Verbal bullying was most commonly reported (M = 2.71 instances, SD = 2.559),

followed by social manipulation (M = 1.77, SD = 2.342), property abuse

(M = .93, SD =1.478), physical bullying (M = .38, SD = 1.227), and cyberbullying

(M = .24, SD = .60). Prevalence of Bully Victimization for the overall sample and

individual schools is presented in Table 3. Bully Victimization was further analyzed

by dividing the sample into four distinct groups: no bully victimization, low bully

victimization, moderate bully victimization, and high bully victimization. The scores

were filtered from low to high, and after removing the participants who reported no

bully victimization; the remainder of the sample was divided into low, moderate, and high levels as evenly as possible. If a break occurred at a repeated value, the break was adjusted either up or down using the following criteria: (a) move in the direction where there are fewer repeated values, and if there are an even amount on either side of the break, (b) move in the direction that has a greater variance from the previous value.

Table 3

Number of Incidences of Bully Victimization Within the Last Year

Variable	Sample											
	Overall (n = 102)				Public School (n = 81)				Private School (n = 21)			
	n	%	*M*	*SD*	*n*	%	*M*	*SD*	*n*	%	*M*	*SD*
Total Bully Victimization	73	71.60	6.02	6.58	55	66.67	5.39	6.29	18	85.71	8.38	7.65
Verbal Victimization	69	67.60	2.71	2.56	52	62.82	2.47	2.56	17	80.95	3.33	2.50
Social Manipulation	53	52.00	1.77	2.34	39	47.44	1.63	2.24	14	66.67	2.48	2.75
Property Attacks	46	45.10	0.93	1.48	34	42.31	0.78	1.26	12	54.14	1.52	2.09
Physical Victimization	14	13.70	0.38	1.23	9	10.26	0.29	1.09	5	23.81	0.71	1.68
Cyberbullying	15	14.70	0.24	0.60	10	12.82	0.21	0.57	5	23.81	0.38	0.74

Internal resilience factors. The overall sample reported average levels of Internal Resilience across the three global scales (Sense of Mastery, Sense of Relatedness, and Emotional Reactivity), as well as the two index-level scales (Internal Resilience and Resilience Vulnerability). Reported levels of internal resilience factors for the overall sample and individual schools are presented in Table 4.

Table 4

Means and Standard Deviations for Internal Resilience Factors

Index	Sample					
	Overall (*n* = 102)		Public School (*n* = 81)		Private School (*n* = 21)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Internal Resilience	48.80	10.35	49.85	9.78	48.57	7.44
Resilience Vulnerability	51.82	10.86	51.82	10.86	50.64	10.69
Scale						
Sense of Mastery	49.62	9.99	49.62	9.99	50.96	8.80
Sense of Relatedness	47.55	10.96	47.55	10.96	48.43	8.51
Emotional Reactivity	52.55	10.83	52.55	10.83	56.52	9.11

External resilience. Approximately one quarter of the overall sample reported clinically significant levels of External Resilience deficiency (*M* = 43.51, *SD* = 9.947). Private school students reported similar External Resilience deficiencies (*M* = 43.48, *SD* = 9.842) when compared to the public school students (*M* = 43.54; *SD* = 9.807).

Correlations Among Variables

All continuous predictor variables and the criterion variable were included in a scatterplot matrix to examine the interrelationships among variables (see Table 5). All variables were intercorrelated to at least a moderate degree, with the exception of External Resilience, which was moderately correlated with Internal Resilience, Sense of Mastery, and Sense of Relatedness only. Importantly, Psychological Adjustment Problems was positively correlated with Bully Victimization at both schools. Participants reporting no bully victimization experiences had significantly fewer Psychological Adjustment Problems compared to participants who reported moderate and high levels of victimization (Figure 2). Centering the variables significantly reduced correlations between predictor variables. No curvilinear relationships were observed.

Table 5

Correlation Matrix of All Continuous Variables

		Psychological Adj Problems	Bully Victimization	External Resilience	Internal Resilience	Resilience Vulnerability	Sense of Mastery	Sense of Relatedness	Emotional Reactivity	Bully Victimization Centered	Internal Resilience Centered	Resilience Vulnerability Center	External Resilience Centered	BV x IR Centered	BV x RV Centered	BV x ER Centered
PAP	r	--														
	p	--														
BV	r	.550**	--													
	p	0.00	--													
ER	r	-0.09	-0.03	--												
	p	0.37	0.74	--												
IR	r	.574**	-.415**	.322*	--											
	p	0.00	0.00	0.00	--											
RV	r	.673**	.431**	-.209*	-.891**	--										
	p	0.00	0.00	0.04	0.00	--										

SM	*r*	.511**	-.346**	.292**	.918**	-.826**	--						
	p	0.00	0.00	0.00	0.00	0.00	--						
SR	*r*	.549**	.385**	-.311**	-.934**	.835**	-.749**	--					
	p	0.00	0.00	0.00	0.00	0.00	0.00	--					
ER	*r*	.652**	.404**	-0.10	-.657**	.915**	-.607**	.599**	--				
	p	0.00	0.00	0.34	0.00	0.00	0.00	0.00	--				
BVC	*r*	.550**	1.00**	-0.03	-.415**	.431**	.346**	.385**	.404**	--			
	p	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.00	--			
IRC	*r*	-.574**	-.415**	.322**	1.00**	-.891**	.918**	-.934**	-.657**	-.415**	--		
	p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--		
RVC	*r*	.673**	.431**	-.209*	-.891**	1.00**	-.826**	.835**	.915**	.431**	-.891**	--	
	p	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	
ERC	*r*	-0.09	-0.03	1.00**	.322**	-.209*	.292**	-.311**	-0.10	-0.03	.322**	-.209*	--
	p	0.37	0.74	0.00	0.00	0.04	0.00	0.00	0.34	0.74	0.00	0.04	--
B/IR	*r*	-0.05	0.04	-0.15	-0.13	0.15	-0.18	0.13	0.11	0.04	-0.13	0.15	-0.15	--
	p	0.63	0.68	0.14	0.20	0.14	0.07	0.21	0.29	0.68	0.20	0.14	0.14	--
B/RV	*r*	0.05	0.04	0.02	0.14	-0.18	0.15	-0.14	-0.16	0.04	0.14	-0.18	0.02	-.856**	--
	p	0.61	0.70	0.85	0.17	0.07	0.14	0.15	0.10	0.70	0.17	0.07	0.85	0.00	--
B/ER	*r*	-0.04	0.09	-0.09	-0.14	0.02	-0.16	0.09	-0.08	0.09	-0.14	0.02	-0.09	.298**	-0.13	--

p	0.67	0.37	0.36	0.18	0.87	0.11	0.38	0.42	0.37	0.18	0.87	0.36	0.00	0.21	--

[a]Centered interaction term between Bully Victimization and Internal Resilience
[b]Centered interaction term between Bully Victimization and Resilience Vulnerability
[c]Centered interaction term between Bully Victimization and External Resilience
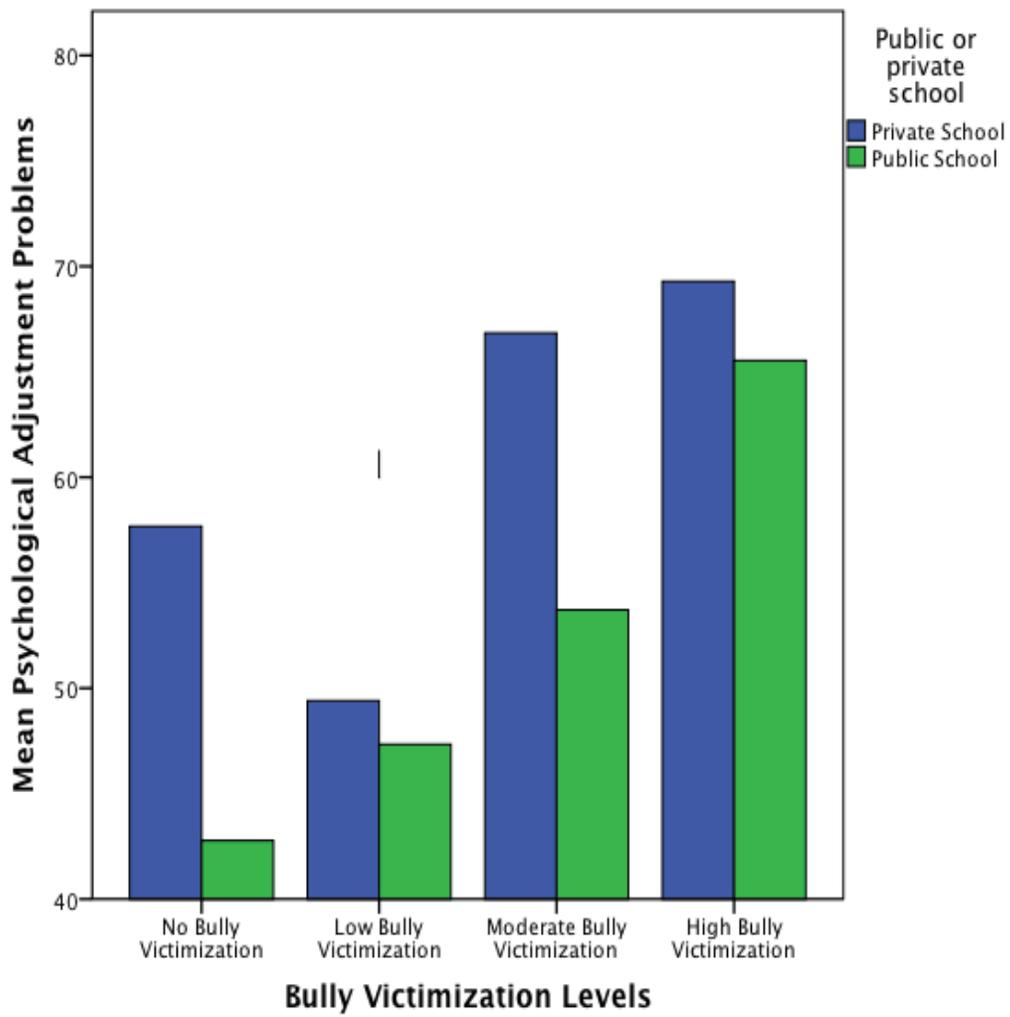** $p < 0.01$
* $p < 0.05$

Figure 2. Relationship between psychological adjustment problems and level of

bully victimization.

Inferential Statistics

     School. Private school students reported significantly more Psychological Adjustment Problems than public school students, $t(97)$ = -3.08, p = .003. Private school students reported marginally more incidences of bullying compared to public school students, $t(97)$ = -1.92, p = .058 (*ES* = .191). Neither External Resilience, $t(97)$ = .037, p = .971) nor internal resilience factors, $F(5, 93)$ = 2.127, p = .069 differed with respect to school.

     Age group. Pearson Correlation revealed no significant relationship between age and Psychological Adjustment Problems $r(97)$ = .115, p = .257; Bully Victimization, $r(97)$ = .018, p = .863; or External Resilience, $r(97)$ = .000, p = .999. A small, negative correlation between age and Internal Resilience was found, $r(97)$ = -.295, p = .003, accounting for 8.70% of the variance. This finding demonstrates that younger girls have more Internal Resilience than older girls. A moderate, positive correlation was found between age and Resilience Vulnerability, $r(97)$ = .321, p = .001, accounting for 10.30% of the variance. Similar to the previous finding, older girls are more prone to Resilience Vulnerability compared to younger girls. A moderate, negative correlation existed between age and Sense of Mastery, $r(97)$ = -.324, p = .001, accounting for 10.50% of the variance. Therefore, younger girls reported a higher Sense of Mastery than older girls. A small, positive correlation existed between age and Sense of Relatedness, $r(97)$ = .212, p = .035, accounting for 5.50% of the variance. This finding indicates that Sense of Relatedness increases with age. A moderate, positive relationship existed between

age and Emotional Reactivity, $r(97) = .30$, $p = .003$, accounting for 9.0% of the variance. Therefore, Emotional Reactivity increases with age.

Grade level. One-way ANOVAs revealed no differences among the grade levels with respect to Psychological Adjustment Problems, $F(2, 96) = .585$, $p = .559$, and Bully Victimization, $F(2, 96) = .331$, $p = .719$. External Resilience differed marginally with respect to grade level, $F(2, 96) = 2.977$, $p = .056$, with 10th graders reporting significantly lower External Resilience than 9th and 11th graders, respectively. A MANOVA with a statistically significant Box's Test, $F(30, 26016.44) = 2.697$, $p = .000$, was utilized to examine differences among grade levels and internal resilience factors. Pillai's Trace was employed for interpretation of the result due to unequal sample sizes. Internal resilience factors differed significantly with respect to grade level, $F(10, 186) = 1.874$, $p = .051$. Individual t tests revealed that 9th graders reported significantly higher Sense of Mastery, $F(2, 96) = 4.078$, $p = .02$ and significantly lower Resilience Vulnerability, $F(2, 96) = 3.952$, $p = .022$, compared to 11th graders. Ninth graders reported significantly lower Emotional Reactivity, $F(2, 96) = 4.321$, $p = .016$, than 10th and 11th graders.

GPA. GPA did not differ with respect to Psychological Adjustment Problems, $F(2, 96) = .897$, $p = .411$; Bully Victimization, $F(2, 96) = .026$, $p = .975$; internal resilience factors, $F(10, 186) = 1.415$, $p = .176$; or External Resilience, $F(2, 96) = 2.180$, $p = .119$.

Race/Ethnicity. Caucasian participants reported significantly more Psychological Adjustment Problems, $F(1, 97) = 3.795$, $p = .054$, and more incidences

of Bully Victimization, $F(1, 97) = 6.676$, $p = .011$, compared to participants of other races/ethnicities. No differences were detected between race/ethnicity and all measures of internal resilience, $F(5, 93) = .327$, $p = .896$, as well as External Resilience, $F(1, 97) = 1.640$, $p = .203$.

Regression Analysis

Hierarchical multiple regression was conducted to determine whether Internal Resilience, Resilience Vulnerability, and/or External Resilience moderated the predicted relationship between Bully Victimization and Psychological Adjustment Problems; controlling for school, race/ethnicity, and grade level. No violations of the tolerance criteria existed among any of the three predictor variables.

Internal resilience. Regression results indicate that the overall model significantly predicted Psychological Adjustment Problems, $R^2 = .510$, $R^2_{adj} = .472$, $F(7, 91) = 13.507$, $p = .0001$. Examination of beta weights showed main effects for school, Bully Victimization, and Internal Resilience. The moderating effect of Internal Resilience on the relationship between Bully Victimization and Psychological Adjustment was marginal, $p = .091$.

Resilience vulnerability. Regression results indicated that the overall model significantly predicted Psychological Adjustment Problems, $R^2 = .589$, $R^2_{adj} = .558$, $F(7, 91) = 18.652$, $p = .0001$. A review of the beta weights showed main effects for school, Bully Victimization, and Resilience Vulnerability. A summary of regression coefficients for the predictor variable is presented in Table 6. In addition,

Resilience Vulnerability significantly moderated the relationship between Bully

Victimization and Psychological Adjustment ($p = .035$).

Table 6

Regression Coefficients With Resilience Vulnerability As a Moderator

	Model	B	ß	t	p	Bivariate *r*	Partial *r*
Model 1	School	-.739	-0.292	-3.049	0.003	-0.298	-0.300
	Race/Ethnicity	0.478	0.189	1.971	0.052	0.194	0.199
	10th Grade	0.175	0.079	0.739	0.462	0.038	0.076
	11th Grade	0.275	0.121	1.138	0.258	0.076	0.117
Model 2	School	-.511	-0.202	-2.381	0.019	-0.298	-0.240
	Race/Ethnicity	0.169	0.067	0.778	0.439	0.194	0.080
	10th Grade	0.093	0.042	0.449	0.654	0.038	0.047
	11th Grade	0.266	0.117	1.265	0.209	0.076	0.130
	Bully Victimization	0.346	0.495	5.632	0.000	0.550	0.504
Model 3	School	-.408	-0.161	-2.304	0.023	-0.298	-0.234
	Race/Ethnicity	0.201	0.080	1.123	0.265	0.194	0.116
	10th Grade	-.122	-0.055	-0.708	0.481	0.038	-0.074
	11th Grade	-.087	-0.038	-0.481	0.631	0.076	-0.050
	Bully Victimization	0.189	0.270	3.392	0.001	0.550	0.333
	Resilience Vulnerability	0.773	0.537	6.735	0.000	0.673	0.575
Model 4	School	-.452	-0.179	-2.583	0.011	-0.298	-0.261
	Race/Ethnicity	0.135	0.053	0.756	0.452	0.194	0.079
	10th Grade	-.079	-0.035	-0.463	0.645	0.038	-0.048
	11th Grade	-.059	-0.026	-0.332	0.741	0.076	-0.035
	Bully Victimization	0.177	0.253	3.226	0.002	0.550	0.320
	Resilience Vulnerability	0.816	0.567	7.135	0.000	0.673	0.599
	Bully Victim x Resilience Vulnerability	0.166	0.152	2.141	0.035	0.053	0.219

An analysis of the residual plot reveals that the data points are randomly dispersed around the horizontal axis (Figure 3). This finding confirms that a linear regression is appropriate for the data. Resilience Vulnerability was divided into three levels (low, medium, and high) for the public school and plotted against the correlation between Bully Victimization and Psychological Adjustment Problems to illustrate the buffering effect of lower levels of Resilience Vulnerability (Figure 4). As demonstrated, the relationship between Bully Victimization and Psychological Adjustment Problems is tempered by Resilience Vulnerability. That is, low Resilience Vulnerability differs significantly from moderate and high levels of Resilience Vulnerability. However, moderate and high Resilience Vulnerability do not differ significantly from one another. The private school sample was not included in this portion of the analysis due to the limited sample size and significant effect of school on Psychological Adjustment.
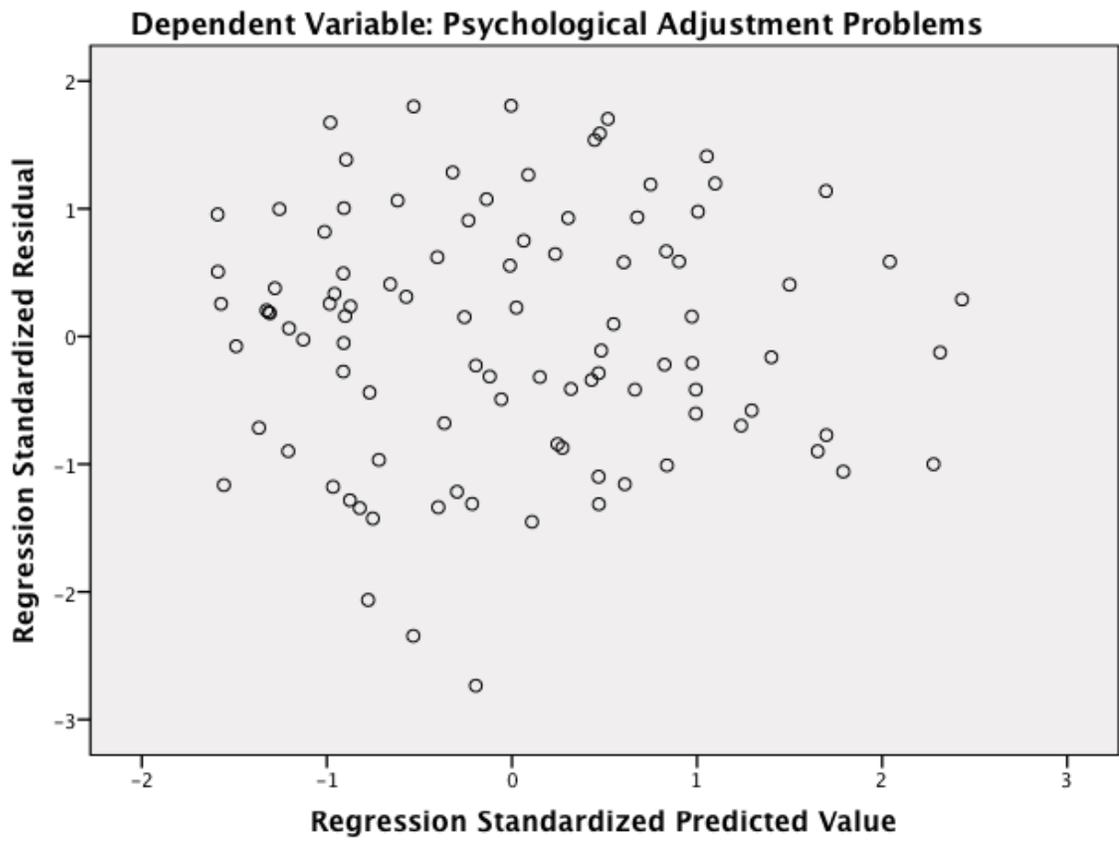
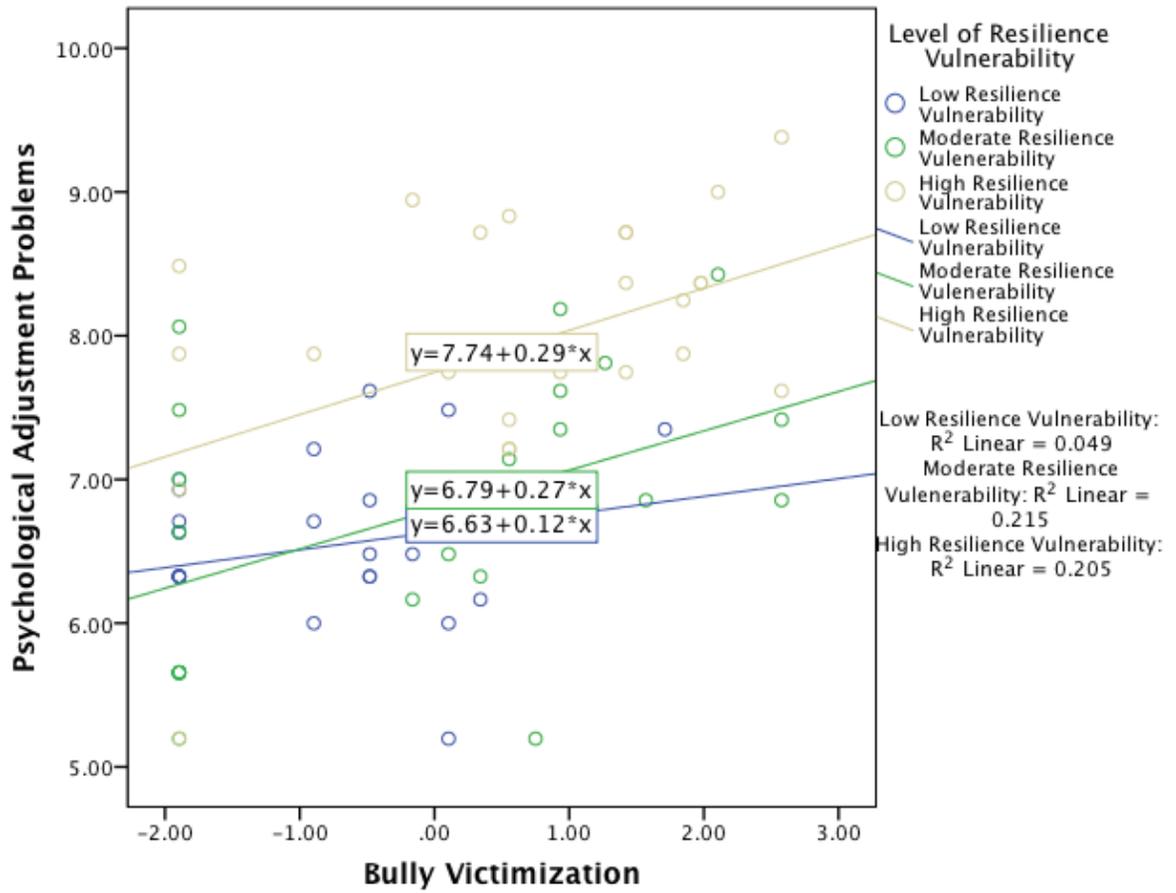*Figure 3.* Residual plot for moderating effect of resilience vulnerability.

Figure 4. Moderating effect of resilience vulnerability across various degrees of bully victimization.

External resilience. Regression results indicated that the overall model significantly predicted Psychological Adjustment Problems, $R^2 = .375$, $R^2_{adj} = .327$, $F(7, 91) = 7.789$, $p = .0001$. Examination of beta weights specified main effects for school and Bully Victimization. External Resilience did not contribute significantly to the model ($p = .211$). The moderator (Bully Victimization x External Resilience) did not influence the relationship between Bully Victimization and Psychological Adjustment to a significant degree ($p = .246$).

Chapter V: Discussion

The present study examined the unique bully victimization experiences of high school girls and how these experiences impacted their psychological adjustment. The buffering effects of different constructs of resilience were then examined to determine whether these factors served to protect bullied girls from poor psychological adjustment.

Summary of the Findings

Descriptive statistics. Participants' experiences with Bully Victimization in both samples were at a significantly higher level than reported in the published research literature. That literature showed prevalence rates of bullying between 17% to 51% among a wide range of similar age-group samples and research methodologies. (Alikasifoglu et al., 2007; Arseneault et al., 2008; Bond et al., 2001; Forero et al., 1999; Fredstrom et al., 2011; Kaltiala-Heino et al., 2000; Peskin et al., 2006; Schneider et al., 2012; Smith et al., 2008). Although sampling and response biases may have contributed to over-reporting in the present study (as discussed in the study limitations) it also plausible that the particular school climates and unique demographic factors (upper-middle class and high-achieving) may be related to more bullying problems than would be found in schools with other demographics (Karatzias et al., 2002).

Surprisingly, Verbal Bullying rather than Social Manipulation was the most frequent modality of victimization, in agreement with the findings by Karatzias et al. (2002). In contrast, a study by Bjorkqvist et al. (1992) found that indirect or relational forms of bullying were the most common subtype among girls.

Considering that this study was published previous to the pervasive influence of mobile devices and social media, this construct may not serve as a useful basis of comparison to the present investigation. It is plausible that participants in the current study conceptualized bullying experiences that occur in the cyber world as a verbal form of bullying, which would explain why this subtype was the most commonly reported modality.

The questions referring to Verbal Bullying did not specify that these incidences must occur in person, therefore attacks occurring through text messaging or social media may have been captured in this construct. Further, it is possible that teens blur the distinction between personal interactions and those that occur in the digital world due to the pervasive and ever-present nature of social media and Internet access. The single question inquiring about cyberbullying asked about instances occurring "online," which may not have adequately captured the intended construct (e.g., teens may not perceive social media apps as "online") and attacks through text messaging may not have been reported in the responses on this particular question.

Interestingly, cyberbullying was the least common form of bullying reported. This finding was consistent in the body of literature, although prevalence rates were higher there than in the present investigation (Fredstrom et al., 2011; Juvonen & Gross, 2008; Schneider et al., 2012; Smith et al., 2008; Smokowski et al., 2014). This study modified the existing MPVS to include one additional item specifically addressing cyberbullying, which may explain the low levels of reporting. The present study only included one specific question about cyberbullying, while the

other subscales included several questions. Considering that scores on this instrument included a raw count of instances, it is possible that a lack of opportunity to report cyber attacks in the present study produced an artificially low score.

The number of participants reporting clinical levels of Psychological Adjustment Problems (a measure of depression, anxiety, and somatization symptoms) was higher than prevalence rates described in the literature, although samples and methodologies varied widely and the majority of the research reviewed did not present prevalence rates for psychological adjustment problems largely due to the fact that these studies did not include full-length instruments (Bond et al., 2001). Surprisingly, nearly half of the private school participants reported clinically significant levels of depression and anxiety. This finding may be due to sampling bias, for example, parents who are concerned about the wellbeing of their child may have been more likely to suggest that their child participate in the study. Another possible source of sampling bias is that children enrolled in private school may have had more psychosocial challenges in the past at public school, and were subsequently moved to the private school.

Bivariate hypotheses. This study demonstrated that after accounting for demographic factors and differences between school samples, Bully Victimization significantly predicted higher levels of psychological adjustment problems such as depression, anxiety, and somatic complaints (Hypothesis #1). When bullying experiences were broken out into groups, this finding was further illuminated: participants reporting no bully victimization experiences had significantly fewer Psychological Adjustment Problems compared to participants who reported

moderate and high levels of victimization. This result is in agreement with the body

of literature that has demonstrated relationships between bullying experiences and

childhood wellbeing (Arseneault et al., 2006; Arseneault et al., 2008; Arseneault et

al., 2010; Ball, 2008; Bond et al., 2001; Crick & Grotpeter, 1995; Forero et al., 1999;

Fredstrom et al., 2011; Hawker & Boulton, 2000; Kaltiala-Heino et al., 2000;

Karatzias et al., 2002; Nansel et al., 2001; Schneider et al., 2012; Smokowski et al.,

2014).

Higher levels of Internal Resilience (combination of Sense of Mastery and

Sense of Relatedness subscales) and lower levels of Resilience Vulnerability (the

difference between the Emotional Reactivity subscale and Internal Resilience)

predicted fewer Psychological Adjustment Problems (Hypothesis #2), in agreement

with the findings from Zunic-Pavlovic et al. (2013). Interestingly, higher levels of

Relatedness were associated with more Psychological Adjustment Problems in both

samples, concurrent to the findings of Burnett et al. (2013), who found that popular

and socially accepted girls were at risk for electronic bully victimization. However,

this finding contrasts to the results from Zunic-Pavlovic et al., a study which also

utilized the RSCA to examine the relationship between psychological adjustment

and resilience. It should be noted that the study conducted by Zunic-Pavlovic et al.

included both girls and boys with an older average age than the present study.

Additionally, the aforementioned study was conducted in Serbia, which introduces a

number of cultural variables that may vary from the experiences of American teens.

Explaining the findings in the current study, it is possible that girls who are more

engaged in activities and social experiences may be exposed to more opportunities

for negative social interactions, which could in turn contribute to low mood and anxiety. Given the high-achieving school populations in the current study, it is also plausible that girls who are highly engaged with others may feel burnt out, overwhelmed, and stressed.

Both Internal Resilience and Resilience Vulnerability were moderately correlated with Bully Victimization, with the former demonstrating an inverse relationship and the latter demonstrating a positive relationship (Hypothesis #3). Interestingly, Bully Victimization did not differ with respect to grade level or age (Hypothesis #4), although older ages and high grade levels were related to more Psychological Adjustment Problems as well as lower levels of Internal Resilience and more Resilience Vulnerability. Previous research demonstrated that bully victimization tends to decrease with age (Bond et al., 2001; Peskin et al., 2006; Schneider et al., 2012). However, Hawker and Boulton (2000) pointed out that few studies have examined adolescent's unique experience with bullying. Specifically, bully victimization was said to be more common among younger children (elementary school aged) until recently, when bullying was conceptualized more broadly to include concepts such as social manipulation and subtle verbal attacks. The broader definition of bullying better captures the experiences of older children, especially girls (Hawker & Boulton, 2000; Karatzias et al., 2002). As mentioned previously, the MPVS is an instrument that adequately captures subtle and nuanced forms of bullying. This may explain why bully victimization was more frequently reported among older participants in the current study.

Other notable findings were observed in the exploratory analysis. In contrast to the body of research, GPA level was not significantly related to Psychological Adjustment Problems, Internal or External Resilience Factors, nor Bully Victimization. Similarly, External Resilience (measure of the extent to which an individual is engaged in their community, school, and with interpersonal relationships, as well how effectively they function across these domains) was not related to Psychological Adjustment Problems or Bully Victimization; although it was positively correlated to a small degree with Internal Resilience. Previous findings noted that bullied children and teens are more likely to have problems in school and are less engaged with peers and social activities (Alikasifoglu et al., 2007; Forero et al., 1999; Nansel et al., 2004; Schneider et al., 2012). Perhaps the number of high achievers in the sample impacted this finding. Collapsing GPA groups into fewer categories may have diluted the difference among the groups.

The school and community culture of the two schools sampled may have contributed to the lack of effects observed for External Resilience and GPA. For example, parents in upper-middle-class to upper-class communities may highly emphasize extracurricular activities and good grades and provide resources and support around these areas, regardless of how the adolescent may be functioning (e.g., being bullied, feeling depressed) as these areas are viewed as important criteria for college admissions. Although External Resilience was not observed to have an effect on outcomes of bullying experience or psychological adjustment, the positive correlation with Internal Resilience may suggest that social engagement

and involvement in school and activities promote the development of Internal Resilience.

In terms of race, Caucasian participants reported significantly higher levels of Bully Victimization and—in the public school—more Psychological Adjustment Problems. This finding is consistent in some of the previous research (Smokowski et al., 2014). Although the samples were fairly representative of the school population, it is possible that the predominately White/Caucasian school environment may contribute to this result. Previous research on racial/ethnic differences in bully victimization has been inconclusive, although some research suggests that bullying behavior among various racial groups may depend on the diversity of the environment as a whole, rather than specific attributes of individuals (Vervoort et al., 2010). Other studies have found no relationship between bully victimization and race/ethnicity (Nansel et al., 2004; Schneider et al., 2012). Unlike the findings noted in Fleshman and Schoenberg (2011), which highlighted the resilience-promoting factors present among ethnic minorities, no differences existed between Caucasian participants and the other ethnicities/races in the current study.

Moderator effects. Resilience Vulnerability significantly moderated the relationship between Bully Victimization and Psychological Adjustment Problems in public school students, supporting the main study hypothesis (Hypothesis #5). Due to small sample size, the regression analysis was not interpreted for the private school students. Specifically, low levels of Resilience Vulnerability (the difference between the Emotional Reactivity score and Internal Resilience score) buffered public school students from the psychological impact of being bullied.

Internal Resilience (combined score on Sense of Mastery and Sense of Relatedness scales) only marginally moderated the relationship between Bully Victimization and Psychological Adjustment Problems. Internal Resilience is an index-level variable created from the combination of the Sense of Mastery and Sense of Relatedness scales. Given that Sense of Relatedness was actually associated with more Psychological Adjustment Problems in the bivariate analysis, it is likely that this impacted the regression model. External Resilience did not significantly predict participants' reported Psychological Adjustment Problems. This finding may be related to the unique population under study. It is possible that children are actively participating in school activities regardless of their emotional wellbeing, as families with a high number of financial and emotional resources may be more encouraging of these types of behaviors and more available to provide access (transportation, lack of economic barriers, etc.).

Implications

The outcomes of this study paralleled the body of literature that describes the psychological impact of bully victimization on youth. The present investigation examined this phenomenon within a specific subset of the adolescent population involving high school girls residing in small and suburban upper-middle to upper class communities. Based on the outcomes of this study, it is important for individuals working with these girls to be aware that social engagement, involvement in activities, high academic achievement, and membership in the dominant culture does not equate to immunity from bully victimization or

emotional distress. In this specific population, close monitoring of mood changes, stress, and peer conflict is warranted.

The buffering effect of low levels of Resilience Vulnerability indicates that teaching adolescent girls how to manage stress, regulate mood, and cope with distress are key factors in promoting good psychological adjustment, regardless of bullying experiences. Schools may consider social skills training, emotion regulation strategies, and education about the manifestations of stress. Programs raising awareness about the signs and symptoms of depression and resources available are advisable. Starting educational programs in junior high or middle school may help girls build resilience as they face the increasing pressures of the high school environment that develop later.

Efforts to address bullying prevention and response are currently underway at the schools' sampled, as well as in communities across the U.S. and abroad. Research coming out of these movements indicates that the most effective course of action is empowering youth to act as "upstanders" (Twemlow & Sacco, 2013). This term refers to peers recognizing bullying and intervening on behalf of the bully victim. This response not only stops the immediate situation, but also redirects cultural values and norms within the school. Developing a school climate that is tolerant of others and rejects bullying behavior may also encourage those that are bullied to speak out.

Limitations

The investigator identified several limitations of the present study. First, the two independent samples of the public and private school had different recruitment

and data collection procedures based on the unique needs and policies of each school. At the public school, students were recruited and administered the surveys simultaneously and therefore, their parent had to be present to participate (to provide consent). It is possible that students whose parents were not present at the school registration day (e.g., sent their child with pre-signed registration forms, blank checks, or otherwise) may have reported different levels of resilience, psychological adjustment, and experience with bullying. This may be especially relevant for 16-year-old participants who generally have more autonomy and are often able to drive themselves to school events. It is also plausible that the decision to participate in the study or to decline was influenced by having a parent present. For example, the researcher observed some girls that showed interest, but their parent declined (usually due to time constraints), or alternatively, the parent encouraged a shy child to participate, which they may not have agreed to do on their own.

Given the setting of the data collection, it is also possible that participants felt rushed to complete the surveys. Although participants were separated and given cardstock to shield their answers, some participants may have also underreported symptoms and bullying experiences due to concerns about privacy or confidentiality in a setting where their peers were present. However, given the high levels of Psychological Adjustment Problems and Bully Victimization reported, responses are deemed to be a good representation of the sample At the private school, students were initially identified by their parents, with assent being obtained separately. Parents who felt that their child struggled with bully victimization or psychological

adjustment problems may have been more receptive the study, which may explain the high levels of psychological adjustment problems and bully victimization in this sample. Participants at the private school were also provided a more quiet and private environment to fill out the surveys with less perceived time pressure, which may promote more honest and open responses. All of the aforementioned issues are related to problems with selection bias and method variability.

Second, the two sample sizes utilized in the present study were very uneven. This is likely due to recruitment procedures and a larger school population in the public school setting. Because significant differences between the two schools were detected for a few constructs (e.g., Psychological Adjustment Problems), analyses were run separately for some of the research questions. In these cases, the small sample size for the private school may increase the chance of Type I error and may also limit generalizability.

Third, the requirement of parental consent may have introduced selection bias in regards to the type of participants recruited. Many students who wished to participate were turned away due to their parent being unavailable at the time of recruitment. As mentioned above, parents may have also strongly encouraged or discouraged their child to participate in the study. Those who were encouraged by their parents to take part in the study may have struggled with peer conflict or mental health issues, and therefore, their parents were more interested in the topics under investigation and felt compelled to help with the research. Parents who were discouraging of participation may have been less aware of the issues their child faces, put less emphasis on emotional health, or simply have more time constraints

and did not have time to provide consent and wait for their child (in the case of the public school) to complete a lengthy survey.

Fourth, the demographic characteristics of the two samples were not representative of the U.S. population, and therefore, generalizability is limited. Both schools served students in upper-middle class suburban cities. Further, both samples were predominantly Caucasian and were comprised of high-achieving students. With regard to the high-achieving sample, it is interesting that GPA did not contribute to outcomes on Psychological Adjustment, Resilience, and Bully Victimization.

Fifth, the time period for data collection occurred in the early part of the school year (shortly after summer vacation), which may have impacted participants' recollection and level of impact of bully victimization experiences over the last year, leading to recall bias. Given that peers have more contact and opportunities for social experiences during the school year, it is possible that the results of this investigation are an underrepresentation bully victimization experiences in schools. Further, the significantly higher scores on Sense of Mastery and Internal Resilience and lower score on Resilience Vulnerability among 9th graders and/or younger students may be attributed to the lack of exposure to the high school environment and recent experience in a school setting as the oldest students.

Sixth, as no specific instrument addressing bully victimization in the cyber world is currently available, it is unclear whether this construct was accurately captured in the present study, given that only one specific question related to

cyberbullying was included and used the term "online," which may be confusing to teens as indicated in the previous section. Most of the questions on the MPVS could include instances that take place via mobile device, social media apps, or otherwise, blurring the distinction that the researcher was attempting to capture.

Lastly, participants' concerns about confidentiality and privacy issues may have impacted their level of disclosure and honesty.

Future Directions for Research

Future studies should attempt to recruit participants from more diverse school populations and cover a larger range of academic achievers. Due to a limited number of students representing various ethnic groups, categories were collapsed into Caucasian or Other, which is not an accurate representation of the experiences of ethnic minority students from a variety of cultural backgrounds. Additionally, GPA was collapsed into fewer categories (e.g., 1.0 - 3.0), with very little representation of below-average academic achievers.

The interesting findings from the private school sample demonstrating high levels of Bullying Victimization and Psychological Adjustment Problems should be studied further, ideally with larger sample sizes. Perhaps future research can illuminate the challenges that private schools uniquely face in terms of student wellbeing and psychosocial problems in their communities.

Ideally, recruitment could occur at a more broad level, to capture an accurate snapshot of the school population. For example, all students who meet the basic requirements to participate could have the opportunity to hear about the study and provide assent, rather than smaller groups in a given school population (e.g., those

whose parents attend curriculum night). In addition, eliminating the need for parental consent by gaining special permission at the school district level may provide more useful outcomes, given the multiple limitations that exist when parent permission is required.

Future studies may also benefit from examining more psychosocial factors that influence the constructs under investigation, such as socioeconomic level and parent educational attainment.

Future research should collect data later in the school year to address the issue of recall bias and fewer opportunities for peer interactions that occur in the early part of the school year when transitioning from summer. Researchers may consider doing two waves of data collection to determine whether time of year impacts participants' experiences with bullying and reported levels of Psychological Adjustment and Resilience factors.

Incorporating participants from lower age ranges may be important to better understand how the constructs under investigation change over time. Further, including boys in the study may also generate interesting results and provide a comparison between the genders.

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Appendix A

Demographics Questionnaire

1. Age

      14   15   16

2. Grade

      9   10

3. School currently attending:

4. Approximate GPA
      1.0-2.0   2.1-2.5   2.6-3.0   3.1-3.5   3.6-4.0

6. Race/Ethnicity
      White/Caucasian   Black   Hispanic   East Asian

      Southeast Asian   Indigenous American/Alaska Native   Other

      Biracial

Appendix B

Invitation to Participate in Research and Email to School Districts

Dear School Board:

I am a doctoral student in clinical psychology at Antioch University Seattle seeking partnerships with local school districts to study the effects of bully victimization on adolescent girls. I would like to invite the XXXXXXXX School District to participate in the study by allowing the lead researcher to recruit participants (permission from parents is required) and collect data (15 minutes of questionnaires) from 14-16 year old girls during the school day. My approved research proposal provides detailed information on the procedures and methodology utilized in this study. **At the completion of the study, the researcher will offer participating districts a free, in-service training on bullying awareness and prevention, and access to the statistically analyzed data for district planning purposes, free of charge.**

I have started the process of IRB approval through my institution, Antioch University, for preliminary approval. However, full approval is contingent on school district permission and an agreed-upon plan for data collection between the schools and the lead researcher. I would like to get in touch with the person in the XXXXX School District who can assist me with this endeavor. I can be contacted via email or by phone: (XXX) XXX-XXXX.

Thank you for your time, and I look forward to hearing from you in the near future.

Regards,

A. Hayley Quinn, MA

Appendix C

Sample Informed Consent

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

The Antioch University Seattle Doctor of Psychology (PsyD) Program supports the practice of protection for human participants in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study.
You are being asked to take part in a research study of the effects of certain peer experiences on high school girls. Through an agreement with XXXXXXXXXXX School District, you have been identified as meeting the basic requirements for participation in this study. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

What the study is about: The purpose of this study is to learn how your experiences with peers and your personality effect your emotions, thoughts, and behaviors. You must be between the ages of 14 to 16 and female to take part in this study.

What we will ask you to do: If you agree to be in this study, you will be asked to fill out four brief questionnaires. The questionnaires will include questions about your experiences with bullying, activities you participate in, hobbies, school performance, and thoughts and feelings that you have about your life. The questionnaires will take about 15 minutes to complete.

Risks and benefits:

There is the risk that you may find some of the questions about your experiences and feelings to be sensitive. School-based and community resources will be made available to you if you experience discomfort.

As a participant in this study, you will be providing important information to your school district about the experience of girls in your school. Results of this study will help the school make important decisions about preventing and responding to different social situations. You will also have the opportunity to learn about social science research and be a part of raising awareness in the scientific community about problems that affect teens.

Compensation: All participants will be entered into a raffle to win a $150 Amazon Gift Card.

Your answers will be confidential. The records of this study will be kept private. In any sort of report the researcher makes public, it will not include any information that will make it possible to identify you. Research records will be kept in a locked file and only the researcher will have access to the records.

Taking part is voluntary: Taking part in this study is completely voluntary. You are free to withdraw consent and to discontinue participation in the study at any time without penalty.

If you have questions: If you have questions, you may contact the lead researcher, Hayley Quinn, at aquinn@antioch.edu. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Antioch University Seattle Institutional Review Board (IRB) at 206-441-5352. You will be given a copy of this form to keep for your records.

Statement of Consent:

Parent or Legal Guardian: I, _____ , give my permission for my child, _____ , to take part in this study. I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved. I likewise understand that my child can withdraw from the study at any time without being subjected to reproach. I may also ask for a summary of the results of this study. If I have questions I may contact the principal investigator, Hayley Quinn, at aquinn@antioch.edu or Faculty Research Chair, Alejandra Suarez, Ph.D., at asuarez@antioch.edu.

Parent/Legal Guardian Signature: _____   Date: _____

Participant: I, _____ , agree to take part in this study. I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved. I likewise understand that I can withdraw from the study at any time without being subjected to reproach. I may also ask for a summary of the results of this study. If I have questions I may contact the principal investigator, Hayley Quinn, at aquinn@antioch.edu or Faculty Research Chair, Alejandra Suarez, Ph.D., at asuarez@antioch.edu.

Participant Signature: _____   Date:_____