

Depressive symptoms, friend distress, and self-blame: Risk factors for adolescent peer  
victimization

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### Abstract

Past research indicates that depressed adolescents experience increased risk for peer victimization. Less is known about the conditions under which depressive symptoms predict social vulnerability and the mechanism underlying such links. The current study considers a) characterological self-blaming attributions as a social cognitive mechanism accounting for links between depressive symptoms and victimization across the first two years of middle school and b) the potential moderating role of friends' level of depressive symptoms. Relying on an ethnically diverse sample of 5,374 adolescents, multilevel moderated mediation analyses indicated that maladaptive attributions accounted for links between 6<sup>th</sup> grade depressive symptoms and increases in 7<sup>th</sup> grade victimization. Moreover, this mediational pathway was strongest for students whose friends also experienced heightened depressive symptoms at the beginning of middle school. These results highlight the roles of both intra- and inter-personal risk factors in predicting social cognitive biases and future victimization risk during the middle school years.

Keywords: Peer victimization, Characterological self-blame, Depressive symptoms, Friendships, Early adolescence

Depressive symptoms, friend distress, and self-blame: Risk factors for adolescent peer victimization

Peer victimization is a prominent social stressor associated with a range of negative psychosocial consequences during adolescence (Juvonen & Graham, 2014). Although victimization increases in prevalence during the transition to middle school (Nylund, Bellmore, Nishina, & Graham, 2007; Pellegrini & Long, 2002), victims are not randomly targeted by their peers. Rather, there are a range of individual characteristics that make certain youth more vulnerable to victimization (Hodges, Malone, & Perry, 1997; Zimmer-Gimbeck, 2016). While some specific risk factors may vary depending on what is considered non-normative in a given context (cf. Eisenberg et al., 2016), depressive symptoms appear as a general risk factor for future peer victimization (Hodges & Perry, 1999; Kochel, Ladd, & Rudolph, 2012; Reijntjes et al., 2010). However, little is known about how and when depressive symptoms increase adolescents' risk for victimization. In the current study, we consider how social cognitions (i.e., attributions for negative peer experiences) and peer relationships (i.e., friendships) of youth with depressive symptoms affect the risk of future victimization. Specifically, we propose that causal attributions can help account for increased victimization risk and that friends' depressive symptoms further strengthen such links. By examining these processes across the first two years of middle school, we capture how depressive symptoms increase adolescents' social vulnerability after an important school transition.

**Self-blame: mechanism linking depressive symptoms and victimization?**

Although a number of studies have established that depressive symptoms increase the risk of victimization (see Reijntjes, Kamphuis, Prinzie, & Telch, 2010 for meta-analysis), it is unclear why this is the case. Considering the emotional and behavioral profile of an adolescent

experiencing depressive symptoms offers some insight, insofar as an adolescent's depressive symptoms may generate negative peer reactions (Hammen, C., 2005). Youth with depressive symptoms (even at a sub-clinical level) tend to be socially withdrawn or isolated and frequently manifest increased emotional sensitivity (e.g., crying easily; Aalto-Setälä, Marttunen, Tuulio-Henriksson, Poikolainen, & Lönnqvist, 2002; Hodges et al., 1997). Given that bullies tend to seek out submissive targets that they can successfully dominate (Juvonen & Galván, 2009; Juvonen & Graham, 2014), the behaviors and reactions of depressed youth likely signal emotional vulnerability that increase the risk of peer victimization (Perry, Willard, & Perry, 1990; Schwartz, Dodge, & Coie, 1993). However, it is unclear the extent to which these behavioral risk factors independently contribute to victimization risk. For example, one study examining predictors of continued victimization across the 6<sup>th</sup> grade school year found that lack of friends, low friend support, and helpless responding were all correlated with victimization, but they did not predict future victimization risk over and above depressive symptoms (Schacter, White, Chang, & Juvonen, 2015).

When considering unique risk factors for future victimization, it is important not only to examine behavioral correlates of depression, but also to consider social cognitive risk factors associated with emotional distress (Lemerise & Arsenio, 2000). Maladaptive cognitions may offer a useful target for psychosocial interventions. Indeed, changing problematic thought patterns is often a central component of evidence-based treatments for depression in children (e.g., Weisz et al., 2012), and targeting cognitive distortions has been shown to be more effective than focusing on behaviors that place youth at risk for victimization (e.g., Trip et al., 2015). Particularly, causal attributions for negative social experiences are well-suited for intervention (Walton & Cohen, 2007; Wilson & Linville, 1985), inasmuch as victims are likely to try to

understand *why* they are targeted by their peers (Weiner, 1985; 1995). Moreover, it has been well-documented that individuals with depressive symptoms are likely to blame themselves for negative experiences (Garber, Keiley, & Martin, 2002; Seligman, Abramson, Semmel, & von Baeyer, 1979). Specifically, characterological self-blaming attributions that implicate nonmodifiable and unavoidable internal causes for negative events have been associated with depression among young adults (Janoff-Bulman, 1979).

Within the peer relations research, characterological self-blame has also been associated with peer victimization. Most of this research has examined maladaptive attributions as a consequence of victimization experiences (Graham, Bellmore, & Mize, 2006; Schacter & Juvonen, 2015), and some researchers have tested its mediational role in predicting the distress of bullied adolescents (Graham, Bellmore, Nishina, & Juvonen, 2009; Graham & Juvonen, 1998). However, there is also evidence suggesting that adolescents who attribute their social plight to internal and uncontrollable causes at the beginning of middle school are more likely to perceive themselves as being victimized by the end of 6<sup>th</sup> grade (Schacter et al., 2015). It is possible that the sense that one cannot do anything about one's plight raises negative expectations about peer interactions (e.g., Downey & Feldman, 1996; Zimmer-Gembeck & Nesdale, 2013). Relatedly, such maladaptive attributions may lower the threshold for interpreting future encounters with peers as targeted intimidation (i.e., increasing sensitivity or salience of possible victimization; Beck, 1976) and increase adolescents' rejection sensitivity (Downey et al., 1998; Rabiner & Coie, 1989). Thus, characterological self-blame may be particularly relevant when considering links between depressive symptoms and future peer victimization.

It is important to note that although depression is related to characterological self-blame, these two are distinct constructs. For example, in the study mentioned above (Schacter et al.,

2015), characterological self-blame emerged as the only other independent risk factor, in addition to depressive symptoms, for students' future victimization. Additionally, findings from clinical literature suggest that despite their association with depression, self-blaming attributions are not necessarily a risk factor for depressive symptoms (Peterson, Schwartz, & Seligman, 1981). That is, individuals can self-blame without being depressed, although depressed individuals typically exhibit negatively biased causal interpretations. These findings suggest that self-blame can function as a consequence, rather than (or in addition to) cause, of depressive symptoms.

### **Interpersonal relationships and self-blame**

To understand the relations between depressive symptoms, attributions, and behaviors, it is important to also consider the interpersonal context of negative social experiences (Hammen & Brennan, 2001). Consistent with theories of homophily, an adolescent with symptoms of depression is likely to affiliate with similar peers (Giletta et al., 2011; Kiuru, Burk, Laursen, Numi, & Salmela-Aro, 2012; Schaefer, Kornienko, & Fox, 2011). Therefore, when considering the experiences of emotionally distressed adolescents at the beginning of 6<sup>th</sup> grade, it may be especially critical to examine their friendships. During early adolescence, friendships are increasingly characterized by high levels of intimacy and emotional disclosure (Buhrmester & Furman, 1987), and youth often use their peer interactions as a way of appraising their own self-worth (Brown, 1990). As such, having friends that are experiencing emotional distress may present a social risk. Indeed, past studies have found that having depressed friends increases adolescents' depressive symptoms (Giletta et al., 2011; Prinstein, 2007; Rosenblatt & Greenberg, 1991; Stevens & Prinstein, 2005). Although friendships are generally thought to offer a protective function for adolescents, friends who are also experiencing depressive symptoms may

be unable to offer adequate support and/or provide ineffectual support to depressed youth (Bagwell & Schmidt, 2013).

Although the social “contagion” effects of depression have been studied, it is less well understood how the relation between adolescents’ depressive symptoms and their attributions may be amplified by their friends’ level of depressive symptoms. On one hand, friendships between depressed youth may be protective, insofar as this sense of distress may increase the availability of external attributions (i.e., it’s not *just* me). However, it is also possible that friendships between youth with depressive symptoms are characterized by increased negativity and co-rumination (Rose, 2002), further increasing self-blame. There is evidence from existing research to support the latter hypothesis. Stevens and Prinstein (2005) demonstrated that 6<sup>th</sup>-8<sup>th</sup> grade girls with a depressed best friend were more likely to develop depressogenic cognitions (e.g., “I am worthless”). Exposure to and closeness with other depressed peers may maintain and reinforce negative interpretations of life events, either through explicit discussion or subtler behavioral observations (Downey & Coyne, 1990; Stevens & Prinstein, 2005). Additionally, social contact with depressed friends may consistently expose youth to pessimistic views that increase feelings of uncontrollability (e.g., there is nothing I can do to change my plight) and stability of such negative experiences (e.g., this is never going to change; Schwartz-Mette & Rose, 2012).

While research on the effects of friend depressive symptoms on attributions is limited during adolescence, clinical research on mother-child relationships can offer additional insight into these processes. Past studies reveal that depressed mothers, compared to nondepressed mothers, exhibit greater negativity towards their children (e.g., verbal criticism), in turn increasing their children’s tendency to make self-blaming attributions (Jaenicke et al., 1987;

Radke-Yarrow, Belmont, Nottelman, & Bottomly, 1990). Such effects have also been found during early adolescence; among a sample of 6<sup>th</sup> graders and their mothers, youth were more likely to exhibit negative (i.e., internal, stable, global) attributional styles across three years if their mothers had histories of mood disorders (Garber & Flynn, 2001). Moreover, depression has been found to be associated with maladaptive cognitions only when a youth's mother was also depressed (Hammen & Brennan, 2001). Taken together, these findings suggest that close relationships with depressed others could further intensify links between depressive symptoms and maladaptive self-blaming attributions for negative peer interactions.

### **The present study**

The current study aims to extend past research suggesting that depressive symptoms function as a risk factor for peer victimization in early adolescence by focusing on self-blaming attributions as a critical mechanism linking distress and these negative social experiences. Moreover, we test the function of friends' depressive symptoms as an interpersonal moderator (see Figure 1 for the conceptual model). By relying on three time points, we first test a multilevel mediational model assessing self-blame in the Spring of 6<sup>th</sup> grade as a mediator of the association between Fall of 6<sup>th</sup> grade depressive symptoms and 7<sup>th</sup> grade self-perceived victimization, while controlling for initial self-blame and victimization. We focus on self-perceived victimization insofar as students' subjective perceptions of social mistreatment should be most relevant when considering the effects of emotional distress and biased social cognitive appraisals or self-schemas (Juvonen, Nishina, & Graham, 2001; Zimmer-Gimbeck, 2016). Second, we examine the proposed multilevel moderated mediation model, testing the indirect effects of depressive symptoms on victimization through self-blame at varying levels of friend depressive symptoms. Given that the desire to be friends with others who experience high levels of emotional problems



could pose a risk to youth with depressive symptoms, regardless of if those friendships are reciprocated, we specifically examine the depressive symptom ratings of all friends nominated by youth. That is, although a focus on reciprocal friends may provide a stricter criterion for friendship, adolescents' unilateral friendships are also meaningful to the nominator (Furman, 1996) and potentially exert even greater influence than reciprocal friends on youth adjustment (e.g., Vitaro et al., 2009; Echols & Graham, 2016). By considering both intra- and inter-personal factors related to depression, the current study sheds light on when and why depressive symptoms increases risk for victimization in adolescence. Moreover, we examine these processes across the developmentally significant transition to middle school. Given that this is a time when adolescents become more vulnerable to psychological distress (Chung, Elias, & Schneider, 1998) and peer victimization increases in prevalence (Pellegrini & Long, 2002), it is important to understand how students' preexisting mental health difficulties upon the transition to a new school environment can increase their vulnerability to maladaptive causal appraisals and subsequent peer harassment.

### **Method**

The current data were collected as part of a large, longitudinal study of adolescents' social, emotional, and academic experiences in the middle school years. The ethnically diverse sample (N=5,991) was recruited from 26 urban public schools in California, selected to systematically vary in their ethnic compositions.

All school districts provided permission to conduct the study, and during recruitment all students and families received informed consent and informational letters. To increase the return rates of parental consent forms, two \$50 gift cards were raffled in each school for those students who returned a consent form, regardless of parental permission to partake in the study.

Additionally, two iPods were raffled among study participants. Parental consent rates averaged 81.4% and student assent rates averaged 83.1% across the schools. Only students who turned in signed parental consent and provided written assent participated.

### **Sample and procedure**

The current analytic sample consisted of 5,374 students across the 6<sup>th</sup> and 7<sup>th</sup> grade school years (53% female). Based on self-reported ethnicity, 31% were Latino, 20% European American, 14% East/Southeast Asian, 12% African American, 14% Multiethnic/Biracial, and 9% Other (e.g., Middle Eastern, Pacific Islander). The proportion of students eligible for free/reduced lunch price (a proxy for school SES) ranged from 18.3% to 86.3% ( $M=47.56$ ,  $SD=18.30$ ) across the 26 schools.

Students ( $n=617$ ) were excluded from the current analyses if in the Fall of 6<sup>th</sup> grade a) they did not nominate any other participants as friends ( $n=503$ ) and/or b) none of their nominated friends completed the depressive symptoms measure ( $n=114$ ). On average, students who did not nominate any friends had higher Fall 6<sup>th</sup> grade depressive symptoms,  $t(5497)=-4.03$ ,  $p<.001$ , Spring 6<sup>th</sup> grade self-blame,  $t(5676)=-2.39$ ,  $p=.017$ , and Spring 7<sup>th</sup> grade victimization,  $t(4928)=-4.87$ ,  $p<.001$ , than those who nominated at least one friend.<sup>1</sup>

Students completed written questionnaires in the Fall of 6<sup>th</sup> grade (Wave 1), Spring of 6<sup>th</sup> grade (Wave 2), and Spring of 7<sup>th</sup> grade (Wave 3) within a classroom setting. Prior to completing the questionnaires, students were informed about confidentiality and reminded that participation was voluntary. Researchers read all instructions and questionnaires aloud as students followed

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<sup>1</sup> Supplemental analyses were conducted testing the proposed mediation model (self-blaming attributions mediating association between depressive symptoms and victimization) among the excluded sub-sample. There was evidence for a similar, albeit weaker, mediational process for students without friends.

along and provided written responses within a protected space. After completing the survey, students received cash or gift certificate compensation (\$5 in both the Fall and Spring of 6<sup>th</sup> grade and \$10 in the Spring of 7<sup>th</sup> grade).

### Measures

**Perceived peer victimization.** Given the focus of the current study on self-blame and depressive symptoms of youth mistreated by peers, we rely on self-reported victimization using four items from an instrument (Neary and Joseph, 1994) designed to reduce social desirability effects (Harter, 1982). For each item, students read two statements separated by the word “but” and were asked first to choose one of these options (e.g., some kids are often picked on *but* other kids are not picked on). After selecting one statement, students rated if it was “really true” or “sort of true”, such that each item was rated on a 4-point scale. The three other items asked about being called names, being the target of gossip, and being pushed around by others. All four items were averaged ( $\alpha=.77$ ).

**Depressive symptoms.** A 10-item, adapted version of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used to assess depressive symptoms (e.g., “I felt depressed,” “I felt sad,” “My sleep was restless”). Participants were asked how often they had experienced each item in the past week. A 4-point scale was used (1=*rarely or none of the time* to 4=*almost all the time*). Two items were removed from the scale to improve reliability (“I felt hopeful about the future” and “I felt that everything I did was an effort”). The remaining 8 items were averaged into a composite with higher scores indicating greater depressive symptoms ( $\alpha= .78$ ). Supplementary analyses demonstrated that the 8-item and 10-item scales yielded a similar patterns of results.

**Friends’ depressive symptoms.** Using an unlimited nomination procedure, students

were asked to list the names of their good friends in their grade at school in the Fall of 6<sup>th</sup> grade. Presuming that unilateral friendships may be just as, if not more, influential as reciprocal ones (Vitaro, Boivin, & Bukowski, 2009; Juvonen & Ho, 2008; Echols & Graham, 2016), we relied on all outgoing nominations for our main analyses. Youth on average nominated 3 other participants as friends in the Fall of 6<sup>th</sup> grade ( $SD=1.77$ ; maximum=13). The depressive symptoms scores reported by friends were averaged across all friendship nominations for each participant. Using an average score across all friendships offers insight into the depressive characteristics of an adolescent's full friendship network (Berndt & Keefe, 1995; Brendegen, Lamarche, Wanner, & Vitaro, 2010).

**Characterological self-blame.** Attributions for victimization experiences were assessed through vignettes; students responded to hypothetical victimization incidents (Graham & Juvonen, 1998). In the Fall of 6<sup>th</sup> grade, students were presented with a hypothetical scenario in which they are humiliated in front of their peers at lunch. In the Spring of 6<sup>th</sup> grade, students were presented with a hypothetical scenario in which they are the target of a nasty rumor. For each of the scenarios, students rated on a 5-point scale (1="Definitely would not think" to 5="Definitely would think") how much they agreed with 17 statements assessing different types of causal attributions. Here we specifically focused on six items capturing characterological self-blame (e.g., more likely to happen to me than to other kids; know this will happen to me again). The six items were averaged into a composite with higher scores indicating greater characterological self-blame ( $\alpha= .80$ ).

**Socioeconomic status.** Parent education was used as a proxy for student socioeconomic status (SES). The parent/guardian who completed informed consent indicated his/her highest level of education on a 6-point scale that ranged from 1= "elementary/junior high school,"

2="some high school," 3="high school diploma or GED," 4="some college," 5="4-year college degree," and 6="graduate degree."

**School-level ethnic diversity.** Given its known associations with victimization (more diversity related to less victimization; Juvonen et al., 2006) and the ethnic diversity of the sample, school-level diversity was controlled for in the main analyses. Simpson's index (Simpson, 1949) was computed for each of our 26 schools as an indicator of diversity. This proportion score indicates the likelihood of two randomly drawn students from a given school being from different ethnic groups.

### **Data analysis strategy**

The main analyses were conducted using full information maximum likelihood (FIML) estimation multilevel modeling in Mplus to account for students nested within 26 schools and to accommodate missing data (Enders & Bandalos, 2001). In all analyses, we controlled for gender (1=boy, 0=girl) and ethnicity (reference group=Latino, as the largest ethnic group in the sample) using dummy coded variables. Initial models also tested gender and ethnicity interactions; given the lack of significant differences across gender and ethnic groups for the effects of interest, these higher-level interactions were ultimately dropped in favor of more parsimonious final models. We also controlled for baseline (Fall of 6<sup>th</sup> grade) levels of characterological self-blame and victimization, a more conservative approach allowing us to examine *change* in self-blame and victimization from Fall of 6<sup>th</sup> grade to Spring of 6<sup>th</sup> and 7<sup>th</sup> grade, respectively. We additionally controlled for individual-level SES, and at the school-level we accounted for variability in school ethnic composition by controlling for school diversity. All continuous predictors were grand-mean centered to facilitate interpretation. Models also included random 6<sup>th</sup>

grade self-blame and 7<sup>th</sup> grade victimization intercepts, allowing the mean levels of self-blame and victimization outcomes to vary randomly across schools.

Analyses were conducted guided by procedures for testing a multilevel moderated mediation model in which all variables are measured at Level 1 (i.e., 1-1-1 mediation model; Kenny et al., 2003; Preacher, Zyphur, & Zhang, 2010). Figure 1 presents the conceptual model guiding our analyses. We present results of our moderated mediation analyses in two steps. First, we report results from a multilevel mediation model testing characterological self-blame as a mediator of prospective links between 6<sup>th</sup> grade depressive symptoms and 7<sup>th</sup> grade victimization. Second, to test for moderated mediation we examined whether the indirect effect of depressive symptoms on victimization through self-blame differed as a function of friends' average level of depressive symptoms. We tested these moderated links by including a two-way interaction between depressive symptoms and friend depressive symptoms in the *a*-path; a significant interaction would suggest that the effect of depressive symptoms on self-blame varies depending on friends' average level of depressive symptoms. We also compare point estimates of the overall indirect (mediated) effect at high (+1 standard deviation) vs. low (-1 standard deviation) levels of our moderator. Finally, we determined whether these conditional indirect effects were significantly different from one another by testing their difference against the null hypothesis of 0 using a Wald test (Muthen & Muthen, 1998-2012). A statistically significant value (i.e., significant difference between indirect effects at high vs. low friend depressive symptoms) would provide evidence of moderated mediation.

## Results

Correlations, means, and standard deviations of the main variables in the Fall of 6<sup>th</sup> grade (depressive symptoms, friend depressive symptoms, characterological self-blame, victimization),

Spring of 6<sup>th</sup> grade (characterological self-blame), and Spring of 7<sup>th</sup> grade (self-perceived victimization) are presented in Table 1. As shown in the table, students reporting higher levels of depressive symptoms at the beginning of middle school were more likely to endorse self-blaming attributions at the beginning and end of the 6<sup>th</sup> grade school year and experience peer victimization both concurrently and during 7<sup>th</sup> grade. Also, higher depressive symptoms were related to having friends with greater depressive symptoms and higher levels of concurrent and subsequent self-blame and victimization. However, these associations with friend depressive symptoms were relatively weak in magnitude. Baseline victimization and depressive symptoms were moderately correlated ( $r=.309, p<.001$ ), indicating that these are related but distinct constructs. Additionally, average depressive symptoms in the sample were relatively low, and the majority of students (approximately 80%) reported subclinical levels of depression.

### **Multilevel moderated mediation**

Our initial multilevel mediation model tested characterological self-blame (Spring of 6<sup>th</sup> grade) as a mediator of links between depressive symptoms (Fall of 6<sup>th</sup> grade) and self-perceived victimization (Spring of 7<sup>th</sup> grade), while controlling for initial levels of self-blame and victimization as well as the aforementioned demographic and school-level variables (i.e., sex, ethnicity, SES, school diversity). The intraclass correlations were .020 for 6<sup>th</sup> grade self-blame and .045 for 7<sup>th</sup> grade victimization, suggesting that the majority of variance in the self-blame and victimization outcomes was between individuals rather than across schools, as expected.

When predicting Spring of 7<sup>th</sup> grade victimization, boys reported higher levels of victimization than girls, and Asian and White students reported significantly less victimization than Latino students. Additionally, students with higher socioeconomic status and those attending more ethnically diverse schools experienced less victimization. The model also

revealed that students reporting higher levels of depressive symptoms at the beginning of 6<sup>th</sup> grade showed increased risk for victimization by the end of 7<sup>th</sup> grade (total effect:  $b=.143$ ,  $p<.001$ ). Moreover, the association between depressive symptoms and victimization was reduced when accounting for characterological self-blame, although it remained statistically significant, indicating support for partial mediation (direct effect:  $b=.121$ ,  $p<.001$ ). Specifically, higher levels of depressive symptoms predicted increases in characterological self-blame by the end of 6<sup>th</sup> grade ( $b=.152$ ,  $p<.001$ ), and higher levels of self-blame were related to increased victimization at the end of 7<sup>th</sup> grade ( $b=.141$ ,  $p<.001$ ). The estimate of the indirect effect was statistically significant as indicated by its confidence interval that did not include zero ( $ab=.021$ , 95% CI [.014-.029]).

To test whether the indirect effect of depressive symptoms on victimization differed depending on friends' depressive symptoms, we expanded upon our mediational model to test moderated mediation. Coefficients obtained from the final estimated model are presented in Table 2. When predicting Spring of 6<sup>th</sup> grade self-blame (i.e.,  $a$ -path), there was a significant interaction between depressive symptoms and friend depressive symptoms ( $b=.129$ ,  $p=.020$ ). As shown in Figure 2, although students with higher levels of depressive symptoms at the beginning of 6<sup>th</sup> grade showed increased characterological self-blame by the end of the school year, this link was stronger for students whose average friend level of depressive symptoms was higher ( $b=.197$ ,  $p<.001$ ) as opposed to lower ( $b=.102$ ,  $p=.001$ ).

Although 6<sup>th</sup> grade depressive symptoms were still significantly associated with 7<sup>th</sup> grade victimization when accounting for characterological self-blame, tests of the indirect effects revealed that the mediated effect of depressive symptoms on victimization through self-blame was stronger for students with higher ( $ab=.028$ , 95% CI [.018, .038]) as opposed to lower



( $ab=.014$ , 95% CI [.006, .023]) friend depressive symptoms. Results from a Wald test of parameter constraints indicated that the indirect effects at high and low levels of friend depressive symptoms were significantly different from one another (estimate=5.264,  $p=.022$ ), providing evidence for moderated mediation. Figure 3 presents a graphic of the full model, showing the indirect effects of depressive symptoms on victimization through self-blame at high versus low levels of friend depressive symptoms.

### **Discussion**

Despite growing evidence that depressed adolescents are more likely to become targets of peer victimization (Hodges & Perry, 1999; Kochel, Ladd, & Rudolph, 2012; Reijntjes et al., 2010), little is known about how depressive symptoms increase vulnerability and the conditions under which youth with depressive symptoms are at high risk for social maladjustment. The current study contributes to past research by considering the role of causal attributions and friends' level of depressive symptoms. Consistent with our hypothesis, the results suggest that characterological self-blame partially accounts for the link between depressive symptoms and victimization across the first two years of middle school. Moreover, by considering both the depressive symptoms of individual adolescents as well as their friends, we demonstrate that youth with depressive symptoms are at increased risk for endorsing maladaptive attributions for negative social experiences when their friends are also more depressed. Past studies have considered how adolescents with depressed friends show increased internalizing symptoms (Giletta et al., 2011; Prinstein, 2007; Rosenblatt & Greenberg, 1991) and maladaptive attributions (Stevens & Prinstein, 2005). Our findings extend this work, demonstrating that adolescent depressive symptoms and friend depressive symptoms together predict

characterological self-blaming attributions, which in turn increase the risk for perceptions of subsequent peer victimization.

Our results indicate that youth who feel more depressed at the beginning of middle school are more likely to blame themselves for their negative social experiences. This general finding is consistent with past work demonstrating that depressed, compared to nondepressed, youth tend to overestimate their own contribution to interpersonal stress (Krackow & Rudolph, 2008). Although cognitive distortions, such as tendency to blame oneself, may function as a vulnerability factor that increase youth's initial risk for depressive symptoms (see Abela & Hankin, 2008 for review), there is also evidence suggesting that the actual experience of depression can lead to the development of such maladaptive attributional patterns (De Los Reyes & Prinstein, 2004; Garber & Flynn, 2001; Rudolph, Hammen, & Burge, 1994), as suggested by the current results. These cognitive biases can persist even if depressive symptoms have remitted (Nolen-Hoeksema et al., 1992), highlighting the importance of identifying youth who are not only emotionally distressed, but also cognitively vulnerable.

We also found that adolescents who come to view negative social experiences as their own fault (internal) unlikely to change (stable), and difficult to control (uncontrollable), were more likely to view themselves as victimized by peers by the end of 7<sup>th</sup> grade. One possibility is that self-blaming youth develop negative expectations of future social encounters, and increased perceptions of victimization reflect a lowered threshold for interpreting negative social encounters as victimization (Rudolph & Clark, 2001). When adolescents have depressive symptoms and develop self-blaming attributions for negative social events, they may also seek out information that confirms their negative self-views (De Los Reyes & Prinstein, 2004; Hammen et al., 1995). Beyond affecting self-perceptions, higher levels of self-blame could

additionally manifest behaviorally, such that these youth are more withdrawn or reassurance-seeking (Coyne, 1976), making them “easier” targets for aggressive peers. It is worth acknowledging that characterological self-blame has also been shown to increase as a function of negative social experiences (e.g., peer victimization; Graham & Juvonen, 1998) and negative life events (Peterson et al., 1981), in turn elevating emotional distress. Thus, maladaptive attributions appear to arise from both negative social experiences (e.g., victimization) as well as preexisting mental health difficulties (e.g., depressive symptoms). Although we controlled for baseline victimization when examining the effects of depressive symptoms on self-blame and future victimization, it is important to recognize the likely reciprocal pathways between the constructs of interest.

Whereas past research has identified friendless youth as a particularly at risk group (e.g., Hodges et al., 1997), the main findings of the current study suggest that adolescents *with* friends can also experience heightened risk for maladjustment, depending on friend characteristics. Highlighting the interpersonal features of depressive symptoms, friends' average level of depressive symptoms magnified the relation between one's own feelings of depression and maladaptive attributions. It is possible that these friendships among depressed adolescents are characterized by extensive negative and problem-focused conversations, referred to by Rose (2002) as co-rumination. Indeed, there is past evidence that co-rumination can account for depression contagion effects within youth's friendships (Schwartz-Mette & Rose, 2012). Alternatively, friendships between depressed youth may be of lower quality (Prinstein, 2007) and promote increased feelings of social isolation. Perceiving low levels of support could exacerbate adolescents' sense of hopelessness, in turn amplifying maladaptive thought patterns. For example, other research shows that high school students are more likely to endorse self-blaming

attributions for victimization when they have a negative (i.e., conflictual) relationship with a best friend (Chen & Graham, 2012). Although investigating these interpersonal mechanisms was beyond the scope of the current study, it will be important for future research to more closely examine the dynamics underlying this association. Daily diary studies that capture “in vivo” interactions between depressed youth and their friends could offer valuable insight into how high levels of depressive symptoms within friendships influence social cognitions and future risk for victimization (White & Shih, 2012). Relatedly, analyses of conversations between depressed vs. non-depressed friends might be informative of shared affect as well as the content of the discussion (Dishion & Tipsord, 2011). Given that peer support might be particularly critical during times of school transition (Berndt, 1982), future studies should continue to examine how close friendships influence adjustment as youth begin middle school.

Strengths of the current study include the large and diverse sample, the incorporation of three distinct time points following an important school transition, and the use of both self- and peer-reported data. Our supplemental analyses demonstrating robust effects across ethnic and gender groups suggest the generalizability of our findings, particularly in light of the ethnic diversity of our sample. By examining mediating links across three time points (Fall of 6<sup>th</sup> grade, Spring of 6<sup>th</sup> grade, Spring of 7<sup>th</sup> grade), we were able to introduce strict controls (i.e., initial levels of victimization and self-blame) and demonstrate the prospective effects of depressive symptoms, friend depressive symptoms, and self-blame on victimization over and above baseline adjustment factors.

It is also important to recognize several limitations of the current analyses. First, although we capitalized on peer-reports to estimate friends’ depressive symptoms, we relied on self-perceived victimization and an average level of friends’ depressive symptoms across all outgoing

nominations (i.e., not exclusively reciprocated friendships). Although students' own perceptions of their victimization experiences were most relevant to the current study, self-reported victimization may present issues of shared method variance. Additionally, future research that incorporates alternative analytic approaches focusing specifically on reciprocated dyads, such as actor-partner independence modeling (APIM; Kenny, Kashy, & Cook, 2006) or longitudinal social network analysis, will be important in further elucidating the processes investigated in the current study. For example, by differentiating between actor and friend effects rather than aggregating across all friends' depressive symptoms, dyadic approaches can clarify the dynamic nature of these interpersonal contexts. Additionally, effect sizes in the current study were relatively small. Although the sample size was large, these analyses controlled for initial levels of stable psychosocial constructs (self-blame, victimization). As such, even these small effects can provide meaningful insight into antecedents of self-blame and victimization over the course of multiple years, over and above preexisting psychological and social difficulties. Finally, given that in the current study the link between depressive symptoms and victimization remained significant even after accounting for characterological self-blame, it will nevertheless be important for future research to consider additional mechanisms underlying these links.

### **Final conclusions and implications**

From a theoretical standpoint, our findings highlight the importance of considering depressive symptoms not only as an outcome, but also a risk factor for peer victimization. Using cognitive-interpersonal models of depression to better understand how depressive symptoms influence adolescents' adjustment to middle school will be an important task for future research. Additionally, by focusing on the role of both youth and friend characteristics in predicting social cognitions, our findings extend past research highlighting how attributions, despite being thought

of as largely internal cognitive appraisals, are sensitive to the social environment (Chen & Graham, 2012; Graham et al., 2009; Schacter & Juvonen, 2015). The proximal friendship context can serve as an important influence for shaping cognitive appraisals, particularly for youth that are already experiencing high levels of emotional distress.

By focusing on these processes at the beginning of middle school, we capture the development of psychosocial risk pathways at a time when students encounter many potentially stressful changes (e.g., switching schools, new peers; Eccles et al., 1984), and show increased depressive symptoms (Thapar et al., 2012) and peer difficulties (Nylund et al., 2007; Pellegrini & Long, 2002). Entering middle school with preexisting vulnerabilities, youth experiencing depressive symptoms are a particularly important group to help, given their susceptibility to negative peer treatment. The current findings suggest that targeting maladaptive attributions for victimization could offer promise for reducing susceptibility to peer mistreatment, especially among youth experiencing depressive symptoms. Moreover, it will be critical that social cognitive interventions are sensitive to the characteristics of friends and the proximal peer context. For example, selective interventions that group high-risk individuals together (e.g., those with mental health difficulties) may inadvertently encourage peer contagion effects (Dishion & Dodge, 2005). A potentially promising intervention direction is to capitalize on these peer influence processes. That is, exposing vulnerable youth to more adaptive behaviors and norms of well-adjusted peers may in fact promote positive forms of peer contagion (Choukas-Bradley, Giletta, Cohen, & Prinstein, 2015; Prinstein & Dodge, 2008).

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Table 1

*Correlations, Means, and Standard Deviations Among Main Variables.*

	1.	2.	3.	4.	5.	6.
1. Fall 6 <sup>th</sup> Grade Depressive Sx	--					
2. Fall 6 <sup>th</sup> Grade Average Friend Depressive Sx	.079	--				
3. Fall 6 <sup>th</sup> Grade Characterological Self-Blame	.300	.061	--			
4. Spring 6 <sup>th</sup> Grade Characterological Self-Blame	.265	.055	.523	--		
5. Fall 6 <sup>th</sup> Grade Victimization	.308	.075	.344	.321	--	
6. Spring 7 <sup>th</sup> Grade Victimization	.242	.081	.270	.320	.435	--
<i>M(SD)</i>	1.61(.55)	1.59(.37)	2.60(.92)	2.56(.92)	1.91(.79)	1.97(.78)

*Note.* All correlations significant at  $p < .001$

Table 2

*Results from Final Moderated Mediation Model.*

<b>Predictors</b>	<b>Outcomes:</b>			
	6 <sup>th</sup> Grade Spring Self-Blame (mediator)		7 <sup>th</sup> Grade Spring Victimization (outcome)	
	Estimate	SE	Estimate	SE
<i>Level 1</i>				
Intercept	-0.012	0.03	2.013***	0.03
Sex	0.002	0.02	0.068**	0.02
African American	-0.060	0.04	0.048	0.04
Asian	0.004	0.04	-0.191***	0.04
European American	-0.012	0.04	-0.107**	0.03
Multiethnic	0.013	0.04	-0.043	0.04
Other	0.112*	0.04	-0.049	0.04
SES	-0.004	0.01	-0.026**	0.01
6 <sup>th</sup> Grade Fall Self-Blame	0.441***	0.01	0.037**	0.01
6 <sup>th</sup> Grade Fall Victimization	0.161***	0.02	0.311***	0.02
6 <sup>th</sup> Grade Fall Depressive Sx	0.150***	0.02	0.121***	0.02
6 <sup>th</sup> Grade Fall Friend Depressive Sx	0.025	0.03	--	--
Depressive Sx X Friend Depressive Sx	0.129*	0.06	--	--
6 <sup>th</sup> Grade Spring Self-Blame	--	--	0.141***	0.01
<i>Level 2</i>				
Ethnic Diversity	-0.241	0.26	-0.528*	0.22

Note. \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Figure 1

*Conceptual Moderated Mediation Model for Victimization Risk.*

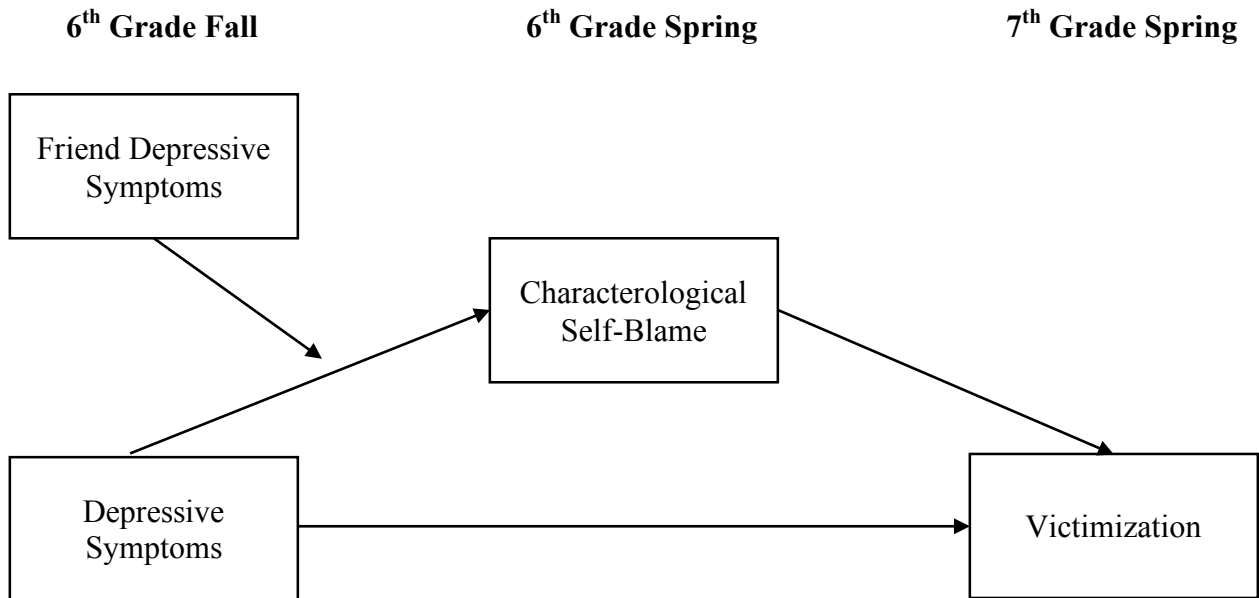


Figure 2

*Interaction Between Depressive Symptoms and Friend Depressive Symptoms Predicting Self-Blame.*

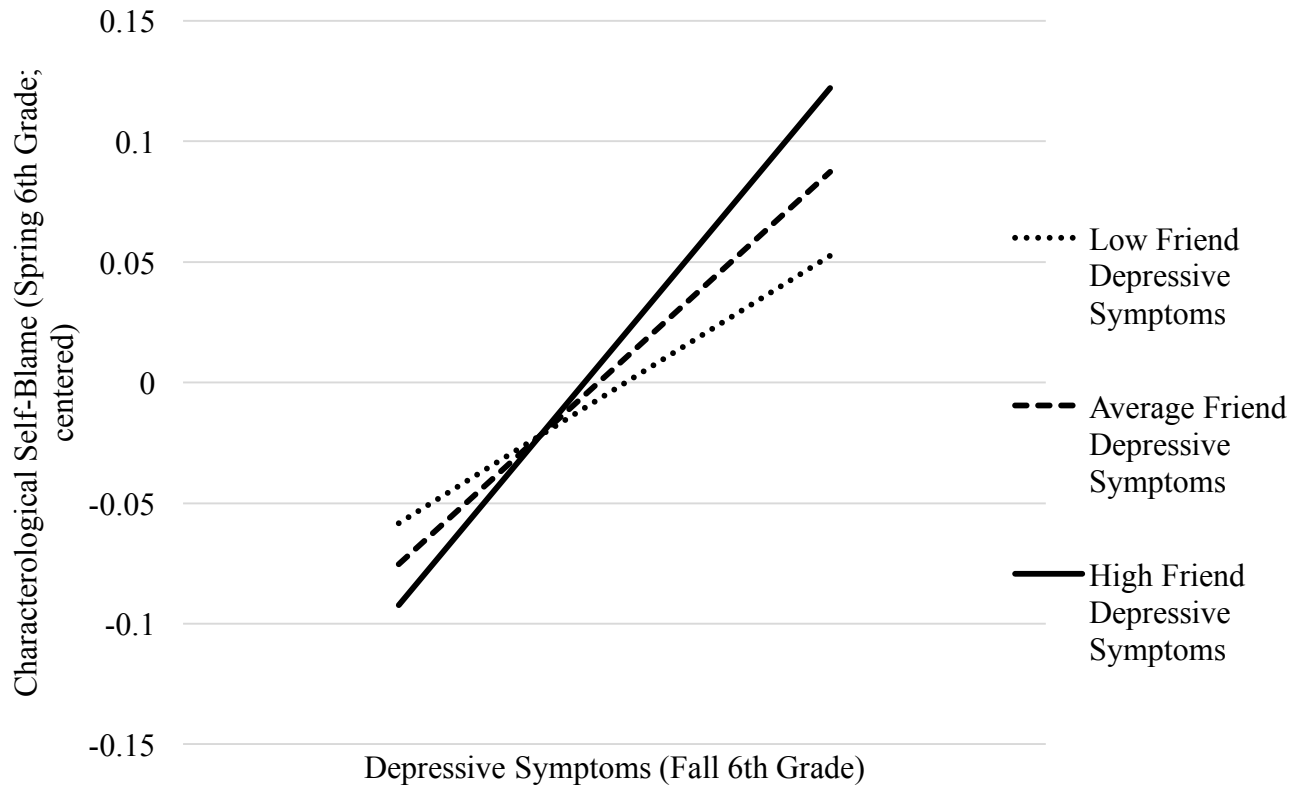


Figure 3

*Conditional Indirect Effects of Depressive Symptoms on Victimization.*

