

PEER VICTIMIZATION AND DEPRESSION: ROLE OF PEERS AND
PARENT-CHILD RELATIONSHIP

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Abstract

The purpose of the current study was to investigate the relationships between physical and emotional peer victimization, parental and peer support and depressive symptoms. The moderating role of parental and peer support and gender differences in such moderation were the focus of the study in examining the association between peer victimization forms and depressive symptoms. Two hundred and sixty one youths (ages 10-14) completed self report measures of parental and peer support and depressive symptoms and were interviewed about their victimization experiences. Physical victimization rates were higher for boys whereas girls reported higher emotional victimization experiences and higher peer support than boys did. Correlations indicated that the experience of physical and emotional victimization by peer is linked to depressive symptoms. For boys, but not for girls, a significant moderation effect indicated that physical victimization was significantly related to depressive symptoms among youths with low peer support whereas physical victimization was not related to depressive symptoms among youths with high peer support. There were significant main effects of parental and peer support for both genders suggesting the importance of such support against depressive symptoms. The study's findings contribute to the literature regarding peer victimization's effects on mental health by illustrating the beneficial effect of parent and peer support during adolescence.

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Peer Victimization and Depression: Role of Peers and Parent-Child Relationship

Chapter 1 - Introduction

1.1 – Overview

Peer victimization is a pervasive issue in US schools. In a national study it was found that one tenth of US students have been victims of frequent peer aggression at school (Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001). Additionally, in a recent national study by Finkelhor, Ormrod, Turner, and Hamby (2005), whose sample consisted of 2,030 US children, it was found that one fifth of them had experienced bullying while one fourth of them had been victims of emotional bullying between the years 2002 and 2003. Thus, it is reasonable that those numbers have raised concern among professionals in many areas. Peer victimization, commonly known as bullying, is defined as the experience of any kind of abuse, including physical, psychological, and verbal abuse, by one's peers with the intent to cause harm (Olweus, 1993). Peer victimization can occur in many forms, such as direct physical and/or verbal, emotional, and sexual. Given the alarming rates of victimization among peers and the deleterious effects of it on youths, the present study set out to examine the association between physical and emotional victimization on depressive symptoms in a group of both male and female youths (see Fig.1).

Investigating the phenomenon of peer victimization and its effects is critical but it becomes even more vital when it is investigated as children emerge into adolescence. During that period the individual must deal with and successfully adjust to the physical and psychological changes that befall him/her which make him/her more vulnerable to psychopathology. The quality and content of social relationships also change in adolescence.

For example, discussion topics are more relationally oriented and there is higher concern with one's physical appearance and self presentation. In addition, exclusive groups of youths are formed and individuals are greatly concerned with avoiding being rejected (Parker & Gottman, 1989). Given the nature of victimization by a peer as well as its effects, it is reasonable to expect the significant influences of peer victimization on psychological adjustment.

1.2 - Peer Victimization Effects

Childhood experiences of victimization have been found to have effects that are long lasting and which quite often even carry on until one's adulthood. Specifically, the experience of peer victimization has deleterious effects on a broad range of areas of psychological adjustment. Research suggests that adults who have been bullied in childhood are more likely to suffer from anxiety, social phobia and agoraphobia (Gladstone, Parker, & Malhi, 2006). Similarly, in a study conducted by Crick and Bigbee (1998), the findings revealed that children who had been exposed to victimization, regardless of its form, were more likely to report social anxiety, loneliness, and emotional distress. Recent studies have indicated that all forms of victimization are associated with behavioral problems in adolescents. More specifically, Felix and McMahon (2006) examined the possible associations between multiple forms of peer victimization and sixth, seventh and eighth graders' adjustment. The results of the study indicated that physical and verbal victimization as well as sexual harassment were all associated with children's internalizing and externalizing behavior problems.

Many studies have examined the effects of peer victimization with a focus on internalizing symptomatology. These effects pertain to one's social as well as psychological adjustment. Research suggests that it leads to low self-esteem, anxiety, loneliness and depression (Gladstone, Parker, Malhi, 2006; Bond, Carlin, Thomas, Rubin, & Paton, 2001).

Specifically, in the Bond et al. (2001) study it was shown that recurrent peer victimization, as it was measured three times between the ages of 13 and 14, was associated with emotional maladjustment, such as symptoms of depression and anxiety. More specifically, the link between peer victimization and depression has been well documented in the extant literature. In a recent study by Sweeting, Young, West, and Der (2006), victimization and depression have been found to be positively correlated for both adolescent boys and girls, although there was an increase with age in depressive symptoms only for girls. Similarly, in a study conducted by Slee (1995) in an Australian primary school, the tendency to be victimized, depression, and well being at school were assessed. The findings suggest that victimization was positively correlated with depression and unhappiness at school regardless of gender.

Different forms of peer victimization can have different impacts on children's well-being. In Felix and McMahon's study (2006), physical, verbal and sexual victimization were found to be significantly associated with internalizing and externalizing behavioral problems whereas relational victimization was not significantly related with such problems. On the contrary, in a recent study relational victimization was found to be associated with internalizing symptomatology in girls and physical victimization was linked with such problems for both genders (Storch, Nock, Macia-Warner, & Barlas, 2003); other studies' different results indicated that physical victimization was related to depression only for boys and relational victimization was significant in predicting internalizing problems (depression, loneliness, self-esteem) in girls (Prinstein, Boergers, & Vernberg, 2001). To this point, the findings from previous literature in the field are mixed, although there is some evidence that different forms have distinct effects on the two genders.

The current study examined the two main types of victimization experiences: physical and emotional victimization. Physical victimization encompasses hitting, beating, kicking, punching and similar physically aggressive acts and / or any victimization experience that includes physical aggression and / or physical harm by a peer (Schmidt & Bagwell, 2007; Smokowski & Kopasz, 2005). Emotional victimization includes behaviors such as: calling names, saying mean things, and expressing to a peer he / she is unwanted (Finkelhor, Ormrod, Turner, & Hamby, 2005). These two types of victimization were examined in this study in relation to depressive symptoms.

Depression is a psychological internalizing disorder that affects children and adolescents. It has been established that depression has a profound effect on children's and adolescents' physical and mental health as it impairs their cognition, social skills, behavior and academic performance (Reynolds, 1992). Hence, it is imperative that we investigate not only risk factors but also factors that will be protective and will possibly prevent children from reaching the point when they need intervention. Why is it that some children exhibit healthy developmental outcomes despite the hardship and the adversities they experience? What distinguishes these children from the ones who develop maladaptive behaviors, do not overcome adversity and do not exhibit adaptation? The answer lies in the construct of resilience. Resilience occurs when a number of external factors act as buffers against adversity and provide the at-risk children with resources in order to overcome the hurdles and thus demonstrate positive outcomes (Riley & Masten, 2005; Luthar, Cicchetti, & Becker, 2000).

1.3 - Protective Factors for Peer Victimization

Considerable evidence stemming from research in recent years indicates a clear association between healthy development and a great number of protective factors. Among the

most significant protective resources are high quality parent-child relationships and good peer relationships. Positive parenting has been shown to be protective as far as mental health problems are concerned even in cases of parental death (Haine, Wolchik, Sadler, Millsap & Ayers, 2006). It is thus expected that parental support is critical in protecting against the development of depression. There is ample evidence to support the aforementioned claim. In a study conducted by Patten et al. (1997), adolescents who perceived parental support as absent or inadequate were more likely to exhibit higher rates of depressive symptoms than those who reported parental support in their lives. More specifically, while girls reported more depressive symptoms than boys, both genders' depressive scores were lower when maternal and paternal support was reported by the respondents as highly supportive. Consistent with this view, Gomez and McLaren (2006) examined 331 adolescents who provided information on perceived maternal and paternal support and its possible association with anxiety and depression. The findings showed that positive support from both mother and father as perceived by their offspring was negatively correlated with anxiety and depression.

Peer support is another factor that has been shown to be critical in protecting against adverse outcomes and more specifically depression. In a study by Licitra-Klecker and Waas (1993) it was found that adolescents who perceived higher peer support reported lower depression scores when compared to adolescents with less peer support. More specifically, peer support was found to be an important factor in alleviating symptoms of depression and anxiety in a group of 6-14 year old physically abused children as those were reported by their parents and themselves (Ezzel, Swenson, & Brondino, 2000). Similarly, Makri-Botsari (2005) examined family and peer relationships as protective factors against adolescent depression and found that familial relationships' effect on well-being decreased during adolescence whereas peer

relationships offered support that was increasing with age. Furthermore, it was found that although girls exhibited higher rates of depressive symptoms than boys did, peer support was of great profit to both genders.

Regarding gender differences, it is well known that girls show an increased vulnerability to depression than boys do (Makri-Botsari, 2005, Nolen-Hoeksema, 2001). However, when examining the link between peer victimization and depression the findings regarding which gender is more affected are inconsistent. Slee (1995) found no gender differences when the link between peer victimization and depression was examined. However, Prinstein, Boergers, & Vernberg (2001) found that having experienced victimization by a peer was associated with depressive symptoms only for boys. On the contrary, Bond, Carlin, Thomas, Rubin, and Paton (2001) in their two-year study concluded that the experience of victimization was associated with later development of depression, but such association was true only for girls.

Similarly, studies on parental and peer support have reported mixed findings as far as their role as protective factors against depression for both genders is concerned. Some studies reveal that high quality friendships serve a protective role against depression and social concerns only for girls (Schmidt & Bagwell, 2007), whereas, other studies indicate that peer support is equally important for both genders regarding their protection from depressive symptoms (Liu, 2002). Likewise, in the issue of parental support some studies point to parental support as a shield against depression for both genders in adolescence (Meadows, Brown, & Elders, 2006) while others suggest that relationship with parents are important for one's emotional stability (calmness, freedom from anxiety, and depression) only for adolescent boys (Hay & Ashman, 2003).

The present study examined whether the link between peer victimization and depressive symptoms is stronger for girls than boys and whether factors like parental support and peer relationships are more essential for girls than boys in the protection against depressive symptoms. Although the findings from previous studies are mixed on which gender is more affected by which victimization subtype regarding depressive symptoms, there is evidence that girls tend to ruminate more about experiences of relational victimization than boys and they tend to find relational victimization experiences more distressing than boys do which might possibly suggest how important social bonds are to girls (Paquette & Underwood, 1999; Crick & Zahn-Waxler, 2003). Thus, it is expected that girls will exhibit more depressive symptoms in the event of peer victimization.

From an evolutionary perspective females respond to stressful situations not by “fighting or fleeing” as might be adaptive for males but instead by “tending and befriending” which increase the possibility of survival of themselves and their offspring (Taylor et al., 2000). The “tend-and-befriend” approach to stress by females encompasses behaviors such as protective and nurturing behaviors towards one’s offspring, as well as affiliating and forming alliances with other females under stress which explains women’s tendency to turn to their social contacts during stressful situations. Previous findings are inconsistent in terms of gender differences in the protective effects of parental and peer support; however, based on the evolutionary perspective that proposes females’ tendency to use relationship oriented coping with stress, it is expected that girls may be more protected by parental or peer support than boys.

1.4 - Hypotheses

Based on the extant literature it can be inferred that peer victimization has detrimental effects on children’s and adolescents’ mental and psychological health. On the contrary, high-

quality parent-child relationships and positive peer relationships have been shown to have a protective effect on children's healthy psychological development. The present study examined whether parental and/or peer attachment and support can attenuate the adverse effects of peer victimization and thus prevent children and adolescents from developing depression. More specifically, the purpose of the present investigation was to examine whether the relationship between peer victimization and depressive symptoms may be moderated by parental and peer support. The relationships between peer victimization and depressive symptoms may be moderated by parent-child relationships, such that the strength of the association between peer victimization and depressive symptoms may depend upon the perceived support from parents. Similarly, the relationship between victimization and depressive symptoms may be moderated by peer to peer relationships, namely the association between peer victimization and depressive symptoms may depend on the perceived support from peers.

It was hypothesized that adolescents who report positive relationships with their parents and/or peers would exhibit less depressive symptoms despite the experience of peer victimization than those who have less positive relationships with their parents and peers. The degree of significance of both factors was assessed in order to examine whether it is one's relationship with parents and/or with peers that protects most. The uniqueness of this paper lies in its examining parental and peer support as moderators simultaneously in one single study in order to examine the relative contribution of the two in predicting depressive symptoms. Furthermore, gender differences related to the aforementioned link were also examined. This paper examined how parental support and peer support might have a different effect on girls than boys.

So far in the extant literature little attention has been paid to the differentiated effects of victimization subtypes. Given that previous literature in that domain has suggested unique

gender and psychological distinctions between the different victimization forms, the present study explored the effects of physical versus emotional victimization, as well as their effects on both genders.

Chapter 2 - Methods

2.1 - Participants

Participants were 261 youths (143 boys, 118 girls). Their ages ranged from 10 to 14 years with a mean of 12.5 years ($SD = 1.4$). Of the 261 participants, 85% were European American, 8.4% were African American, and 1.5% were Hispanic. Regarding the caregivers of the participants 71.6% were married at the time of the data collection and the mean total income of the families ranged from \$35,000 to 49,999 with a mean of \$42,500. APA guidelines for the ethical treatment of the human subjects were followed. The study was approved by the IRB at the participating university prior to data collection.

2.2 - Procedure

The current study was conducted in partnership with Roanoke County Prevention Council. Participants were recruited through research recruitment letters mailed to names and addresses on the mailing list which was purchased from a marketing company. Recruitment was also possible through flyers that were posted on several places in the wider area of Blacksburg. Prior to the commencement of any interview an assent form was signed by the participants. If the participant refused to sign the form, the interview did not take place. Since the study's participants were under age, parental consent was obtained in advance of testing. Participants were interviewed at Virginia Tech campus, the Roanoke Higher Education Center in Roanoke or at their house according to their preference. Children / adolescents received monetary compensation (\$10) for their participation in the study while their primary caregiver received

(\$65) as compensation for their participation. Trained interviewers read the instructions to the participants and were present while the participants filled out the questionnaires. Upon completion of the measures, participants were debriefed and compensated.

2.3 – Measures

2.3.1 - Demographic Data

This interview was completed by parents reporting on their children's age, gender, ethnicity; and family income. Gender was coded as follows: "0" = male, "1" = female; ethnicity was coded as "0" for white and "1" for non white, and family income was coded as "0" = \$ 0 per month to "15" = 16,667 or more per month.

2.3.2 - Juvenile Victimization Questionnaire (JVQ; Finkelhor, Hamby, Ormrod & Turner, 2005)

The Juvenile Victimization Questionnaire (JVQ) is a questionnaire designed to assess crime, child maltreatment, and victimization experiences of children and adolescents ranging in age from 8 to 17. The JVQ is composed of five modules: (1) Conventional Crime, (2) Child Maltreatment, (3) Peer and Sibling Victimization, (4) Sexual Victimization, and (5) Witnessing and Indirect Victimization. However, only Module 3 (Peer and Sibling Victimization) were used for the purposes of the current study. Module 3 assesses different subtypes of victimization: gang or group assault, peer or sibling assault, nonsexual genital assault, bullying, emotional bullying, and dating violence. For the purposes of this study only the first five subtypes were examined and from the subtype "peer or sibling assault" only data on peer assault was utilized. Gang or group assault (i.e., "Sometimes groups of kids or gangs attack people. In the last year, did a group of kids or a gang hit, jump or attack you?"), peer assault (i.e., "In the last year, did any kid hit you? Somewhere like at home, at school, out playing, in a store or anywhere else?"),

nonsexual genital assault (i.e., “In the last year, did any kids try to hurt your private parts on purpose by hitting or kicking you there?”), and bullying (i.e., “In the last year, did any kids pick on you by chasing you or grabbing your hair or by making you do something you didn’t want to do?”) were grouped together and a broader category was created titled: “physical victimization”; emotional victimization category consisted only of the emotional bullying item (i.e., “In the last year, did you feel really scared or feel really bad because kids were calling you names saying mean things to you or saying they didn’t want you around?”). Regarding scoring of the questionnaire, any subject who answered “yes” to any of the questions received a “1”, whereas a “No” answer was coded as “0”, thus a dummy variable was created for both victimization types (physical and emotional). The questionnaire consists of closed-ended follow-up questions to follow endorsement of a victimization-screening question. Administration time is 20 minutes. The JVQ assesses victimization that has occurred in the past 12 months. Cronbach’s alpha for JVQ has been reported at .80 (Finkelhor, Hamby, Ormrod & Turner, 2005).

2.3.3 - Children’s Depression Inventory (CDI; 1985, Kovacs)

The Children’s Depression Inventory is a self-report 27-item measure designed to assess a wide range of depressive symptoms in children and adolescents ages from 6-17. Each item consists of three statements (e.g., “I feel like crying every day”= 0; “I feel like crying many days”=1; “I feel like crying once in a while=2”) and the respondent chooses the one that most appropriately describes them for the past two weeks. Items are scored from 0 to 2. Total scores range from 0 to 54. Some items were reverse coded. Higher scores indicate higher depression. Cronbach’s alpha has been reported to be .87 (Hankin, Mermelstein, & Roesch, 2007). For this sample, alpha was also .87.

2.3.4 - Inventory of Parent and Peer Attachment (IPPA; 1987, Armsden & Greenberg)

The Inventory of Parent and Peer Attachment was utilized to determine the quality of relationship between adolescents and their parents and peers. For the purposes of the present study parent-child relationship was assessed through the use of 12 items all rated on a 5-point Likert scale ranging from 1) almost never / never true to 5) almost always / always true. A sample item is: “My parents respect my feelings.” Peer relationships will be evaluated with the use of 12 items rated on a 5-point Likert scale ranging from 1) almost never / never true to 5) almost always / always true. A sample item is: “When I am angry about something my friends try to understand.” Average scores were used in the analyses. Some items were reverse coded and higher scores indicate higher levels of support. Raja, McGee and Stanton (1992) have reported coefficient alphas for the parent scale at .82 and for the peer inventories at .80. For the current sample, alpha was .82 for the parent scale and .84 for the peer scale.

2.4 - Power Analysis

Using G*power 3 program I conducted an a priori power analysis for omnibus f (Faul, Erdfelder, Lang, & Buchner, 2007). With a small effect size, $f^2 = .02$, alpha = .05, power (1- β) and 11 predictors, a sample 850 would be needed. With a medium effect size, $f^2 = .15$, a sample of 123 would be needed. Because G power program does not provide its users with an option for power analysis of specific interaction effects in regression, power analysis for ANOVA design was used. To calculate power for 3-way interactions two levels of each predictor were used; namely: gender (boys vs. girls) x peer victimization (victimized vs. nonvictimized) x peer support (two levels: low vs. high). The ANOVA model testing main effects and interactions yielded the following results: with a small effect, $f = .10$, alpha = .05, power = .80, numerator df = 1 $\{(2-1) \times (2-1) \times (2-1)\}$, and number of groups = 8 (2 x 2 x 2), a

sample of 787 would be needed. With a medium effect size, $f = .25$, a sample of 128 would be needed. Based on the above information it was decided not to test for 3-way interactions because with lower than medium effect sizes there was not enough power to detect 3-way interactions. Instead, I decided to conduct main regression analyses separately by gender.

Chapter 3 - Results

Regarding victimization experiences, approximately 24 % of the participants reported having been physically victimized in the past year (32% boys and 14% girls) and approximately 19 % of the participants reported having experienced emotional victimization experiences in the past year (15% boys and 24% girls). More boys reported physical victimization experiences than females, $\chi^2(1) = 11.14, p < .05$, and girls reported more emotional victimization experiences $\chi^2(1) = 3.47, p < .05$ as well as higher peer support than boys did, $t(259) = -4.47, p < .05$.

Descriptive statistics can be found in Table 1.

Bivariate correlations were tested for peer victimization, parental support, peer support, depression and the demographic variables of child age, gender and family income (Table 2). Correlations were performed separately by gender. Of the demographic variables included in the correlation, only total income of the family was significantly correlated with the outcome of depression for the male sample ($r = -.18, p < .01$) and for the female sample ($r = -.20, p < .05$) and thus was included as a covariate in the main regression analysis. Correlations computed among the study variables for the male sample showed that parental support was found to be positively correlated with peer support ($r = .40, p < .01$), and negatively correlated with depression ($r = -.51, p < .01$). Peer support was also negatively correlated with depression ($r = -.48, p < .01$) and with physical victimization ($r = -.23, p < .05$). Peer support was positively correlated with child's age ($r = .19, p < .05$). For the female sample parental support was

positively correlated with peer support ($r = .38, p < .01$) and negatively correlated with emotional bullying ($r = -.23, p < .05$), depression ($r = -.47, p < .01$), and with child's age ($r = -.30, p < .01$). Child's age was used as a covariate in the regression analyses. Both physical ($r = .37, p < .01$) and emotional ($r = .17, p < .05$) victimization were positively related to depression. Gender differences were tested in the association between peer victimization experiences and depressive symptoms by testing the significance in the difference between two correlations: physical victimization and depressive symptoms, and emotional victimization and depressive symptoms for both genders (Preacher, 2002). There was no significant difference between boys and girls in terms of physical victimization and depressive symptoms, $z = 1.45, p = 0.07$. Similarly, there was no difference with respect to emotional victimization and depression correlation for both genders, $z = -0.16, p = 0.43$.

In the subsequent hierarchical regression analyses children's depression scores were predicted from the main effects of physical and emotional victimization and support (parent and peer) in the first step, then the moderator term- (the interaction between victimization and parental support and the interaction between victimization and peer support) -were added in the second step. Separate analyses were performed for physical and emotional victimization and for boys and girls.

In the first hierarchical regression run for boys the variables of child's age, family income, physical victimization, parental support and peer support were entered in the first step. The results from step 1 of this model, $F(5, 137) = 17.90, p < .001$, revealed significant main effects of physical victimization, $t(142) = 3.11, p < .001$, parental support, $t(142) = -4.85, p < .001$ and peer support, $t(142) = -3.80, p < .001$. In step 2 the following interactions were added: physical victimization by parental support and physical victimization by peer support. As shown

in Table 3, in step 2 of this model, $F(7,135) = 14.37, p < .001$, the main effects of all the variables remained significant except for peer support which became not significant, $t(142) = -1.28, p = .20$. The physical victimization by peer support interaction was significant, $t(142) = -2.66, p < .05$; a finding that supported the hypothesis that peer support has a buffering effect against depression in the face of peer victimization. However, the interaction of parental support by physical victimization was not found to be significant, $t(142) = .33, p = .74$. For this model, R^2 was .40 for step 1 and R^2 was .43 for step 2 (see Table 3).

A second analysis with the same variables for girls was run next. The results from step 1 of this model, $F(5,112) = 10.40, p < .001$, yielded significant main effects of income, $t(117) = -2.56, p < .01$, parent support, $t(117) = -4.05, p < .001$, and peer support, $t(117) = -2.55, p < .05$. In step 2 of this model, $F(7, 110) = 7.56, p < .001$, the interactions of physical victimization by parent support and physical victimization by peer support were entered. As can be seen in Table 3, all main effects remained significant. However, the interaction of physical victimization by parent, $t(117) = -.16, p = .87$, was not significant and the same was true for the interaction of physical victimization by peer support, $t(117) = -.86, p = .39$. For this model, R^2 was .32 for step 1 and R^2 was .33 for step 2.

In the next analysis for the boys' sample, the variables of child's age, family income, emotional victimization, peer support and parental support were entered in the first step. As can be seen in Table 4, in the first step of this model, $F(5,137) = 17.56, p < .001$, there were main effects for emotional victimization, $t(142) = 2.93, p < .05$, for parental support, $t(142) = -5.47, p < .001$ and for peer support, $t(142) = -4.10, p < .001$. In step 2 of this model, $F(7,135) = 12.71, p < .001$, the following interactions were added: emotional victimization x parental support and emotional victimization x peer support. Main effects remained significant whereas the

interaction of emotional victimization x parental support, $t(142) = -.12, p = .90$ and emotional victimization by peer support, $t(142) = .1.22, p = .23$, were not significant. For step 1 of this model, R^2 was .39, and for step 2, R^2 was .40.

Next, the same variables were used to run an analysis for the girls' sample. In the first step of this model, $F(5,112) = 10.28, p < .001$, there were significant main effects for income, $t(7,110) = -2.69, p < .05$, parent support, $t(117) = -3.40, p < .001$, and peer support, $t(117) = -2.51, p < .05$. In step 2 of this model, $F(7,110) = 7.26, p < .05$, all main effects remained significant. The interaction of emotional victimization by parent support was not significant, $t(117) = -.42, p = .67$, and neither was the emotional victimization by peer interaction, $t(117) = .07, p = .94$. For step 1 R^2 was .32 and for step 2 R^2 was .32 (see Table 4).

In order to conclude how peer support affects the association between physical victimization and depression for boys, the simple effects of peer support were examined by physical victimization status. The procedure was conducted following Holmbeck (2002). First, a reduced model was run including only the variables of physical victimization, parent support, peer support and the interaction between victimization and peer support. The initially significant interaction (physical victimization x peer support) remained significant, then, two new variables were formed: high support vs. low support. Next, the estimated means of peer support were calculated for both groups (victimized vs. non-victimized) by adding 1 SD for the high peer support group and by subtracting 1SD for the low peer support group. The results showed that when peer support is high physical victimization is not significant ($b = -.09, p = .94$) whereas when peer support is low physical victimization is significant ($b = 2.78, p < .05$). The interaction graph was plotted also following Holmbeck's (2002) suggestions (see Figure.2).

Chapter 4 - Discussion

The goal of this study was to examine the possible associations between physical and emotional victimization and depression as this would be moderated by parental and/or peer support. The investigation of gender differences regarding the buffering effects of parental and peer support was an additional goal of this study. As hypothesized, both physical and emotional victimization were found to be linked to depressive symptoms. Consistent with the literature (e.g., Storch, Brassard, & Masia-Warner, 2003) the current study found that more boys reported physical victimization experiences compared to girls and girls reported more emotional victimization experiences than boys did. The main effects found for both physical and emotional victimization for boys emphasizes the negative effects of both types of victimization on depressive symptoms. While there were no main effects found for girls for any of the two victimization types, correlations suggested that emotional victimization and depressive symptoms are positively related among girls. This finding is consistent with previous literature suggesting that girls are vulnerable to depression upon emotional victimization because of the strong emphasis they place on social relationships and also due to the fact that they tend to ruminate more than boys do (Paquette & Underwood, 1999; Crick & Zahn-Waxler, 2003). Thus, it seems that the effects of both types of victimization on girls' depressive symptoms are apparent but in the presence of social support, such as the one received by parents and peers victimization is no longer significant regarding its effect on depressive symptoms.

Regarding parental support, main effects were found for both types of support for both genders regardless of victimization form. That finding is in line with previous research that has shown that parental support protects against internalizing symptomatology such as depressive symptoms for both genders (Gomez & McLaren, 2006; Kotchick, Summers, Forehand, & Steele,

1997). Patten et al. (1997) found that perceived parental support was protective of depressive symptoms for both male and female adolescents who ranged in age between 12 and 17 years old. The current study's findings suggest that parental support significantly protects both genders against depressive symptoms.

Interpreting the main effects for peer support found in this study for both genders, it is inferred that regarding depressive symptoms both genders are benefited by the presence of peer support in their lives. The findings highlight the significance of peer support in alleviating internalizing symptoms along with previous findings among children and adolescents (Ezzel, Swenson, & Brondino, 2000; Wallander & Varni, 1989). For example, Laible, Carlo, and Raffaelli (2000) utilized a sample of 89 adolescents to test parental and peer support as well as depression, sympathy and aggression. As expected, adolescents who reported having secure attachments to both their parents and their peers had a better psychological adjustment (low depression and aggression and high sympathy) than everyone else; Interestingly, their findings revealed that adolescents with secure attachment to peers but not to parents reported lower depression scores and lower aggression scores, and their scores on sympathy were slightly higher than those who had a secure attachment to parents but not peers. Thus, secure relationships with peers appeared to be associated with better psychological adjustment regardless of the low levels of parental support whereas the opposite was not true. It should be noted that although the study's results underscore the importance of peer support in adolescence, they are also an important testament to the claim that when youth have both sources of support (parent and peer) in their lives, they exhibit a healthy psychological adjustment.

As far as boys are concerned, peer support was found to be a buffering factor against depressive symptoms in the face of physical victimization. However, contrary to what had been

hypothesized, parental support did not moderate the relationship between emotional victimization and depressive symptoms neither for boys nor for girls. As far as physical victimization is concerned, peer support appeared to moderate the relationship between physical victimization and depressive symptoms such that when boys reported having high peer support in their lives, their emotional adjustment was not affected as much despite having been victimized. This finding is consistent with the findings of a study conducted by Hay and Ashman (2003) who investigated parental and peer support as protective factors for adolescents' emotional stability and found that compared to parent relations, same sex as well as opposite sex friendships were more important in predicting adolescents' emotional stability.

The finding that peer support acted as buffer against the detrimental effects of peer victimization on depressive symptoms among boys may indicate that boys at that age find greater support in peers than in parents when negative experiences are related to peers. In other words, when the risk factor involves peer relationships, it is not surprising that the protective factors reside in peer relationship contexts. An additional explanation for that finding could be related to the developmental stage. Past studies have documented that the positive effect of parent-child relationships declines when psychological adjustment is concerned while peer relationships' effect increases as adolescents grow (Makri-Botsari, 2005). For example, Young, Berenson, Cohen, and Garcia (2005) examined whether parental and peer support predicted depression in a sample of 389 adolescents. At Time 1 participants were 11-16 years old and Time 2 was two years later. The study's results showed that low peer support at Time 1 predicted more depressive symptoms in older adolescents than young ones at Time 2 which confirms the premise that as individuals grow, peer support importance increases.

Although, as posited by individuation theory (Grotevant & Cooper, 1986), youths achieve their individuality through a supportive relationship with their caregivers, however, it is plausible that in adolescence the task of achieving autonomy and differentiating one's self from others is also influenced and facilitated by peers and one's relationship with them. Additionally, adolescents gradually shift their emotional attachment from their caregivers to their peers and although parents remain a source of support for preadolescents and adolescents, peers have increasing influence on each other's development and well-being (Youniss & Smollar, 1985). One could argue that low parent support might not have such an influence on adolescents due to the shift in attachment from parents to peers. On the contrary, it could be argued that the absence of peer support or low levels of it would be related to depressive symptoms as adolescents get older due to the fact that starting in adolescence peers start becoming increasingly more and more important (Furman & Buhrmester, 1992). Additionally, it is well known that parent-child relationships are of different nature than peer relationships in that the former are characterized with an unequal distribution of power whereas peer relationships are more equal and less likely to rely on rules that must be obeyed (Youniss & Smollar, 1985). The differences in the nature between parent-child and peer relationships may offer an explanation to why adolescents turn to peers for support rather than parents.

Lastly, boys' preference for peer support in the event of peer victimization can be possibly attributed to the nature of their self concept and identity. It has been suggested that boys' masculine identity is formed through activities shared with other male peers. Thus, it seems like males are a strong influencing force for other males (Kaplan, 1996). Similarly, Hay's (2000) findings enhance the notion that boys place emphasis on being part of a group of peers in which one's masculine identity is being shaped. Given that information, it can be speculated that

in this study's sample, boys turned to peers for support mainly because it is through interaction with them that they maintain their masculine identity which upon peer victimization is likely to be threatened.

Peer support plays a fundamental role not only in shielding male youths against depressive symptoms in the event of peer victimization but also in preventing the occurrence of peer victimization. Malcolm, Jensen-Campbell, Rex-Lear, and Waldrip (2006) examined the association between friendship (number of friends and quality) and peer victimization in a sample of 207 preadolescents (11 and 12 years old). The study's findings revealed that participants who reported having more friends and were found to be more accepted were also less likely to be victimized. The quality of friendship (but not the number of friends) reported by the participants was negatively associated with both overt and relational victimization as well. The decreased likelihood of being victimized when one has good friends does not imply that this could be due to the fact that a child is surrounded by the physical present of friends, although that is important too. It rather pertains to the assertion that good friends will be more likely to stand up and protect their friend. Additionally, the targeted child will be psychologically benefited by his/her friends' eagerness to support and protect them. The aforementioned findings support the present study's results regarding the important protective role of peer support in the event of peer victimization, affirm the claim that the quality of relationships with peers is fundamental in protecting against psychological maladjustment and in decreasing the likelihood of recurring peer victimization and are in line with the extant literature (Hodges, Boivin, Vitaro, & Bukowski, 1999; Hodges, Malone, & Perry, 1997).

The results of the present study support the significance of good quality relationships with parents and peers for boys and girls regarding the prevention of depression. Furthermore,

this study highlights the importance of supportive relationships with peers among boys with peer victimization experiences. Since adolescence is a period marked by one's need for individuation and autonomy it is expected to observe a shift from reliance on parents to peers for emotional support. Clinicians and professionals working with children and adolescents could be benefited from the above findings in that they provide information regarding the profits of positive parental relationships for both genders and the profits of supportive peer relationships in regards to youths' psychological adjustment especially for boys who suffer from peer victimization. School officials could also utilize the aforementioned findings. Interventions and treatments should be focused on helping children and adolescents with peer victimization experiences especially boys, to improve and maintain high quality social relationships to design programs targeted at enhancing students' social skills and highlight the importance of social support from peers among children and adolescents.

Chapter 5 - Limitations and Future Directions

This study has a few limitations. First, it is not clear whether high peer support leads to lower depression or whether adolescents with better psychological adjustment are more able to form strong and supportive relationships with peers. The correlational nature of the study does not allow for cause and effect inferences. It is plausible then that the effects of one variable on the other could be bidirectional. Namely, depressed adolescents might be less likely to sustain a high quality peer relationship which in turn puts them at risk for victimization by peers. Future studies should be longitudinal in nature in order to determine the direction of the effects of peer victimization on adolescents.

Second, this study was conducted utilizing a non clinical sample. Given the low scores on the depression scale, it is suggested that future studies investigate clinical ranges of depression

since it would be interesting to study clinical populations to examine how these specific variables interact with each other as well as whether and how parental and peer support can be of benefit to clinical populations.

Third, it is also essential to mention that this study's sample was not diverse. The majority of the participants in the current study were Caucasian. Future studies should examine how adolescents from different ethnic groups deal with different forms of peer victimization and how parental and peer support can potentially buffer the effects of such experiences.

A fourth limitation is the fact that the data are based on children's and adolescents' self-reports of victimization experiences, relationships with parents and peers, and depression. Since these data are subject to self-reporting bias future studies should collect data from multiple sources as opposed to data collected from a single informant.

Finally, the fact that emotional victimization category is comprised of only one item is a limitation of the current study. Future research should utilize a scale with more items assessing emotional victimization experiences in preadolescents and adolescents so as to capture different dimensions of that phenomenon.

Despite its limitations, the outcomes of the present study underscore the importance of parental and peer relationships' protective functions against depressive symptomatology as well as the significant protective effects of peer support against depression in the face of victimization experiences for boys. Thus, the ability to form and maintain relationships with one's peers offers significant protection against psychological maladjustment. In conclusion, the present study's findings contribute to our knowledge regarding the mechanisms whereby children's and adolescents' emotional adjustment is protected against the adverse effects of traumatic experiences such as peer victimization.

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Table 1.

Means, Standard Deviations, and Ranges for Victimization, Support, and Depression Measures

Measure	Boys		Girls		Possible Range
	Mean	SD	Mean	SD	
IPPA_pa	4.21	0.55	4.29	0.56	1-5
IPPA_pe*	3.94	0.59	4.27	0.60	1-5
EMB*	14.70%	(N = 143)	24.40%	(N = 118)	0-1
PHV*	32.20%	(N = 143)	23.70%	(N = 118)	0-1
CDI	5.21	5.26	6.21	6.55	0-54

Notes. $N = 261$, IPPA_pa = Inventory of Parent and Peer Attachment for parent, IPPA_pe = Inventory of Parent and Peer Attachment for peer, EMB = emotional bullying, PHV = physical victimization, CDI = Children's Depression Inventory.

* $p < .05$

Table 2.

Correlations Among Study Variables

	1	2	3	4	5	6	7	8
1.Age	—	.02	.21*	.06	.19*	-.14	-.11	-.08
2.Race	-.10	—	.04	.05	.00	-.06	.05	.00
3.Income	.10	.05	—	.21*	.21*	-.03	-.06	-.18*
4.IPPA_pa	-.30**	.13	-.07	—	.40**	.11	-.16	-.51**
5.IPPA_pe	.20*	.02	.04	.38**	—	-.06	-.23**	-.48*
6.EMB	.03	-.10	-.10	-.23*	-.17	—	.22**	.17*
7.PHV	.14	-.09	-.18	-.15	-.04	.05	—	.34**
8.CDI	.07	-.12	-.20*	-.47**	-.39**	.19*	.17	—

Notes. $N = 261$. Correlations of boys are above the diagonal and correlations of girls are below the diagonal. IPPA_pa = Inventory of Parent and Peer Attachment for Parent, IPPA_pe = Inventory of Parent and Peer Attachment for Peer, EMB = emotional bullying, PHV = physical victimization, CDI = Children's Depression Inventory.

* $p < .05$, ** $p < .01$

Table 3.

Hierarchical Regression Analyses Using Physical Victimization and Parental and Peer Support to Predict Depression.

Variables	<u>Depression</u>									
	Boys					Girls				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.40					.32	
Child age	.10	.27	.03			.04	.41	.01		
Income	-.08	0.15	-.04			-.52	.20	-.21*		
PHV	2.40	0.77	.21*			1.16	1.50	.06		
IPPA_parent	-3.43	0.71	-.36*			-4.47	1.10	-.38*		
IPPA_peer	-2.54	0.67	-.29*			-2.53	.99	-.23*		
Step 2				.43	.03*				.33	.01
Child age	.11	0.26	.03			.04	0.41	.01		
Income	-.09	0.15	-.04			-.53	0.20	-.21*		
PHV	1.60	0.81	.14*			1.54	1.65	.08		
IPPA_parent	-3.70	0.88	-.38*			-4.14	1.22	-.35*		
IPPA_peer	-1.10	0.86	-.12			-2.30	1.03	-.21*		
PHVxIPPA_parent	.47	1.42	.03			-.44	2.72	-.02		
PHVxIPPA_peer	-3.46	1.30	-.27*			-3.20	3.74	-.09		

Notes. $N = 261$, IPPA_parent = Inventory of Parent and Peer Attachment for parent, IPPA_peer = Inventory of Parent and Peer Attachment for peer, PHV = physical victimization.

* $p < .05$.

Table 4.

Hierarchical Regression Analyses Using Emotional Victimization and Parental and Peer Support to Predict Depression.

Variables	<u>Depression</u>									
	Boys					Girls				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1										
Child age	.14	.27	.04	.39		.08	.41	.02	.32	
Income	-.07	.15	-.03			-.54	.20	-.21*		
EMB	2.95	1.01	.20*			.57	1.25	.04		
IPPA_parent	-3.91	.72	-.41*			-4.47	1.12	-.38*		
IPPA_peer	-2.72	.66	-.31*			-2.50	1.00	-.23*		
Step 2				.40	.01				.32	.001
Child age	.16	.27	.04			.08	.41	.02		
Income	-.04	.15	-.02			-.55	.20	-.22*		
EMB	3.37	1.12	.23*			.48	1.23	.03		
IPPA_parent	-3.73	.76	-.39*			-4.15	1.35	-.35*		
IPPA_peer	-3.23	.79	-.36*			-2.58	1.15	-.24*		
EMBxIPPA_parent	-.34	2.72	-.01			-.91	2.16	-.04		
EMBxIPPA_peer	1.86	1.53	.10			.16	2.17	.01		

Notes. $N = 261$, IPPA_parent = Inventory of Parent and Peer Attachment for parent, IPPA_peer = Inventory of Parent and Peer Attachment for peer, EMB = emotional victimization.

* $p < .05$.

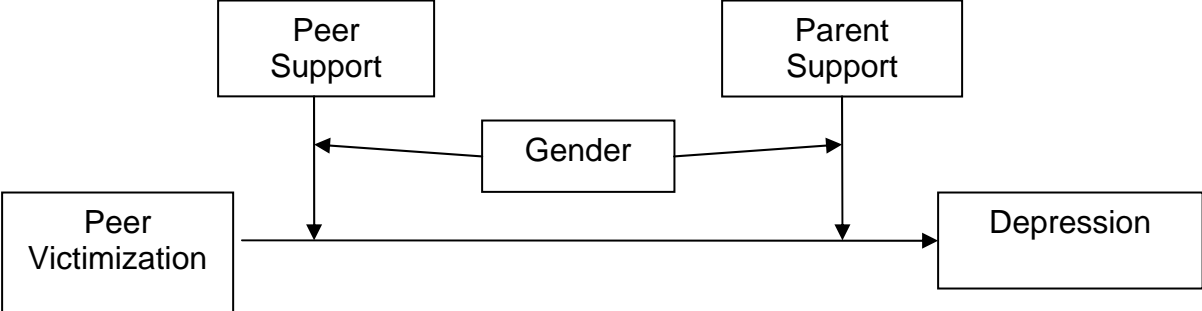


Figure 1. Conceptual Model of Study

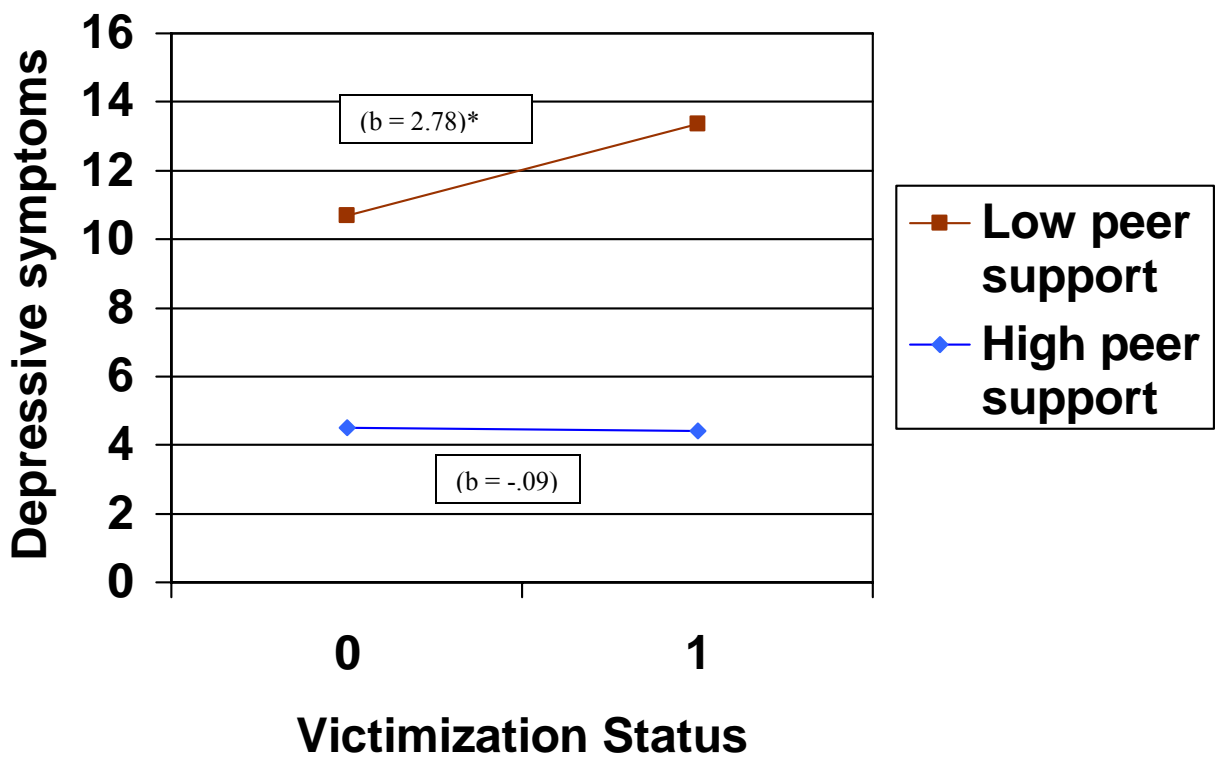


Figure 2. Regression lines for relations between peer support and depressive symptoms by peer victimization status