

LONGITUDINAL RELATIONS BETWEEN
TARGETED PEER VICTIMIZATION AND DEPRESSION

By

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CHAPTER I

INTRODUCTION

Peer victimization has been noted for as long as there are records of human history (Card & Hodges, 2008). Its effects can be substantial, with peer victimization able to dramatically affect the ability of students to progress academically, socially and psychologically (Ross, 2006). It is a common problem, with studies assessing whether students have been victimized during the current semester or school year yielding prevalence rates between 30 to 60% (e.g., Glover, Gough, Johnson, & Cartwright, 2000; Rigby, 2000; Smith & Shu, 2000), with the probability of being bullied or victimized by one's peers peaking during middle childhood and early adolescence.

Middle childhood and early adolescence is a key period for the construction of positive and negative self-cognitions (Smith, Shu, & Madsen, 2001), as well as being the peak age period for victimization. Thus, one consequence of victimization is that victims of peer bullying or teasing may be at increased risk for development of negative schemas that, in turn, may increase risk for affective problems such as depression as well as aggression and violence towards others. This suggests that a particular focus on middle childhood is important because of children's sensitivity to the effects of victimization at this age (Crick, Casas, & Ku, 1999).

Targeted peer victimization

Targeted Peer Victimization (TPV) is defined as “the experience among children of being a target of the aggressive behavior of other children, who are not siblings and not necessarily age-mates” (Hawker & Boulton, 2000, p. 441). TPV can be divided into two main types: (a) overt or physical victimization, and (b) covert or relational victimization. Physical victimization occurs when a child is physically harmed or controlled by physical threats or attacks (Crick & Bigbee, 1998). Relational victimization involves behavior that is intended to damage peer relationships, friendships, and acceptance, often by excluding the victim from peer activities, withdrawing friendship, or spreading rumors (Crick & Bigbee, 1998; Grotperter & Crick, 1996; Hawker & Boulton, 2000).

Historically physical victimization has received more attention than covert / relational victimization, perhaps because it was seen as more serious by adults (reflected perhaps by the childhood taunt “sticks and stones will break my bones, but words will never hurt me”). In recent years, however, many scholars have begun to realize that the consequences of other forms of victimization can also be severe, and they have begun focus attention on the study of other types of peer victimization, including covert victimization (Olweus 1995; Juvonen and Graham, 2001; Pepler, Craig, Yuile, & Connolly, 2004). The personal and societal costs of these other forms of peer harassment are becoming more clear (Troop-Gordon & Ladd 2005).

Depression

A number of studies have suggested a link between TPV and depression in young people. Hawker and Boulton's (2000) 20-year meta-analytic review of TPV and psychosocial maladjustment suggests that both physical and relational victimization are more strongly related to depression than any other disorder. In current study, we estimated the relation of depressive symptoms to both physical and relational victimization.

Depression and depressive symptoms are widely recognized as one of the most serious public health problems (Cassano & Fava, 2002). Depression occurs at relatively high rates in most age groups and is associated with significant suffering, functional impairment, and mortality (Shaffer, Fisher, Dulcan, Davies, Piacentini, Schwab-Stone, Lahey, Bourdon, Jensen, Bird, Canino & Regier, 1996; Weissman, Wolk, Goldstein, Moreau, Adams, Greenwald, Klier, Ryan, Dahl & Wickramaratne, 1999). Depression can lead to prolonged and sustained suffering as well as impaired interpersonal, vocational, and social functioning (Kocsis, 2000). In the last few decades, it has been established that children and adolescents also can develop depressive disorders, with similar negative consequences as adults (Waslick, Kandel, & Kakouros, 2002).

Victimization and Depression

Several studies have found a relation between TPV and depression. For instance, in a study of 118 Mexican American students graded 3 through 5, Bauman (2008) found that victims of TPV had more depressive symptoms than non-victims. Bauman and

Summers (2009) found a similar pattern in their study of 229 Mexican American middle school students. In this study, they found that indirect victimization made the largest contribution to predicting depressive symptoms.

Other studies have considered potential moderators of these effects, including pubertal status (Compian, Gowen, & Hayward, 2009), gender (Grills & Ollendick, 2002), and obesity (Adams & Bukowski, 2008). Results of these studies also support the general hypothesis that victimization impacts on depression. Studies in other countries have found similar results. In a study in Canada with a sample 16,291 of respondents age 12 or older, Arboleda-Flórez and Wade (2001) found that adult women who have been victimized during childhood had an increased incidence for major depressive episodes. Bauman (2008) studied Mexican American elementary students and found that bullying victims (all types combined) had more depressive symptoms than did non-victims, but that relational victimization was the only significant predictor of depressive symptoms in a regression analysis; that is, relational victimization was the one predictor with unique variance. Another international study of relation between TPV and depression was conducted by Cheng, Cheung and Cheung (2008) in Hong Kong, with 712 high school adolescents. They found a significant positive correlation between TPV and depression among both boys and girls.

Beginning in about seventh grade, females become about twice as likely as males to develop depression (Hankin & Abramson, 2001). Nolen-Hoeksema and Girgus (1994) have suggested that this effect is likely due to early risk factors that are more common in girls than in boys. In terms of TPV, boys may be more likely than girls to experience

physical victimization whereas girls may be more likely than boys to experience relational victimization (Crick, 1996; Crick & Bigbee, 1998; Crick & Grotpeter, 1995; French, Jansen, & Pidada, 2002; Galen & Underwood, 1997; Prinstein, Boergers & Vernberg, 2001). A review by Rose and Rudolph (2006) suggested that gender differences in relational TPV may further vary depending on age or informant. Although relational victimization is associated with internalizing problems for both boys and girls, some evidence suggests that the relation may be stronger for girls (Prinstein et al., 2001), which could at least in part explain the greater prevalence of depression among females.

Cross-sectional relation between TPV and depression

Most cross-sectional studies have found strong relations between TPV and depression (Bauman, 2008; Bauman & Summers, 2009; Cheng, Cheung, & Cheung, 2008; Baumeister & Storch, 2008; Compian, Gowen, & Hayward, 2009; Erdur-Baker, 2008; Gray, Janicke, Ingerski, & Silverstein, 2008; Klomex, Marrocco, Kleinman, Schonfeld, & Gould, 2008; Ranta, Kaltiala-Heino, Pelkonen, & Marttunen, 2009; van Hoof, Raaijmakers, van Beek, Hale III, & Aleva, 2008). For instance, Bauman (2008) found that relational victimization was the only significant factor associated with depressive symptoms. In a study on 546 Canadian 5th to 8th grade students, however, Craig (1998) found no significant relations between from sex, grade, physical or relational peer victimization and depression.

In two studies of 250 Turkish adolescents between the ages of 13 and 18, Erdur-Baker (2008) examined the joint and separate predictive power of problem solving,

rumination, and victimization on depressive symptoms separately for each gender. The results of the analyses indicated that rumination accounted for a significant portion of depressive symptoms in both genders but that victimization made a significant contribution to depressive symptoms only for boys. Erdur-Baker (2008) found no interaction effects for depressive symptoms.

Cole, Maxwell, Dukewich, and Yosick (2010) conducted a cross-panel / cross-sectional study of the relation between TPV, self-cognitions and depression in children. They found that TPV was significantly related to positive and negative self-cognitions as well as depressive symptoms. However, structural equation modeling (SEM) suggested that the effects of relational TPV accounted for the effects of physical TPV; i.e., the effects of physical TPV may have been due to its indirect effects through relational TPV. Furthermore, the SEM analyses also suggested the relation between TPV and depressive symptoms may have been due to or mediated by indirect effects through positive and negative self-cognitions.

Longitudinal relation between TPV and depression

Most longitudinal studies of relation between TPV and depression have hypothesized that the correlation between from TPV and depression results from TPV's effect on depression rather than vice-versa (Adams & Bukowski, 2008; Bauman, 2008;); however, this is not what has always been found. For instance, in a study by Adams and Bukoski (2008), 1,287 adolescents were assessed at three times periods over four years, and they found that in non-obese adolescents victimization did not predict changes in

depressive symptoms four years later. However, because the data were from a National Survey, a three item measure of peer victimization was used (1: *Children say nasty things to me at school*; 2: *I am bullied at school*; 3: *I am bullied on my way to and from school*) which may have failed to fully capture the construct, and these items were general and could not be divided into different types of peer victimization.

McLaughlin, Hatzenbuehler, and Hilt (2009) conducted a longitudinal study of the relation between peer victimization and internalizing symptoms, mediated by emotion dysregulation, using SEM. They found significant reciprocal relations between internalizing symptoms and relational victimization.

In a 3-wave longitudinal study of 2,586 children in the United Kingdom, Sweeting, Young, West, and Der (2006) found that at age 13, the relation between victimization and depression was reciprocal, but with a stronger path from victimization to depression than vice versa. At age 15, however, the primary significant relation was from depression to victimization among boys. Models including cross-lagged paths provided a less accurate fit to the data than models including simultaneous associations, which suggests that within these data, the relations were non-longitudinal / non-casual, or that the time lags for the study were non-optimal. However, as with Adams and Bukoski's (2008) study, this study was based on data from a large school-based survey of health and health behaviors, and did not have measures specially designed to assess peer victimization, with only two victimization questions (1: *Teased or called names*; 2: *Bullied*).

Current study

The overall purpose of the present study was to examine the predictive relation between TPV and depression, in order to further understand both the causes of TPV as well as the consequences of TPV. A two-time point longitudinal design was used, with the first time was in Spring 2008 and the second was in Spring 2009.

Hypotheses

Hypothesis #1. There will be significant reciprocal predictive relations between TPV and depression.

Hypothesis #2. There will be a significant gender effect with girls experiencing more relational TPV and more depression than boys, whereas boys will experience more physical TPV than girls.

CHAPTER II

METHODS

Participants

Participants were recruited from two rural/suburban elementary schools and one middle school in central Tennessee. At Time 1, consent forms for parents and letters were distributed to 826 students in third, fourth, fifth, and sixth grades describing the project. Four hundred and twenty one parents gave permission for their child to participate. Of the students for whom parental consent was obtained, 403 (96%) were present on the day of data collection and gave their assent to participate. At Time 2, 566 consent forms were sent to parents of fourth, fifth, sixth and seventh students, and 470 parents gave permission for their children to participate. Of the students for whom parental consent was obtained, 414 (88%) were present on the day of data collection and gave their assent to participate. At both times points, one parent or guardian for each child was invited to participate. Comparisons of participants to nonparticipants on ethnicity, sex, and grade level revealed only small, nonsignificant results ($ps > .20$) at both time points. Total participants in both waves were 887 students, from 3rd grade to 7th grade.

Children were in the third ($n = 100$), fourth ($n = 96$), fifth ($n = 101$), and sixth ($n = 104$) grades at Time 1, and in fourth ($n = 98$), fifth ($n = 119$), sixth ($n = 111$), seventh ($n = 85$) at Time 2. Ages ranged from 8 to 14 ($M = 10.9$, $SD = 1.2$) at Time 1, and from 9 to

15 ($M=11.18$, $SD=1.25$) at Time 2. The sample had approximately equal numbers of males and females at Time 1 (49%; 51%, respectively) and at Time 2 (50.2%; 49.8%, respectively). The student sample consisted of 92.2% Caucasian, 1.5% African American, 2.8% Hispanic, and .5% Asian students at Time 1, and 89.8% Caucasian, 1.9% African American, and 4.3% Hispanic students at Time 2. Family size (i.e., the number of children living at home) ranged from 1 to 9 ($Mdn = 3.0$ for Time 1 and 2.6 for Time 2).

Measures

Victimization by peers. We used a self-report measure to assess peer victimization. This measure was a 6-item questionnaire designed to assess relational and physical victimization (RV-SR and PV-SR, respectively), expanding on the items used by Ladd and Kochenderfer-Ladd (2002). We modified items to reflect a broader range of physical and relational victimization, worded for somewhat older children. The question stem was “Does anyone in your class ever...” The three relational items were: (1) *Tell others to stop being your friend*; (2) *Say you can’t play with them*; and (3) *Say mean things to others kids about you*. The three physical items were: (4) *Kick you*; (5) *Hit you*; and (6) *Push you*. Each item was rated on a 4-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = a lot). Despite the relatively small number of items, both subscales had moderate levels of internal consistency in the current study (Cronbach’s alphas were .72 and .71 for relational victimization and .81 and .86 for physical victimization, for Time 1 and Time 2, respectively). Principle axis factor analysis revealed a 2-factor structure with primary factor loadings above .58 and .57 on the appropriate factors, and no cross loadings greater than .25 and .23 for Time 1 and Time 2, respectively. The two factors

correlated .44 and .51 for Time 1 and Time 2, respectively. Factor loadings, means, and standard deviations for items are presented in Table 1.

Depressive symptoms. We assessed depressive symptoms with the Children's Depression Inventory (CDI; Kovacs, 1985), a 27-item self-report measure that assesses cognitive, affective, and behavioral symptoms in children. At the request of the school system, we eliminated the suicide item for the elementary and middle school children; hence we used the CDI with 26 items. Each CDI item consists of three statements graded in order of increasing severity, scored from 0 to 2. Children select one sentence from each group that best describes themselves for the past two weeks (e.g., "I am sad once in a while," "I am sad many times," or "I am sad all the time"). In nonclinic populations, the CDI has relatively high levels of internal consistency, test-retest reliability, predictive, convergent, discriminant, and construct validity (Cole & Jordan, 1995; Craighead, Smucker, Craighead & Ilardi, 1998; Smucker, Craighead, Craighead & Green, 1986; Timbremont, Braet, & Dreeson, 2004). In the current study, Cronbach's alpha was 0.92 for both time points.

Procedures

The time interval between the two times of data collection was approximately one year, with assessments occurring Spring 2008 and Spring 2009. Prior to data collection at both time points, we distributed informed-assent forms to all children in each participating classroom. We offered a \$100 donation to each classroom if 90% of children returned consent forms signed by a parent or guardian, either granting or

denying permission for their child's participation. For data collection with children, psychology graduate students administered the questionnaires during regular school hours in the children's classroom. In keeping with the developmental level of the participants, we implemented slightly different data collection procedures at different grade levels. For third- and fourth-graders, one research assistant read the questionnaires aloud to a group of students. For students in the fifth and sixth grades, a research assistant introduced the battery questionnaires and allowed students to complete them at their own pace. At all grade levels, research assistants circulated among students to answer questions before, during, and after questionnaire administration. At the end of the administration, the students were given snacks and a decorated pencil for their participation.

CHAPTER III

RESULTS

Descriptive Statistics

Table 1 displays the means and standard deviations (in parenthesis) of all measures at each time point broken down by gender. *T*-tests showed that relational and physical victimization are significantly different by sex (all $p < 0.05$). In both waves, boys reported more physical victimization and girls reported more relational victimization.

Table 1

Means (and Standard Deviation) of all measures

Measure	Male		Female		Total	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
1. TPV Total	10.31 (3.76)	10.67 (4.06)	10.68 (4.02)	10.63 (3.69)	10.50 (3.90)	10.65 (3.88)
2. TPV Relational	5.34 (2.07)	5.83 (2.21)	6.46 (2.82)	6.29 (2.34)	5.91 (2.54)	6.06 (2.28)
3. TPV Physical	4.99 (2.37)	4.85 (2.34)	4.29 (1.95)	4.35 (2.08)	4.63 (2.19)	4.60 (2.23)
4. CDI	33.44 (8.18)	34.11 (8.29)	34.65 (9.15)	35.37 (9.39)	34.07 (8.71)	34.74 (8.87)

Table 2 presents correlations of all scales in this study. All scales correlates from average to high with each other.

Table 2

Correlations

Measures	1	2	3	4	5	6	7
1. CDI Total Time 1							
2. TPV Total Time 1	.563**						
3. TPV Relational Time 1	.525**	.851**					
4. TPV Physical Time 1	.384**	.804**	.368**				
5. CDI Total Time 2	.610**	.322**	.312**	.214**			
6. TPV Total Time 2	.457**	.500**	.450**	.355**	.520**		
7. TPV Relational Time 2	.462**	.459**	.528**	.209**	.493**	.862**	
8. TPV Physical Time 2	.323**	.396**	.245**	.393**	.397**	.856**	.475**

** . Correlation is significant at the 0.01 level (2-tailed).

We used structural equation modeling for our main analyses. For the TPV, we used the three first items in the TPV scale as the indicator variables for the “Relational TPV” latent variable, and the last three last TPV items were used as the indicator variables for the “Physical TPV” latent variable. For indicators of the Depressive Symptoms latent variable, we divided the CDI into two parts, based on odd and even numbered items, with each part containing 13 items. Correlations between the two halves were .86 and .84 at Time 1 and Time 2, respectively.

We tested the relation of gender to the latent covert/relational and overt/physical TPV and depressive factors at Time 1 and Time 2, using SEM. This model provided a good fit to the data (see Table 3). The chi-square test was significant, $\chi^2(93, N=887)=219.56$ ($p < .001$); however, with large sample sizes statistically significant a significant χ^2 can represent very small discrepancies between the model and the data. Alternative indices revealed that the model explained most of the observed covariance, and that discrepancies between the covariance matrix implied by the model and the observed covariance matrix were small: NFI = 0.94, IFI = 0.96, CFI = 0.97 and RMSEA = 0.04 (with a 90% confidence interval of 0.03 to 0.05). Examination of the path coefficients revealed that gender was significantly related to all variables at Time 1 but not at Time 2. Boys experienced more overt/physical TPV than did girls ($\beta = -0.18, z = -3.39, p < .001$), whereas girls experienced more covert/relational TPV ($\beta = 0.28, z = 4.96, p < .001$) and reported higher levels of depression ($\beta = 0.11, z = 2.24, p < 0.05$) than boys. When Time 1 variables were statistically controlled, gender was not significantly related to Time 2 victimization or depression. When Time 1 variables were not controlled, gender was related to Time 2 depression, physical and relational victimization with the same pattern as for Time 1. At Time 2, the gender effect on relational and physical TPV were significant at two tail level ($\beta = 0.13, z = 2.25, p < 0.05$ and $\beta = -.11, z = -2.13, p < 0.05$, respectively), and at one tail level, for depression was $\beta = 0.09, z = 1.75, p < .05$.

Table 3

Regression Weights for Gender differences

Predictive relations		Unstandardized Estimate	S.E.	Standardized Estimate	z	p <
Gender	→ Relational_1	.425	.086	.276	4.959	.001
Gender	→ Physical 1	-.224	.066	-.180	-3.386	.001
Gender	→ Depression_1	.893	.399	.106	2.238	.025

Relations of TPV to Depressive Symptoms

To examine the prospective relations between physical TPV, relational TPV, and depressive symptoms, we used latent variable structural equation model (See results in Table 4). The model provided a good fit to the data. The chi-square test was again significant, $\chi^2(87, N=887) = 184.88, p < .001$; however, the alternative indices revealed that the discrepancies between the model and the data were small, with $NFI = 0.94$, $IFI = 0.97$, $CFI = 0.97$, and $RMSEA = 0.04$ (with a 90% confidence interval of 0.03 to 0.04).

Figure 1.

Predictive relations between relational and physical TPV and depression.

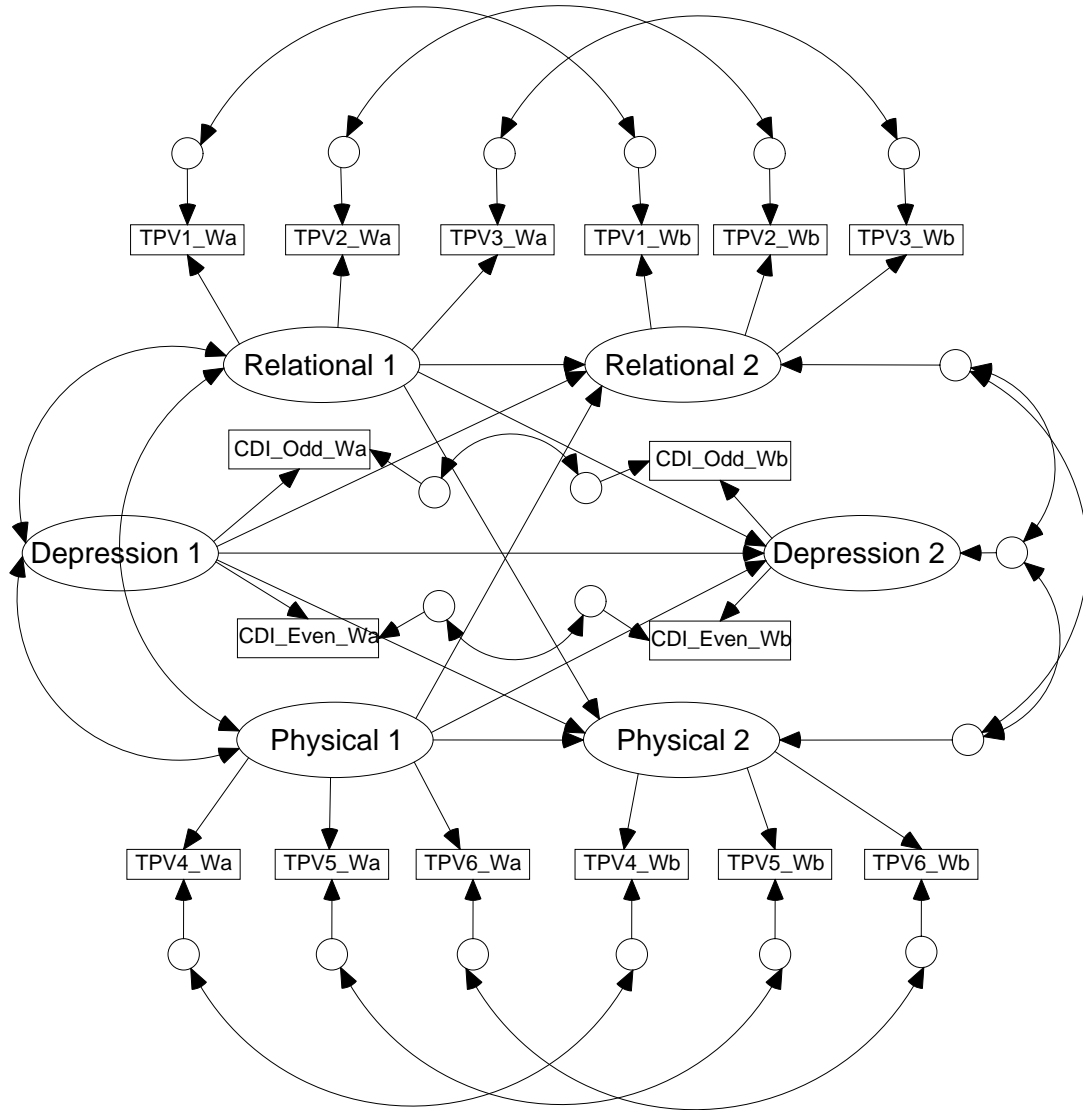


Table 4

Regression Weights for Predictive model in Figure 2

Predictive relations	Unstandardized Estimate	S.E.	Standardized Estimate	z	p <
Relational_1 → Relational_2	.486	.105	.541	4.617	.001
Depression_1 → Depression_2	.728	.081	.713	8.994	.001
Depression_1 → Relational_2	.230	.088	.256	2.602	.009
Physical 1 → Physical 2	.382	.086	.368	4.420	.001
Physical 1 → Relational_2	-.073	.077	-.081	-.946	.344
Depression_1 → Physical 2	.288	.098	.277	2.922	.003
Relational_1 → Depression_2	-.105	.096	-.103	-1.094	.274
Physical 1 → Depression_2	.102	.071	.100	1.450	.147
Relational_1 → Physical 2	-.029	.116	-.028	-.250	.803
Relational_1 → TPV1_Wa	.688	.044	.665	15.529	.001
Relational_1 → TPV2_Wa	.689	.044	.675	15.495	.001
Relational_1 → TPV3_Wa	.773	.049	.707	15.894	.001
Relational_2 → TPV1_Wb	.688	.044	.709	15.529	.001
Relational_2 → TPV2_Wb	.689	.044	.669	15.495	.001
Relational_2 → TPV3_Wb	.773	.049	.655	15.894	.001
Depression_1 → cdi_wa_even	4.200	.155	.892	27.177	.001
Depression_2 → cdi_wb_odd	4.200	.155	.937	27.177	.001
Depression_2 → cdi_wb_even	4.200	.155	.895	27.177	.001
Depression_1 → cdi_wa_odd	4.200	.155	.960	27.177	.001
Physical 1 → TPV4_Wa	.647	.032	.789	20.118	.001
Physical 1 → TPV5_Wa	.673	.033	.796	20.324	.001
Physical 1 → TPV6_Wa	.675	.036	.717	18.583	.001
Physical 2 → TPV4_Wb	.647	.032	.853	20.118	.001
Physical 2 → TPV5_Wb	.673	.033	.867	20.324	.001
Physical 2 → TPV6_Wb	.675	.036	.762	18.583	.001

Several specific results are worth highlighting. First, longitudinal stabilities were moderate for relational TPV ($\rho = .54, z=4.62, p < .001$), physical TPV ($\rho = .37, z=4.42, p < .001$), and very high for depression ($\rho = .71, z=8.99, p < .001$). Second, neither relational nor physical TPV significantly predicted later depression. Third, Depression at Time 1 significantly predicted both Relational TPV ($\rho = .26, p < .01$) and Physical TPV ($\rho = .28, p < .005$) at Time 2, with higher levels of depression predicting increases in both types of TPV across the year timeframe.

CHAPTER IV

DISCUSSION

There are three primary findings from this study. First, latent TPV was moderately stable whereas depression was highly stable across a one-year interval. Second, boys and girls differed significantly in regards to all of the constructs, for both waves. Third, and most importantly, self-reported depressive symptoms predicted both relational and physical TPV but that neither type of TPV predicted depression. This differs from our hypothesis, which stated that there would be reciprocal relations between peer victimization and depression.

The lack of a relation from victimization to depression differs from a number of previous studies, such as Kumpulainen, Rasanen, Henttonen, Almqvist, Kresanov, Linna, Moilanen, Piha, Puura, and Tamminen (1998), and Stephenson and Smith (1989). In both of these studies higher rates of psychological distress were found among bullies as well as victims relative to non-victims and non-bullies. Similarly, Bauman and Summers (2009) found in a study of 229 Mexican American middle school students that both direct and indirect victimization were significant predictors of depressive symptoms, with indirect victimization having the strongest relation. Other studies have found similar results (e.g., Bauman, 2008; Bauman et al., 2009; Erdur-Baker, 2008; Gibb, Abramson, & Alloy, 2004; Klomex et al., 2008).

One possible reason that we did not find that victimization predicted depression, in contrast to these other studies, may be because of the length of our time lag between

assessments. Specifically, the time period within which victimization has an effect on depression may be shorter than the one year period across which our study assessed change. That is, the effects of victimization vis-à-vis depression may manifest within a period of less than a year, and by one year after the victimization is assessed, other factors may contribute and influence depression (e.g., physical development; family life events, both positive and negative). The increasing influences of these other factors in conjunction with the dissipating effects of victimization might have resulted in a non-significant relation at one year. Further, in a one-year time period as in our study, students invariably move up a grade, changing classes, teachers and possibly friends, so that the effect of peer victimization one year later may further be decreased through the competing influence of these other factors. Supporting this possibility are the results of McLaughlin et al. (2009). In their longitudinal study with a large sample of 1,065 children (aged 11-14), they found that peer victimization predicted increased emotion dysregulation over a 4-month period, and that increases in emotion dysregulation in turn predicted changes in internalizing symptoms at a 7-month time lag.

There have been some, though not all, studies that similar to the present study have found that depression predicts victimization (e.g., Sweeting et al., 2006; McLaughlin et al. 2009; Prinstein, Cheah, & Guyer, 2005; Hanish & Guerra, 2002). However, these studies have had various limitations, such as operationalizations of peer victimization not as comprehensive as ours (e.g., based on two questions from a large general survey; Sweeting et al., 2006), the use of regression analyses rather than SEM with a small sample (Prinstein et al., 2005) or use of discriminant function analysis (Hanish et al., 2002). Thus, the present results add to these, through our large sample

size, which can better support statistical tests and models like SEM. Further, since both of our assessment points were conducted at the same time of the academic year (spring), this may have helped to reduce extraneous variables that might vary across different points in the academic year (e.g., different pressures on students).

It is well established that depression is associated with various negative effects on personal and social life, mental health, and social adjustment. The results of the current study suggest that depression also may negatively affect people additional negative ways, such as increasing risk for peer victimization. One possible explanation for the path from depression to victimization is that depressed children will experience and express more negative moods, hence they may be seen by bullies as either (a) easier victims to target because they look weak and timid and less likely to defend themselves, or (b) more reinforcing victims, because the victimization may more readily or obviously hurt depressed children (e.g., they may be more likely to cry). Another possible explanation is that as part of their negative cognitions and low self-esteem, relative to non-depressed children these children may perceive themselves as worthless or bad, and hence that they deserve bad things to happen. This also could lead to them not protecting themselves in response to the bullying, making them more desirable targets. In addition, depressed children have more problems with interpersonal relationships (Rudolph, Hammen, & Burge, 1994), and consequently may have less social or peer support to help protect them from bullies. These various possibilities suggest that in future research, it will be important to include a variety of different potential mediators, such as self-esteem and social support, to test various possible models underlying the effects of depression on victimization.

However, it also may be that depressed children do not actually experience increased victimization, but rather as their depression increases, their sensitivity to rejection increases, and hence their ratings of TPV increase, although the TPV itself is stable. However, arguing against this latter interpretation is the fact that we controlled for changes in depression from Time 1 to Time 2, which should mostly covary out such a change in cognitive perspective.

In the present study, we found gender differences for depression and both forms of TPV, with girls having higher levels of relational victimization and depression, and boys having higher levels of physical victimization. This finding is similar to results of other studies regarding gender differences in TPV (e.g., Crick, 1996; French, Jansen, & Pidada, 2002; Galen & Underwood, 1997; Prinstein et al., 2001). Differences in rates of the different forms of TPV may be due to social learning. Through family, school and community education, girls and boys are implicitly taught different roles, such as social behaviors, areas of interest (e.g., in general, girls care more about children and family, relationships; boys care more about achievement, physical strength (Maccoby & Eleanor, 1980; Adler, Kless, & Adler, 1992). Hence, through social learning girls have been trained not to use physical strength but rather to use verbal and relational strength to control or manipulate others. In contrast, boys have been socialized to use less interpersonal victimization and show more physical strength and physical aggression.

These findings have implications for prevention and intervention in the schools. They suggest that it is not only important to help students cope with their depression not only to directly improve their lives but also to help them avoid becoming increasingly

targeted as victims. This in turn suggests that it will be important to identify the specific characteristics of depressed children that are associated with increased victimization. For instance depression is, by virtue of being psychopathology, atypical and children with atypical behaviors or appearances are more likely to become the target of peer victimization (Haldeman, 2000); still, it will be important to determine what particular aspects of depression are most strongly associated with victimization. Towards this end, additional research focusing on assessment of how the victims themselves view TPV, especially their own TPV, how the victims respond to TPV, and perhaps most importantly how bullies view different children as targets (e.g., depressed vs. non-depressed children).

This study includes some strengths as well as shortcomings. Most importantly, it used a longitudinal design which allows for assessment of temporal precedence as well as provided a structural path model with the unreliability of measures removed. We had a large sample size which generates relatively stable parameter estimates. A limitation of the study is the possibility of shared method variance (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004), since all our measures were self-report. That is, because both the assessment of peer victimization and depression were based on self-report, cognitive biases associated with depression and anxiety may have influenced reports of the frequency of peer victimization reported by participants (De Los Reyes & Prinstein, 2004). Finally, as always, third variable explanations (e.g.; normal developmental change) cannot be ruled out as the cause for depression predicting changes in TPV.

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