

PEER VICTIMIZATION ACROSS THE SCHOOL YEARS: CONSEQUENCES FOR
MIDDLE SCHOOL SOCIAL GOALS

BY

NICOLE LLEWELLYN

DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Psychology
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2015

Urbana, Illinois

Doctoral Committee:

Professor Karen Rudolph, Chair
Assistant Professor Daniel Berry
Assistant Professor Florin Dolcos
Professor Eva Pomerantz
Associate Professor Wendy Troop-Gordon, North Dakota State University

Abstract

Peer victimization is a common and insidious risk factor for maladjustment, although the pathways through which victimization takes its effect on adjustment across time are not yet clear. It may be that experiences of victimization, either at a young and formative age or as a long-term burden, have a significant impact on how children and adolescents go on to negotiate their social world, altering the intensity of their social goal orientation into the adolescent transition. Following victimization, children may become more motivated to avoid unpleasant social punishments (e.g., negative feedback or peer judgments) and to approach compensatory social rewards (e.g., dominance or status); peer victimization also may undermine children's mastery-oriented goals for developing social skills in favor of easier (if less lastingly effective) paths to improved social standing. The current study examined the hypothesis that early (2nd grade) and growth in (2nd – 7th grade) peer victimization would predict lower levels of mastery goals and elevated levels of performance approach and avoidance goals in the 7th grade. Longitudinal growth curve analysis was employed in a diverse sample of 636 youth followed from the 2nd to 7th grade, reporting annually on experiences of overt and relational peer victimization and reporting on social goals in the 2nd and 7th grades. Results indicated that early and increasing peer victimization uniquely predicted elevated performance approach and avoidance goals in middle school, but were not significantly associated with mastery goals. No evidence for sex differences in these relationships was found.

Acknowledgements

I am very grateful to my friends and family for their love and encouragement throughout graduate school, and especially to my husband, Nick, for his unwavering support and devotion. Thank you to my fellow graduate students and labmates whose moral support and practical assistance have been invaluable for graduate school. I would like to thank Drs. Daniel Berry, Florin Dolcos, Eva Pomerantz, and Wendy Troop-Gordon for serving on my dissertation committee and for sharing their insights and suggestions on this project, especially Dr. Berry for his generous assistance with the data analyses for this thesis. I am also grateful to my advisor, Dr. Karen Rudolph, for all of the helpful advice and guidance she has provided throughout my graduate training and during the completion of this dissertation. I am very appreciative of the time and effort contributed by the participants in the SHARE Project and the current and past lab members who have been involved in the data collection and management and made this research possible.

Table of Contents

Introduction	1
Method	11
Results	14
Discussion	19
References	27
Tables	37
Figure	39
Appendix A: Social Experiences Questionnaire: Self-Report	40
Appendix B: Social Goals Survey: Self-Report	41
Appendix C: Robustness Checks	42

Introduction

Developmental science has identified general patterns of social cognition and behavior that are associated with particular adjustment and maladjustment outcomes. Life histories characterized by constructively approaching social rewards, or moving towards the world, are associated with prosocial behavior and positive adjustment; life histories characterized by destructively approaching social rewards, or moving against the world, are associated with aggression and externalizing psychopathology; and life histories characterized by avoiding social punishments, or moving away from the world, are associated with social withdrawal and internalizing psychopathology (Caspi, Elder, & Bem, 1987, 1988). General tendencies to move toward, against, or away from the world are thought to be based in inborn temperament and thus show some continuity across development due to stable interactional styles and consistency of elicited social contexts over time (Caspi et al., 1987, 1988). However, growing theory and research support the contention that these temperamental proclivities and possibly associated motivational tendencies (e.g., goals) may be mutable and influenced by life experiences, including childhood social environment (e.g. Erdley, Loomis, Cain, Dumas-Hines & Dweck, 1997; Gazelle & Ladd, 2003; Kiefer, Matthews, Montesino, Arango, & Preece, 2013; Lengua, 2006). Because the specific goals that youth develop with regard to their peer relationships can be indicative of better or worse adjustment (Ryan & Shim, 2008) and sensitivity to the social context (Llewellyn & Rudolph, 2014), it is vital to examine the early predictors that shape these social goals.

Social Goals

According to Caspi, Elder, and Bem's (1987, 1988) developmental account, children who habitually move toward versus against/away from the social sphere are temperamentally and

motivationally inclined to handle challenges in their social environment with either adaptive prosociality or with maladaptive antagonism or withdrawal. Social interaction style generally remains stable over time; however, because tendencies to move toward, against, or away from the world can also be influenced by potentially changing social circumstances (either good or bad), stability is not necessarily assured. That is, ‘the world’ also has a part to play. One way that individuals may manifest these tendencies is through the cultivation of social goals focused either on the process of developing high-quality social relationships, or on the attainment of superior social outcomes. Drawing from well-established achievement goal theory (Elliott & Dweck, 1988), contemporary frameworks (Erdley et al., 1997; Rudolph, Abaied, Flynn, Sugimura, & Agoston, 2011; Ryan & Shim, 2006, 2008) emphasize two broad types of social goals: *mastery* versus *performance* goals.

Mastery, or striving to develop social competence, involves goals for moving toward the world, cultivating a social pattern that includes prosocial behavior and social competence. Performance, or striving to demonstrate social success or avoid demonstrating social failure, involves goals for moving against and away from the world, respectively, reflecting approaching or avoidant orientations toward performance. A performance *approach* orientation cultivates a social pattern that includes dominance-seeking or aggressive behavior, and a performance *avoidance* orientation cultivates a social pattern that includes conflict-minimization and social withdrawal. General approach and avoidance orientations, which originate with neurobiological systems sensitive to appetitive versus aversive stimuli, are psychological constructs reflecting the general disposition of an individual to approach pleasant stimuli and to avoid unpleasant stimuli, respectively (Carver & White, 1994; Gray, 1981). Both are ultimately concerned with the pursuit of more positive end-states. Some theories view these propensities as aspects of temperament,

with two-factor theories of temperament viewing approach and avoidance as the most basic and overarching of higher-order temperamental traits, from which more specific aspects of temperament, motivations, and goals are drawn (Elliot & Thrash, 2002; Spielberg, Heller, Silton, Stewart, & Miller, 2011). Some view approaching and avoidant orientations as endogenous, having their origin in genetically encoded biological sensitivities (Gray, 1981), and fixed, at least beyond normative developmental changes (McCrae, Costa, Ostendorf, Angleitner, Hrebickova, et al., 2000), but others argue that temperament and personality are fluid and dynamic across the lifespan and that context has the capacity to play a prominent role in such changes (Caspi, Roberts & Shiner, 2005).

Several lines of research have investigated consequences associated with the relative strengths of mastery, performance approach/avoidance, and related social goals across development. Mastery-oriented goals are generally adaptive and predictive of prosociality and reduced vulnerability to the adverse effects of social stress. In contrast, performance-oriented goals of both approach and avoidance valences tend to be maladaptive and predictive of relevant forms of social maladjustment (aggressive behavior and anxious solitary or withdrawn behavior, respectively; Erdley & Asher, 1999; Rodkin, Ryan, Jamison & Wilson, 2012; Rudolph, Abaied et al., 2011; Ryan & Shim, 2008; Salmivalli, Ojanen, Haanpää, & Peets, 2005). However, less is known about the origins and predictors of these social goals and how they may change over time. Academic achievement goals are known to be responsive to academic difficulties, with decreased mastery goals and increased performance goals following academic failure (Anderman & Midgley, 1997). Some research indicates that academic goals are also sensitive to social influences, becoming less task (mastery) focused and more ability (performance approach) focused when middle schoolers perceive a lower sense of belonging in their school social

environment (Anderman & Anderman, 1999). Such evidence suggests that social goals also may be susceptible to changes following relevant social experiences, but thus far no longitudinal research has examined this possibility. Given growing evidence for the impact of social mastery versus performance goals on psychosocial functioning, including social behavior, peer relations, and resilience/risk in the face of social challenge, it is imperative to elucidate the origins and development of these goals from a young age. The current study will address this gap in the literature by examining the effects of a particularly salient social stimulus, peer victimization, on subsequent social goals during middle school.

Predicting Social Goals over Time

The Biological Sensitivity to Context theory (Boyce & Ellis, 2005; Ellis, Jackson & Boyce, 2006) describes how experiences of early life stress function to sensitize the stress response system to future experiences, creating change over time in an organism's reactivity and susceptibility to the environment, as a flexible adaptation. Rather than remaining stable and unchanging over the life course, this theory suggests that temperament may actively respond to the environment over time by calibrating and tuning sensitivity to the environment as needed. Indeed, animal research on behavioral change following socially mediated changes in gene expression (sociogenomics; Robinson, 2004), and neurogenesis (Lagace, Donovan, DeCarolis, Farnbauch, Malhotra, Berton et al., 2010) speaks to the capacity of organisms to regulate their biological orientations across time in order to respond adaptively to the social environment.

Evidence has also emerged for biological, emotional, and cognitive sensitization in response to the social environment in humans. For instance, early life stress in the parent-child relationship has been linked to altered HPA axis functioning (Essex, Klein, Cho, & Kalin, 2002), increased fear and irritability (Lengua, 2006), and negative cognitive style (cognitive

vulnerability to stress; Mezulis, Hyde, & Abramson, 2006). Learned social helplessness, or the perceived inability to overcome social rejection, is a cognitive-behavioral style arising when individuals come to believe that failure is unavoidable, resulting in inaction in the face of challenge (Goetz & Dweck, 1980). Underlying motivation notwithstanding, social avoidance behavior (feebler attempts to make social inroads) was experimentally induced by rejection in children who endorsed an entity theory of social ability (belief that social ability is intrinsic and unchangeable). Further research specifically showed that mastery- and performance-oriented social goals could be manipulated in children, inducing them to persevere more or less in challenging social scenarios, respectively (Erdley et al, 1997). Thus, research shows that behavior and goals related to mastery, performance approach, and performance avoidance can be influenced by early life stress and experimental manipulation of social reward/punishment; however, it is yet to be determined whether life stress later in childhood, specifically naturally occurring peer stress, can also predict social goals over the long-term.

Peer Victimization and Social Goals

An important potential influence on social disposition during childhood and emerging adolescence is the peer context. During this formative age, peer groups become especially salient to the sense of social self and to the goals that motivate behavior (Masten, Juvonen & Spatzier, 2009). Within this sphere, peer victimization is a particularly salient and widely experienced social stressor that includes exposure to both overt (direct, physical, or verbal) and relational (indirect, relationship-based) forms of aggression (Card & Hodges, 2008; Hanish & Guerra, 2002). Roughly 15-20% of elementary school children experience victimization (Ladd & Kochenderfer-Ladd, 2002; Nansel et al., 2001; Turner, Vanderminden, Finkelhor, Hamby, & Shattuck, 2011) with up to 10% experiencing severe levels (Solberg & Olweus, 2003). Although

research suggests that victimization on the whole declines over childhood and adolescence (Leadbeater & Hoglund, 2009; Reavis, Keane, & Calkins, 2010; Sugimura, Berry, Troop-Gordon, & Rudolph, 2015a; Troop-Gordon & Ladd, 2005), there is evidence that there are some for whom victimization not only fails to decline but increases over the middle school transition (Boivin, Petitclerc, Feng, & Barker, 2010).

The effects of victimization may be especially strong if youth either encounter this stress early in development or if it accumulates over time. Victimization early in elementary school may set the tone for how children perceive and interact with their peers, which may have a long-term impact on their social goals; growth in victimization may be associated with heightened maladaptive social cognitions over time. In addition, victimization continuing through the middle school transition may have particularly threatening effects on young adolescents as they are experiencing increases in self-consciousness and sensitivity to peer evaluation (Harter, 1990). The current study will take a long-term view on development, assessing how both early and long-term victimization predict social goals in middle school. Over time, experiences of victimization could lead to dampened mastery goals as youth become less motivated to develop their social competence by pursuing social skills and learning, and to heightened performance goals as youth become more motivated to demonstrate their social competence by approaching dominance and status or avoiding failure and embarrassment in the peer group.

Peer Victimization and Mastery

Children may become less motivated to pursue social rewards such as improved relationships and social skills if they encounter significant peer adversity. Over time, this adversity may predict a dampened pattern of moving toward the world marked by less desire to master social skills or to strive for social rewards like getting to know new people or learning

more about friendship in adolescence. Following victimization, goals for pursuing social mastery in the peer group may seem less effective and less rewarding given the negative feedback of a history of poor peer relations. Indeed, having more negative views of others (which may follow from experiences of victimization; Salmivalli & Isaacs, 2005) is associated with fewer communal and social mastery-oriented goals in youth (Rudolph, Abaied et al., 2011; Salmivalli et al., 2005). In addition, youth become more prosocial over time when they are not excluded by peers (Gazelle & Rudolph, 2004), and early and increasing victimization predict less prosocial behavior middle school (Rudolph, Troop-Gordon, Monti, & Miernicki, 2014).

Peer Victimization and Performance Approach

Children may become more motivated to approach social rewards such as positive peer judgments and status, by way of compensation, if they encounter significant threats to their position. Over time, this adversity may predict a pattern of moving against the world marked by increased desire to demonstrate power and ability and to strive for social rewards like appearing popular and competent to peers in adolescence. Following victimization, goals for approaching dominance among peers may seem a workable way of re-establishing oneself in the peer group. Indeed, experiences of victimization are predictive of aggressive (Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011), antisocial (Rudolph et al., 2014), and externalizing behavior (Ladd & Troop-Gordon, 2003). Further, negative perceptions of peers (Rudolph, Abaied et al., 2011) and exposure to relational victimization (Rudolph, Troop-Gordon, & Flynn, 2009) are associated with performance approach goals, whereas peer support is negatively associated with dominance goals (Kiefer et al., 2013).

Peer Victimization and Performance Avoidance

Children may become more sensitive to social aversion and motivated to avoid being seen as socially incompetent if they encounter significant peer stress. Over time, this adversity may predict a pattern of moving away from the world marked by increased desire to evade negative judgments and avoid social punishments like looking bad to others or being made fun of in adolescence. Following victimization, goals for avoiding aversion in the peer group may seem a viable strategy for navigating the peer environment. Research has shown that anxious solitary youth become less socially avoidant when they are not excluded, and in some cases become more socially avoidant over time when they are excluded by peers (Gazelle & Rudolph, 2004). In addition, prior peer victimization predicts more social withdrawal behavior over elementary and middle school (Boivin et al., 2010), and early and increasing victimization predict more social helplessness (Rudolph et al., 2014). Further, negative perceptions of peers are associated with performance avoidance goals (Rudolph, Abaied et al., 2011).

Sex Differences in Responses to Overt Versus Relational Victimization

Overt peer victimization is characterized by being the target of aggression aimed at physical damage or the threat of damage, whereas relational peer victimization is characterized by being the target of aggression aimed at harming or manipulating social relationships (Crick & Grotpeter, 1996). Levels of overt and relational victimization are highly associated with one another, and thus the effects of the two subtypes on social goals are generally expected to be similar. However, there is some reason to believe that the predictive effects of peer victimization on social goals may differ between boys and girls with respect to overt versus relational victimization. Boys and girls are known to differ in some ways with regard to the relative importance of different aspects of interpersonal relationships and also in how they respond to stressful contexts (Rose & Rudolph, 2006). Thus it may be that particular types of victimization

are more relevant to boys versus girls, and that these types of victimization have divergent implications for predicting middle school social goals across sex.

Overt victimization is more visible and observable to the peer group as a whole. Boys' stronger focus on status, agentic goals (aimed at attaining power/respect), and orientation toward social comparison and the larger peer group (Anderman & Anderman, 1999; Erdley et al., 1997; Rose & Asher, 1999; Rose & Rudolph, 2006; Salmivalli et al., 2005) may render them particularly sensitive to the effects of overt victimization. Relational victimization, on the other hand, is more focused on undermining intimate relationships. Girls' stronger emphasis on social connectedness and reactivity to interpersonal stress (Rose & Rudolph, 2006; Salmivalli et al., 2005; Shih, Eberhart, Hammen & Brennan, 2006) may render them particularly sensitive to the effects of relational victimization.

When threatened by overt victimization, boys may be more motivated to move against the world in order to re-establish their place in the peer group. Conversely, when faced with relational peer victimization, girls may be more motivated to move away from the world in order to evade further peer stress. Boys are more likely to react to stressful social situations (real or hypothetical) with assertive, approach-valenced responses such as retaliation and control (Erdley & Asher, 1999; Rudolph, Abaied, et al., 2011), whereas girls, who exhibit stronger communal tendencies (Erdley & Asher, 1999; Rudolph, Abaied, et al., 2011; Salmivalli et al., 2005), may be more likely to react with conciliatory avoidance-valenced responses. Further, research has shown that males respond to emotional stress with greater reward motivation (craving) and females with more sadness and anxiety (Chaplin, Hong, Bergquist, & Sinha, 2008). Consistent with these ideas, some research suggests that peer victimization is predictive of more approach-oriented aggression and externalizing symptoms in boys, and more avoidance-oriented

internalizing symptoms in girls (Hanish & Guerra, 2002; Leadbeater & Hoglund, 2009; Llewellyn & Rudolph, 2014), although there are some exceptions (Ladd & Troop-Gordon, 2003; Sullivan, Ferrell, & Kliewer, 2006). Overall, boys who experience early and increasing overt victimization may be especially likely to exhibit heightened performance approach goals, whereas girls who experience early and increasing relational victimization may be especially likely to exhibit heightened performance avoidance goals.

Overview

To summarize, the major goals of this study are:

- A. To test the contributions of initial victimization levels in the 2nd grade as well as changing victimization from 2nd through 7th grade to social goals in middle school.
- B. To examine sex differences in these relationships.

The specific hypotheses are as follows:

1. Early (2nd grade) and more positive growth in (2nd- 7th grade) peer victimization will predict lower levels of mastery goals, and higher levels of performance approach and performance avoidance goals in 7th grade.
2. The effects of early and increasing victimization on social goals will differ across boys and girls, dependent upon victimization subtype:
 - a. Overt victimization will have a stronger effect on social goals in boys than in girls, particularly with regard to performance approach goals.
 - b. Relational victimization will have a stronger effect on social goals in girls than in boys, particularly with regard to performance avoidance goals.

Method

Participants

Participants were 636 2nd graders (298 boys, 338 girls; $M = 7.97$ years, $SD = .37$; 66.7% White, 21.7 % African American, 7.1% Asian American, 4.5% Other; 34.7% received a subsidized school lunch), recruited from several small urban and rural schools in the Midwest. Parents provided written consent, and children provided oral assent. In 2nd grade (Wave 1), of the 724 eligible children, 576 (80%) consented to participate in the study. Participants and nonparticipants did not significantly differ in sex, $\chi^2(1) = .15, ns$, age, $t(723) = .63, ns$, ethnicity (white vs. minority), $\chi^2(1) = .59, ns$, or school lunch status (full pay vs. subsidized), $\chi^2(1) = .35, ns$. Sixty additional participants were recruited in the 3rd grade and do not have data for initial victimization, which was measured in the 2nd grade. Of the 636 participants, 475 (75%) were still participating at Wave 6 (7th grade). Youth who did versus did not remain in the study did not significantly differ in sex, $\chi^2(1) = .22, ns$, age, $t(634) = 1.71, ns$, or ethnicity (white vs. minority), $\chi^2(1) = .50$. Youth who remained in the study were more likely to receive a subsidized school lunch, $\chi^2(1) = 6.26, p < .05$. All 636 participants were included in the analyses, using maximum likelihood estimation to maximize the available data.

Procedures

Participants completed questionnaires during six annual assessments in the winters of the 2nd through 7th grade, including victimization questionnaires at every wave and social goals questionnaires at the first and last waves. Child questionnaires were administered in the classroom to small groups (3 – 4 students) in elementary school (2nd – 5th grades) and larger groups (15 – 25 students) in middle school (6th – 7th grades). All items were read aloud while participants circled their responses. Children received a small gift, participating elementary

school classroom received a monetary honorarium, and middle schools received a school-wide honorarium. All of the procedures were approved by the university's Institutional Review Board.

Measures

Table 1 presents descriptive data and reliability on the measures for each wave that they are available, separately for girls and boys. All measures showed high internal consistency. A series of t-tests was conducted to examine sex differences in the variables. Consistent with prior research (e.g. Cullerton-Sen & Crick, 2005), analyses revealed that boys experienced higher levels of overt victimization than did girls at later waves (4th, 6th, & 7th grades), whereas girls experienced modestly higher levels of relational victimization than did boys at most waves (2nd, 3rd, 5th, 6th, & 7th grades). Girls exhibited higher levels of mastery goals and boys exhibited higher levels of avoidance goals in the 7th grade (see Table 1).

Peer victimization. In 2nd through 7th grades, youth completed a revised version (Rudolph, Abaied et al., 2011; Rudolph, Troop-Gordon et al., 2011) of the Social Experiences Questionnaire (Crick & Grotpeter, 1996). This 21-item measure assesses children's exposure to overt victimization (being the target of behaviors intended to harm others through physical damage or the threat of damage) and relational victimization (being the target of behaviors intended to harm others through manipulation of peer relationships). Eleven items (six overt, five relational) were added to the original measure to provide a more comprehensive assessment. The revised version included 11 overt items (e.g., "How often do you get hit by another kid?") and 10 relational items (e.g., "How often does a friend spread rumors about you because they are mad at them?"; see Appendix A). Children checked a box indicating how often they experienced different types of victimization on a 5-point scale (1 = *Never* to 5 = *All the Time*). Strong reliability and predictive validity have been established for this revised version (Rudolph, Troop-

Gordon, et al., 2011). Research suggests that self-reports of victimization provide valid information that corresponds to reports by peers (e.g., Graham & Juvonen, 1998) and parents (Bollmer, Harris, & Milich, 2006).

Social goals. In the 2nd and 7th grades, youth completed measure of social goals (Rudolph, Abaied et al., 2011; Ryan & Shim, 2008). The measure includes an 8-item mastery subscale that assesses goals focused on developing social competence and learning about relationships (e.g., “I like to learn new skills for getting along with other kids.”), a 6-item performance-approach subscale that assesses goals focused on demonstrating competence to peers via attaining positive judgments (e.g., “I try to do things that make me look good to other kids.”), and a 7-item performance-avoidance subscale that assesses goals focused on demonstrating competence to peers via avoiding negative judgments (e.g., “My main goal is to make sure I don’t look like a loser.”; see Appendix B). Children received the prompt: “When I am around other kids...” and checked a box indicating how true each item was on a 5-point scale (1 = Not at all to 5 = Very Much). Scores were computed as the mean of the items within each subscale. Factor analysis supports distinct mastery, approach, and avoidance factors (all items loaded $\geq .42$ on their primary factors and cross-loadings were low); construct validity has been established through associations with other types of social goals and multiple indexes of social adjustment (Rudolph, Abaied et al., 2011).

Results

Zero-order Correlations

Table 2 presents zero-order intercorrelations among overt and relational victimization and social goals across all available waves. Correlations are presented separately for boys and girls; however, the pattern of correlations was similar across sex. As expected, overt and relational victimization were significantly positively correlated with one another within each wave in both boys and girls ($r_s = .69-.79$). Mastery, approach, and avoidance goals were all significantly positively correlated with one another within both waves in both boys and girls ($r_s = .18-.74$), with the magnitude of the association increasing between 2nd and 7th grade. Second grade mastery goals were not associated with victimization at any wave in either boys or girls; 7th grade mastery goals were only positively associated with 5th grade relational victimization in boys ($r = .17$). Second and 7th grade approach goals tended to be positively associated with both forms of victimization in both boys and girls, significantly at some waves ($r_s = .13-.25$). Second grade avoidance goals tended to be positively associated with victimization in boys and girls, significantly at a few waves; 7th grade avoidance goals tended to be positively associated with victimization in boys and girls, significantly at many waves ($r_s = .13-.33$; see Table 2).

Latent Growth Curve Analyses

Latent growth curve modeling using Mplus version 7 (Muthén & Muthén, 2012) statistical software was used to examine the unique contributions of early (2nd grade) peer victimization and linear change (2nd to 7th grade) in peer victimization to 7th grade social goals, adjusting for 2nd grade social goals. Latent growth curve modeling examines individual differences in within-individual change in a variable over time by incorporating covariance structure analysis into a multilevel model for change (Singer & Willet, 2003). Mplus handles

missing data through maximum likelihood estimation, thus maximizing the data available (Muthén & Muthén, 2012). This method assumes multivariate normality and that data are missing at random.

To test whether there was acceptable between- and within-person variability in peer victimization from 2nd through 7th grade, an unconditional random intercepts model was fit, separately for overt and relational victimization, where there was no predictor and 2nd grade victimization was allowed to vary for individual youth. The intra-class correlations (ICCs) were calculated by dividing the between-person variance by the sum of between- and within-person variances (ICCs = .38 for both overt and relational victimization). The proportion of overall variance that is within-person was calculated by subtracting the intra-class correlation coefficients from one.

Examination of the Mean Trajectories of Victimization

Having found an adequate amount of within-person variance in victimization, the mean trajectories of victimization were estimated using unconditional growth models with only grade entered as a predictor. Separate unconditional growth models were fitted for overt and relational victimization. Latent intercept variables representing initial victimization were estimated by setting indicator paths from the observed 2nd to 7th grade victimization variables to be equal to 1. Latent slope variables representing linear change in victimization were estimated by setting indicator paths from the observed 2nd to 7th grade victimization variables to be equal to 0, 1, 2, 3, 4 and 5, respectively. By setting the paths from 2nd grade victimization to the latent slope variables at 0, the intercept can be interpreted as children's exposure to victimization at the onset of the study (Duncan, Duncan, Strycker, Li, & Alpert, 1999).

To determine the model fit of the unconditional models, we examined the χ^2/df ratio, the Comparative Fit Index (CFI; Bentler, 1990), the Incremental Fit Index (IFI; Bollen, 1990), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and the Standardized Root Mean Square Residual (SRMR, Hu & Bentler, 1999). A good model fit is reflected by χ^2/df ratios of less than 2.5 or 3 (Kline, 1998), CFI and IFI values above .90 (Bentler, 1990; Bollen, 1990; Kline, 1998), RMSEA values of $< .08$ (Browne & Cudeck, 1993) and SRMR values close to $< .08$ (Hu & Bentler, 1998). Results showed that a linear trajectory of victimization yielded acceptable fits for both overt victimization ($\chi^2 (16, N = 636) = 84.58, p = <.001, CFI = .91, RMSEA = .08, SRMR = .095$) and relational victimization ($\chi^2 (16, N = 636) = 49.88, p = <.001, CFI = .96, RMSEA = .06, SRMR = .07$). The mean growth trajectories were similarly negative for both overt victimization ($M = -.07, SD = .01, p < .001$) and relational victimization ($M = -.11, SD = .01, p < .001$), indicating a decrease in both forms of victimization from 2nd to 7th grade. There was significant variance in the latent intercept variables ($ps < .001$) and in the latent slope variables ($ps < .001$), indicating that there was variability across children in early victimization exposure and in trajectories of both types of victimization over time.

Examination of Peer Victimization as a Predictor of Social Goals

In the next stage of analysis, latent variables for initial victimization and growth in victimization were used to examine the contributions of early and changing victimization to middle school social goals (Goal A). Observed variables representing 2nd and 7th grade goals (mastery, approach, and avoidance) were included in the model. Hypothesized paths from the peer victimization intercept and slope to 7th grade social goals were estimated, while including rank-order stability paths from 2nd to 7th grade social goals, covariances between the victimization intercept, slope, and 2nd grade goals were freely estimated, as were the residual

covariances among the three types of goals at 2nd and 7th grade. Two separate models were initially estimated for overt and relational victimization; however, because results (directions of effect, magnitudes, and significances) were found to be substantially similar, all further analyses are presented collapsed across victimization subtype.

To examine potential sex differences in the latent growth trajectories and the relevant paths predicting middle school social goals, multi-group structural equation modeling within nested models was employed (Goal B). All paths and variances were estimated separately for boys and girls. The significance of any sex differences was assessed by sequentially constraining each parameter of interest to be equal across sex. Chi-square difference tests (Wald Tests) were used to determine whether there was a significant decrease in model fit when the parameter in question was constrained to be equal for boys and girls. Tests for sex differences were conducted for the hypothesized paths from the victimization latent intercept and slope factors to social goals (Hypothesis 2). Contrary to Hypothesis 2, results revealed no significant sex differences in any of the hypothesized paths; this was true both when collapsing across victimization subtype and when examining overt and relational victimization in separate models. Thus, final results are presented collapsed across sex.

The final conditional model collapsing across overt and relational victimization, and across boys and girls, yielded an acceptable fit ($\chi^2(46, N = 636) = 125.41, p < .001, CFI = .95, RMSEA = .05, SRMR = .06$). Figure 1 presents standardized path coefficients for the model. To ease readability of the figure, covariances between 2nd grade goals and the latent intercept and slope variables are not displayed. Second grade approach and avoidance goals, but not mastery goals, were significantly associated with the latent intercept of victimization (.16, $p < .01$ and .11, $p < .05$, respectively), but 2nd grade goals were not associated with the latent slope of

victimization. Significant rank-order stability was found from 2nd to 7th grade mastery and approach goals but not 2nd and 7th grade avoidance goals.

After accounting for cross-wave rank-order stability in goals, both the latent intercept and slope factors made unique contributions to 7th grade approach and avoidance goals, but not to 7th grade mastery goals. Thus, consistent with Hypothesis 1, early and more positive growth in victimization predicted significantly more 7th grade approach and avoidance goals, but contrary to Hypothesis 1, no significant association was found between early or increasing victimization and mastery goals.

Finally, given the strong negative association between the victimization intercept and slope, the independence of the effects of the intercept and slope of victimization on social goals was further probed. A series of robustness checks were conducted in order to test whether this non-independence had a significant effect on the findings. This included a test of the effects of the intercept and slope when the other was held constant and when the correlation between the two was eliminated, and a test of the interactive effects of the intercept and slope on goals (see Appendix C for full results). These supplemental analyses yielded results consistent with the central analyses, and did not change the substantive conclusions of the study, supporting the robustness of the original findings.

Discussion

Exposure to both early and increasing peer victimization took their toll on later youth adjustment in that they were predictive of a maladaptive pattern of social goals in middle school. As anticipated, results showed that exposure to higher levels of 2nd grade victimization, as well as exposure to more positive trajectories of victimization throughout elementary and early middle school independently predicted elevated performance approach and avoidance goals in the 7th grade; unexpectedly, neither 2nd grade victimization nor 2nd-7th grade victimization trajectories predicted mastery goals, and no differences were observed based on sex or victimization subtype. These results show that interpersonal adversity experienced during a formative developmental stage for peer relations significantly predicts the performance approach and avoidance goals that young adolescents come to have when navigating their social world.

Victimization and Performance Approach-Avoidance Goals

It is interesting, although not surprising, that victimization predicted heightened goals for both moving against *and* moving away from the world by middle school. Although these seem like contradictory developmental patterns, performance approach and avoidance are actually quite strongly associated with one another in this study and others (Rodkin et al., 2012; Ryan & Shim, 2006; 2008), and the association is considerably stronger by the end of this study compared to the outset. Those youth who came to have stronger goals for demonstrating their social competence were also more likely to have stronger goals for avoiding demonstrating their social non-competence. Indeed, both types of goals reflect a type of affective sensitivity or reactivity to the social environment as well as an orientation toward performance-related (as opposed to mastery-related) objectives. Therefore, it makes sense that exposure to social experiences that have relevance for how one views and wishes to be viewed in the social world

may have effects on both approach- and avoidance-valenced performance goals. However, the strength of these associations did vary in that the effects of victimization were substantially stronger for avoidance than approach goals. This pattern may indicate that victimization, itself a negatively valenced social experience, is more specifically predictive of heightened motivation to avoid aversive social stimuli like peer punishment. Perhaps the effect of victimization on approach is less straightforward in that exposure to victimization leads to heightened motivation to compensate for the threat to social standing, which may be predictive of performance approach goals like high social status, but may alternatively predict other types of approach goals not specifically captured in our measure (e.g. retaliation, control). In addition, it may be that at the individual level, some children are likely to adopt one strategy more than the other, which may account for some divergent effects of victimization on a multi-finality of maladjustment outcomes (e.g. internalizing versus externalizing problems). Thus, it may be important to examine moderators of the association between victimization and social goals that might result in differential outcomes such as withdrawal and anxiety versus aggression and antisocial behavior.

Victimization and Mastery Goals

Contrary to expectations, neither early victimization nor increasing trajectories of victimization were predictive of dampened mastery approach goals. Across elementary and early middle school, exposure to victimization did not exert any appreciable effect on youths' motivation to approach rewards like developing their skills or improving their social relations. This result suggests that mastery goals may be comparatively resilient to the effects of peer victimization, possibly because these goals focus on positive peer relationships and friendship skills, which may be somewhat orthogonal to victimization experiences. It may be that mastery goals are more mutable as a function of positive social experience, or lack thereof, possibly

heightening following positive social feedback such as rewarding friendships and dampening in the absence of such feedback. The present study did not directly assess the presence or lack of peer support, the effects of which may overshadow any effects of peer victimization on mastery goals. In addition, mastery goals were shown to have higher stability across the six years of the study, compared to performance approach and avoidance goals. It may be that mastery goals are more firmly entrenched in children during this developmental stage and that shifts may be more likely earlier in childhood or later in adolescence. Future research would benefit from examining the effects of supportive social contexts, as opposed to peer adversity, on mastery goals during other developmental periods.

Sex Differences

Also contrary to expectations, no evidence was found for sex differences in the associations between early and increasing victimization (either overt or relational) and middle school goals. That is, boys and girls were equally likely to show elevated approach and avoidance goals following victimization and neither showed dampened mastery goals. This was true regardless of whether the victimization was aimed at physical harm and threats or at relationship harm and exclusion. This is somewhat in contrast to some prior research showing that males respond to stress with more approach-oriented responses whereas females respond with more avoidance-oriented responses (e.g. Chaplin, Hong, Bergquist, & Sinha, 2008; Leadbeater & Hoglund, 2009), but it is true that findings in this area are mixed (Ladd & Troop-Gordon, 2003; Sullivan, Ferrell, & Kliewer, 2006). It is possible that greater divergence later in adolescence may result in clearer distinctions in sex-specific outcomes. Alternatively, it may be that other temperamental factors such as positive/negative emotionality are more important than sex in predicting the way that youths' goals are shaped by experiences of victimization.

Limitations and Future Direction

One consideration of the method of analysis used in this study is that there is not independence between the slope of the victimization trajectory and the intercept of 2nd grade victimization. Because the two are negatively associated, it means that the higher one's level of victimization in the 2nd grade, the more likely one is to exhibit a more negative trajectory of victimization over time (that is, they are more likely to exhibit more slowly increasing, unchanging, or decreasing levels of victimization). Supplementary analyses did indicate that the pattern of effects held even when examining the intercept and slope separately and when eliminating the correlation between the two, albeit with some differences in the magnitude of the effects (see Appendix C). In addition, the slope and the intercept did not interact with one another in predicting goals. Taken together, findings indicate that both the initial level and the trajectory of victimization make independent contributions to social goals, but it is still not clear how often instances of both markedly early and markedly increasing victimization may occur in individual children. Future research may further elucidate this issue by directly examining the classes of children who experience different categories of early versus changing victimization.

A second limitation of this study is that youth rated both victimization and social goals. The study was designed in this way because the subjective experience of victimization (rather than a report based on an outside perspective) was expected to be most relevant to future social goals, which reflect an internal motivational state and are therefore best described by the youth who holds them. However, it is important to note that this design may have also introduced some biased effects due to common-method variance.

Another limitation of this research is that it does not evaluate the possible reciprocal effect of social goals on risk for victimization or the possible transactional relationship between

the two over time. According to Caspi, Elder, and Bem's (1987, 1988) developmental account of how youth move toward, against, and away from the social world, individuals maintain particular life-course patterns via stable social interactional styles that engender a certain amount of continuity from early experiences to later experiences. Importantly, this theory also includes the idea of evocative effects (Scarr & McCartney, 1983) in that social circumstances are to some degree self-generated, and individuals elicit particular social environments across development that are consistent with their temperamental and social interactional style.

It is reasonable that the goals one has for avoiding aversive or approaching positive aspects of the social environment have implications for the social environment one evokes, including influencing the likelihood of victimization. Little is known about the effects of avoidance and approach motivations or goals on social relations, like peer victimization, but avoidant temperaments are associated with some factors (e.g. negative emotionality, withdrawal, shyness, anxious solitude) that are known to heighten the risk of being victimized by peers (Boivin, Petclerc, Feng, & Barker, 2010; Hanish & Guerra, 2000; Miller, Tserakhava, & Miller, 2011; Sugimura, Berry, Troop-Gordon, & Rudolph, 2015b), and approach-oriented aggressive behavior is associated with peer rejection and future victimization, giving rise to bully-victim status (Boulton & Smith, 1994; Hanish & Guerra, 2000, 2004; Sugimura et al, 2015b). Thus, there may exist a bi-directional interplay between victimization and social performance approach/avoidance goals across childhood and early adolescence that reflects one way that continuity of interactional styles is maintained over time. It is known that peer stress predicts more social disengagement, which reciprocally predicts more peer stress (Caldwell, Rudolph, Troop-Gordon & Kim, 2004), providing further evidence supporting the potential for social dispositions to be propagated over time, as they can contribute to the very social aversions that

facilitate them. Although in the present study there were no significant associations between 2nd grade goals and the latent slope of victimization, it is possible that there are more proximal effects of goals on subsequent victimization levels. Future research could examine the proposition that social adversity and maladaptive social goals may perpetuate one another in a cyclical fashion over time, possibly investigating this relationship over longer developmental windows to assess for life-course patterns of particular social interactional styles.

Future research could also benefit from directly examining mediators (such as biological mechanisms) of the association between peer victimization and social goals in order to better understand the processes through which social stress may impact social motivation. Findings in this study are consistent with the Biological Sensitivity to Context theory (Boyce & Ellis, 2005; Ellis, Jackson & Boyce, 2006), which holds that early life stressors may calibrate biological responses to future stressors as an adaptation to the environment. Indeed, evidence suggests that social performance approach/avoidance goals may represent a kind of sensitivity to social context, amplifying the effects social adversity on later maladjustment, including aggressive behavior (for high approach) and depressive symptoms (for high avoidance; Llewellyn & Rudolph, 2014). Thus, early experiences of victimization may potentiate the effects of future experiences of victimization and social adversity on youth by heightening maladaptive social goals. The current study extends the Biological Sensitivity to Context theory beyond very early life stress to the effects of increasingly salient peer stress in middle childhood and adolescence, but leaves open the question of what biological mediators may account for the effect of victimization on social goals. It may be that stressful experiences like overt and relational victimization heighten attention and orientation to social cues and neural sensitivity to threatening (Will, Lier, Crone, & Guroglu, in press) and rewarding (Telzer, Miernicki, &

Rudolph, 2015) social stimuli over time. This intensified biological sensitivity may lead to increased motivation to evade social punishment and attain social rewards and to the formation of more strongly held performance approach-avoidance goals.

Finally, ample evidence has revealed that holding a performance orientation (as opposed to a mastery orientation) has adverse consequences for development, especially in the context of challenges and failure. Because social performance orientation emphasizes more superficial and outcome-focused aspects of social relations (being popular, looking good to others) it fosters a more maladaptive social goal mindset compared to mastery, which emphasizes deepening relationships and making progress with social skills. When youth have heightened goals for performing or demonstrating their competence they are more likely to develop maladaptive patterns of behavior such as aggression, retaliation, withdrawal, and less prosociality (Erdley et al., 1997; Erdley & Asher, 1999; Rodkin, Ryan, Jamison & Wilson, 2012; Rudolph, Abaied et al., 2011; Ryan & Shim, 2008). In view of the vulnerability associated with higher performance approach/avoidance goals, and given the results of this study, it is critical that future research further investigate social goal development as it relates to social challenges like peer victimization. For instance, intervention studies could examine whether there are factors that mitigate or reverse the effects of victimization on performance goals and possibly other relevant social factors that foster adaptive mastery goals before middle school.

Conclusions

In sum, the present study sheds light on a novel area of research, finding that experiences of peer adversity starting in elementary school predict the goals that youth cultivate for facing the social world in middle school. Early and increasing trajectories of victimization independently predicted elevated performance approach and avoidance motivation into middle

school, suggesting the potential for change over time in sensitivity to the social sphere, with consequences for later adjustment. Findings support the contention that peer victimization, even at an early age, can predict middle school social goals and that the field should not overlook even long-past social experiences when studying the origins of social goal orientation. Further, findings support the idea that growth in victimization has a unique effect on social goals, highlighting the fact that these goals are also subject to changing and recent exposure to social stress. Overall, this study emphasizes the important role of social life experiences, such as peer victimization, in shaping performance goals for moving against and away from the world, with clear implications for subsequent social functioning.

References

- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology, 24*(1), 21-37.
- Anderman, E. M., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle-level schools. *Contemporary Educational Psychology, 22*(3), 269-298.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246.
- Boivin, M., Petitclerc, A., Feng, B., & Barker, E. D. (2010). The developmental trajectories of peer victimization in middle to late childhood and the changing nature of their behavioral correlates. *Merrill-Parmer Quarterly, 56*, 231-260.
- Bollen, K. A. (1990). Overall fit in covariance structure models: Two types of sample size effects. *Psychological Bulletin, 107*(2), 256-259.
- Bollmer, J. M., Harris, M. J., & Milich, R. (2006). Reactions to bullying and peer victimization: Narratives, physiological arousal, and personality. *Journal of Research in Personality, 40*, 803-828. Doi:<http://dx.doi.org/10.1016/j.jrp.2005.09.003>
- Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle-school children: Stability, self-perceived competence, peer perceptions and peer acceptance. *British Journal of Developmental Psychology, 12*(3), 315-329.
- Boyce, W. T. & Ellis, B. J. (2005). Biological sensitivity to context: I. An evolutionary-developmental theory of the origins and functions of stress reactivity. *Development and Psychopathology, 17*, 271-301.

- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models*. Newbury Park, CA: Sage.
- Caldwell, M. S., Rudolph, K. D., Troop-Gordon, W., & Kim, D. (2004). Reciprocal influences among relational self-views, social disengagement, and peer stress during early adolescence. *Child Development, 75*(4), 1140-1154. Doi: <http://dx.doi.org/10.1111/j.1467-8624.2004.00730.x>
- Card, N. A., & Hodges, E. V. E. (2008). Peer victimization among schoolchildren: Correlations, causes, consequences, and considerations in assessment and intervention. *School Psychology Quarterly, 23*(4), 451-461. Doi:<http://dx.doi.org/10.1037/a0012769>
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67*(2), 319-333.
- Caspi, A., Elder, G. H., & Bem, D. J. (1987). Moving against the world: Life-course patterns of explosive children. *Developmental Psychology, 23*(2), 308-313. Doi: <http://dx.doi.org/10.1037/0012-1649.23.2.308>
- Caspi, A., Elder, G. H., & Bem, D. J. (1988). Moving away from the world: Life-course patterns of shy children. *Developmental Psychology, 24*(6), 824-831. Doi: <http://dx.doi.org/10.1037/0012-1649.24.6.824>
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56*, 453-484. Doi: <http://dx.doi.org/10.1146/annurev.psych.55.090902.141913>
- Chaplin, T. M., Hong, K., Bergquist, K., & Sinha, R. (2008). Gender differences in response to emotional stress: An assessment across subjective, behavioral, and physiological domains

- and relations to alcohol craving. *Alcoholism: Clinical and Experimental Research*, 32(7), 1242-1250. Doi:<http://dx.doi.org/10.1111/j.1530-0277.2008.00679.x>
- Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology*, 8, 367-380.
- Cullerton-Sen & Crick, N. R. (2005). Understanding the effects of physical and relational victimization: The utility of multiple perspectives in predicting social-emotional adjustment. *School Psychology Review*, 34, 147-160.
- Duncan, T. E., Duncan, S. C., Strycker, L. A., Li, F., & Alpert, A. (1999). *An introduction to latent variable growth curve modeling: Concepts, issues, and applications* Lawrence Erlbaum Associates Publishers, Mahwah, NJ.
- Ellis, B. J., Jackson, J. J., & Boyce, W. T. (2006). The stress response systems: Universality and adaptive individual differences. *Developmental Review*, 26(2), 175-212. Doi: 10.1016/j.dr.2006.02.004
- Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54(1), 5-12. Doi:<http://dx.doi.org/10.1037/0022-3514.54.1.5>
- Elliot, A. J., & Thrash T. M. (2002). Approach-avoidance motivation in personality: Approach and avoidance temperaments and goals. *Journal of Personality and Social Psychology*, 82, 804-818.
- Erdley, C. A., & Asher, S. R. (1999). A social goals perspective on children's social competence. *Journal of Emotional and Behavioral Disorders*, 7(3), 156-167.
- Erdley, C. A., Loomis, C. C., Cain, K. M., Dumas-Hines, F. H., & Dweck, C. S. (1997). Relations among children's social goals, implicit personality theories, and responses to

social failure. *Developmental Psychology*, 33, 263-272.

Doi:<http://dx.doi.org/10.1037/0012-1649.33.2.263>

Essex, M. J., Klein, M. H., Cho, E., Kalin, N. H. (2002). Maternal stress beginning in infancy may sensitize children to later stress exposure: Effects on cortisol and behavior.

Biological Psychiatry, 52, 776-784.

Gazelle, H., & Ladd, G. W. (2003). Anxious solitude and peer exclusion: A diathesis-stress model of internalizing trajectories in childhood. *Child Development*, 74(1), 257-278. Doi:

<http://dx.doi.org/10.1111/1467-8624.00534>

Gazelle, H., & Rudolph, K. D. (2004). Moving toward and away from the world: Social approach and avoidance trajectories in anxious solitary youth. *Child Development*, 75,

829-849.

Goetz, T. E., & Dweck, C. S. (1980). Learned helplessness in social situations. *Journal of Personality and Social Psychology*, 39(2), 246-255. Doi: [http://dx.doi.org/10.1037/0022-](http://dx.doi.org/10.1037/0022-3514.39.2.246)

3514.39.2.246

Graham, S. & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology*, 34(3) 587-599.

Doi:<http://dx.doi.org/10.1037/0012-1649.34.3.587>

Gray, J. A. (1981). A critique of Eysenck's theory of personality. In H. J. Eysenck (Ed.), *A model for personality* (pp. 246-276). Berlin: Springer-Verlag.

Hanish, L. D., & Guerra, N. G. (2000). Predictors of peer victimization among urban youth. *Social Development*, 9, 521-543.

- Hanish, L. D., & Guerra, N. G. (2002). A longitudinal analysis of patterns of adjustment following peer victimization. *Development and Psychopathology, 14*, 69-89.
Doi:<http://dx.doi.org/10.1017/S0954579402001049>
- Hanish, L. D., & Guerra, N. G. (2004). Aggressive victims, passive victims, and bullies: Developmental continuity or developmental change? *Merrill-Palmer Quarterly, 50*(1), 17-38. Doi:<http://dx.doi.org/10.1353/mpq.2004.0003>
- Harter, S. (1990). Developmental differences in the nature of self-representations: Implications for the understanding, assessment, and treatment of maladaptive behavior. *Cognitive Therapy and Research, 14*(2), 113-142.
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*(4), 424-453.
doi:<http://dx.doi.org/10.1037/1082-989X.3.4.424>
- Kiefer, S. M., Matthews, Y. T., Montesino, M., Arango, L., & Preece, K. K. (2013). The effects of contextual and personal factors on young adolescents' social goals. *Journal of Experimental Education, 81*(1), 44-67.
Doi:<http://dx.doi.org/10.1080/00220973.2011.630046>
- Kline, R. B. (1998). *Principles and practice of structural equation modeling*. New York, NY, US: Guilford Press (1998). (1998) xiv, 354 pp.
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization and characteristics of identified victims. *Psychological Assessment, 14*(1), 74-96. Doi:<http://dx.doi.org/10.1037/1040-3590.14.1.74>

- Ladd, G. W., & Troop-Gordon, W. (2003). The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child Development, 74*(5), 1344-1367. Doi:<http://dx.doi.org/10.1111/1467-8624.00611>
- Lagace, D. C., Donovan, M. H., DeCarolus, N. A., Farnbauch, L. A., Malhotra, S., Berton, O., . . . Eisch, A. J. (2010). Adult hippocampal neurogenesis is functionally important for stress-induced social avoidance. *PNAS Proceedings of the National Academy of Sciences of the United States of America, 107*(9), 4436-4441. Doi:
<http://dx.doi.org/10.1073/pnas.0910072107>
- Leadbeater, B. J., & Hoglund, W. L. G. (2009). The effects of peer victimization and physical aggression on changes in internalizing from first to third grade. *Child Development, 80*, 843-859.
- Lengua, L. (2006). Growth in temperament and parenting as predictors of adjustment during children's transition to adolescence. *Developmental Psychology, 42*(5), 819-832.
- Llewellyn, N.M. & Rudolph, K. D. (2014). Individual and sex differences in the consequences of peer victimization: Moderation by approach and avoidance motivation. *Developmental Psychology, 50*(9), 2210-2220. Doi:<http://dx.doi.org/10.1037/a0037353>
- Masten, C. L., Juvonen, J., & Spatzier, A. (2009). Relative importance of parents and peers: Differences in academic and social behaviors at three grade levels spanning late childhood and early adolescence. *Journal of Early Adolescence, 29*(6), 773-799.
- McCrae, R. R., Costa, P. T., Ostendorf, F., Angleitner, A., Hřebíčková, M., Avia, M. D., . . . Smith, P. B. (2000). Nature over nurture: Temperament, personality, and life span development. *Journal of Personality and Social Psychology, 78*(1), 173-186. Doi:
<http://dx.doi.org/10.1037/0022-3514.78.1.173>

- Mezulis, A. H., Hyde, J. S., & Abramson, L. Y. (2006). The developmental origins of cognitive vulnerability to depression: Temperament, parenting, and negative life events in childhood as contributors to negative cognitive style. *Developmental Psychology, 42*(6), 1012-1025. Doi: <http://dx.doi.org/10.1037/0012-1649.42.6.1012>
- Miller, S. R., Tserakhava, V., & Miller, C. J. (2011). "My child is shy and has no friends: What does parenting have to do with it?". *Journal of Youth and Adolescence, 40*(4), 442-452.
- Muthén, L.K. and Muthén, B.O. (1998-2012). *Mplus user's guide*. Seventh Edition. Los Angeles, CA: Muthén & Muthén
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *JAMA: Journal of the American Medical Association, 285*(16), 2094-2100. Doi: <http://dx.doi.org/10.1001/jama.285.16.2094>
- Reavis, R. D., Keane, S. P., & Calkins, S. D. (2010). Trajectories of peer victimization: The role of multiple relationships. *Merrill-Palmer Quarterly, 56*, 303-332.
- Robinson, G. E. (2004). Beyond nature and nurture. *Science, 304*(5669), 397-399.
- Rodkin, P. C., Ryan, A. M., Jamison, R., & Wilson, T. (2013). Social goals, social behavior, and social status in middle childhood. *Developmental Psychology, 49*(6), 1139-1150. Doi:<http://dx.doi.org/10.1037/a0029389>
- Rose, A. J., & Asher, S. R. (1999). Children's goals and strategies in response to conflicts within a friendship. *Developmental Psychology, 35*(1), 69-79. doi:<http://dx.doi.org/10.1037/0012-1649.35.1.69>
- Rose, A. J., & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys.

Psychological Bulletin, 132(1), 98-131. Doi:<http://dx.doi.org/10.1037/0033-2909.132.1.98>

Rudolph, K. D., Abaied, J., Flynn, M., Sugimura, N., & Agoston, A. M. (2011). Developing relationships, being cool, and not looking like a loser: Social goal orientation predicts children's responses to peer aggression. *Child Development*, 82(5), 1518-1530.

Rudolph, K. D., Troop-Gordon, W., & Flynn, M. (2009). Relational victimization predicts children's social-cognitive and self-regulatory responses in a challenging peer context. *Developmental Psychology*, 45(5), 1444-1454.
doi:<http://dx.doi.org/10.1037/a0014858>

Rudolph, K. D., Troop-Gordon, W., Hessel, E. T., & Schmidt, J. D. (2011). A latent growth curve analysis of early and increasing peer victimization as predictors of mental health across elementary school. *Journal of Clinical Child and Adolescent Psychology*, 40(1), 111-122. Doi:<http://dx.doi.org/10.1080/15374416.2011.533413>

Rudolph, K. D., Troop-Gordon, W., Monti, J. D., & Miernicki, M. (2014). Moving against and away from the world: The adolescent legacy of peer victimization, *Development and Psychopathology*, 26(3), 721-734. Doi:<http://dx.doi.org/10.1017/S0954579414000430>

Ryan, A. M., & Shim, S. S. (2006). Social achievement goals: The nature and consequences of different orientations toward social competence. *Personality and Social Psychology Bulletin*, 32(9), 1246-1263. Doi:<http://dx.doi.org/10.1177/0146167206289345>

Ryan, A. M., & Shim, S. S. (2008). An exploration of young adolescents' social achievement goals and social adjustment in middle school. *Journal of Educational Psychology*, 100, 672-687.

- Salmivalli, C., & Isaacs, J. (2005). Prospective relations among victimization, rejection, friendlessness, and children's self- and peer-perceptions. *Child Development, 76*(6), 1161-1171.
- Salmivalli, C., Ojanen, T., Haanpää, J., & Peets, K. (2005). "I'm OK but you're not" and other peer-relational schemas: Explaining individual differences in children's social goals. *Developmental Psychology, 41*(2), 363-375. Doi:<http://dx.doi.org/10.1037/0012-1649.41.2.363>
- Scarr, S. & McCartney, K. (1983). How people make their own environments: A theory of genotype → environment effects. *Child Development, 54*, 424-435.
- Shih, J. H., Eberhart, N. K., Hammen, C. L., & Brennan, P. A. (2006). Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology, 35*(1), 103-115.
Doi:http://dx.doi.org/10.1207/s15374424jccp3501_9
- Singer, J. D., & Willet, J. B. (2003). *Applied longitudinal data analysis: Modeling of change and event occurrence*. New York: Oxford Publishing.
- Solberg, M. E., & Olweus, D. (2003). Prevalence estimation of school bullying with the Olweus bully/victim questionnaire. *Aggressive Behavior, 29*, 239-268.
Doi:<http://dx.doi.org/10.1002/ab.10047>
- Spielberg, J. M., Heller, W., Siltan, R. L., Stewart, J. L., & Miller G. A. (2011). Approach and avoidance profiles distinguish dimensions of anxiety and depression. *Cognitive Therapy and Research, 35*(4), 359-371.

- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*(2), 173-180.
- Sugimura, N., Berry, D. J., Troop-Gordon, W., & Rudolph, K. D. (2015a). Trajectories of victimization across the school years. *Manuscript in preparation*.
- Sugimura, N., Berry, D. J., Troop-Gordon, W., & Rudolph, K. D. (2015b). Contributions of social behavior to peer victimization across the school years. *Manuscript in preparation*.
- Sullivan, T. N., Farrell, A. D., & Kliewer, W. (2006). Peer victimization in early adolescence: Association between physical and relational victimization and drug use, aggression, and delinquent behaviors among urban middle school students. *Development and Psychopathology, 18*(1), 119-137. Doi:<http://dx.doi.org/10.1017/S095457940606007X>
- Telzer, E. H., Miernicki, M. E., & Rudolph, K. D. (2015). *Chronic peer victimization sensitizes adolescent girls to risk taking*. Manuscript submitted for publication.
- Troop-Gordon, W., & Ladd, G. W. (2005). Trajectories of peer victimization and perceptions of the self and schoolmates: Precursors to internalizing and externalizing problems. *Child Development, 76*, 1072-1091.
- Turner, H. A., Vanderminden, J., Finkelhor, D., Hamby, S., & Shattuck, A. (2011). Disability and victimization in a national sample of children and youth. *Child Maltreatment, 16*(4), 275-286. Doi:<http://dx.doi.org/10.1177/1077559511427178>
- Will, G., van Lier, P. A. C., Crone, E. A., & Guroglu, B. (in press). Chronic childhood peer rejection is associated with heightened neural responses to social exclusion during adolescence. *Journal of Abnormal Child Psychology*.

Tables

Table 1. Descriptives

Variable	Girls			Boys			<i>t</i>
	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α	
Peer Victimization							
Overt Victimization							
2 nd Grade	2.18	.87	.88	2.15	.84	.87	-.42
3 rd Grade	1.96	.75	.89	1.99	.75	.87	.58
4 th Grade	1.77	.64	.88	1.94	.78	.91	2.89**
5 th Grade	1.77	.68	.89	1.86	.67	.87	1.50
6 th Grade	1.75	.64	.89	1.88	.68	.90	2.18*
7 th Grade	1.66	.60	.90	1.80	.62	.90	2.51*
Relational Victimization							
2 nd Grade	2.15	.87	.87	2.03	.77	.81	-1.69 [^]
3 rd Grade	2.05	.81	.90	1.88	.72	.85	-2.71**
4 th Grade	1.88	.73	.89	1.79	.72	.89	-1.49
5 th Grade	1.82	.75	.91	1.66	.66	.89	-2.77**
6 th Grade	1.71	.68	.91	1.60	.62	.89	-1.92 [^]
7 th Grade	1.63	.64	.91	1.49	.51	.87	-2.63**
Social Goals							
Mastery							
2 nd Grade	4.01	.79	.79	3.91	.90	.82	-1.51
7 th Grade	3.58	.89	.90	3.25	1.05	.94	-3.66***
Performance Approach							
2 nd Grade	2.74	1.14	.80	2.80	1.15	.80	.63
7 th Grade	2.16	.99	.87	2.25	.90	.86	.94
Performance Avoidance							
2 nd Grade	3.46	1.10	.81	3.35	1.17	.81	-1.16
7 th Grade	2.45	1.03	.90	2.66	1.05	.91	2.12*

[^] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2. *Intercorrelations among Social Goals & Overt and Relational Victimization at all waves*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. 2 nd Grade Mastery Goals	-	.18**	.23***	-.01	.40***	.01	-.02	.04	.02	-.03	.05	-.01	.05	.05	-.03	-.05	-.01	-.03
2. 7 th Grade Mastery Goals	.06	-	.04	.50***	.10	.59***	.05	.01	-.00	.08	.00	.13	.06	-.02	.02	.17*	.06	.11
3. 2 nd Grade Approach Goals	.23***	-.07	-	.13 [^]	.21***	.04	.14*	.06	.09	.03	.11	.00	.17**	.15*	.07	.12 [^]	.20**	.15*
4. 7 th Grade Approach Goals	-.05	.31***	.13*	-	.10	.74***	.02	.04	.19**	.12 [^]	.06	.19**	.05	-.00	.16*	.19**	.17*	.21**
5. 2 nd Grade Avoidance Goals	.33***	.06	.18**	.02	-	.08	.08	.01	.06	.04	.13 [^]	.06	.13*	-.07	.04	.01	.06	.02
6. 7 th Grade Avoidance Goals	-.06	.39***	.11	.74***	.06	-	.04	.09	.25***	.23**	.18**	.33***	.02	.06	.25***	.29***	.23**	.33***
7. 2 nd Grade Overt Vict.	.05	.05	.19**	.20**	.17**	-.13 [^]	-	.40***	.32***	.26***	.26***	.14*	.69***	.33***	.34***	.25***	.24***	.11
8. 3 rd Grade Overt Vict.	-.02	.02	.11 [^]	.06	.07	.01	.46***	-	.55***	.42***	.42***	.30***	.30***	.74***	.48***	.38***	.36***	.27**
9. 4 th Grade Overt Vict.	.01	-.10	.11 [^]	.04	.02	.03	.31***	.53***	-	.54***	.49***	.34***	.21**	.48***	.78***	.54***	.47***	.36**
10. 5 th Grade Overt Vict.	.00	-.01	.07	.13*	.07	.16*	.31***	.41***	.60***	-	.56***	.33***	.20**	.37***	.48***	.76***	.53***	.40**
11. 6 th Grade Overt Vict.	.03	-.02	.09	.13*	.02	.22***	.18**	.32***	.43***	.62***	-	.54***	.19**	.43***	.42***	.41**	.76***	.49***
12. 7 th Grade Overt Vict.	.04	.01	.01	.15*	.06	.23***	.20**	.28***	.38***	.50***	.71***	-	.08	.33***	.37***	.28**	.48**	.76***
13. 2 nd Grade Relational Vict.	.05	-.01	.18**	.19**	.17**	.19**	.75***	.37***	.26***	.17**	.13*	.15*	-	.37***	.33***	.22**	.18**	.11
14. 3 rd Grade Relational Vict.	.03	-.03	.10 [^]	.04	.07	-.02	.40***	.79***	.47***	.34***	.25***	.18**	.47***	-	.54***	.41***	.44***	.39***
15. 4 th Grade Relational Vict.	.07	-.09	.06	.08	.08	.04	.35***	.45***	.76***	.46***	.31**	.32***	.39***	.51***	-	.58***	.48***	.40***
16. 5 th Grade Relational Vict.	.05	-.03	.04	.19	-.13*	.14*	.32***	.36***	.48***	.75***	.46***	.35***	.28***	.37***	.52***	-	.54***	.39***
17. 6 th Grade Relational Vict.	.08	-.02	.05	.12 [^]	.10	.22***	.19**	.34***	.44***	.50***	.73***	.57***	.24***	.34***	.48***	.56***	-	.61***
18. 7 th Grade Relational Vict.	.10	.05	.02	.25***	.09	.31***	.26***	.29***	.35***	.47***	.61***	.73***	.24***	.28***	.39***	.51***	.70***	-

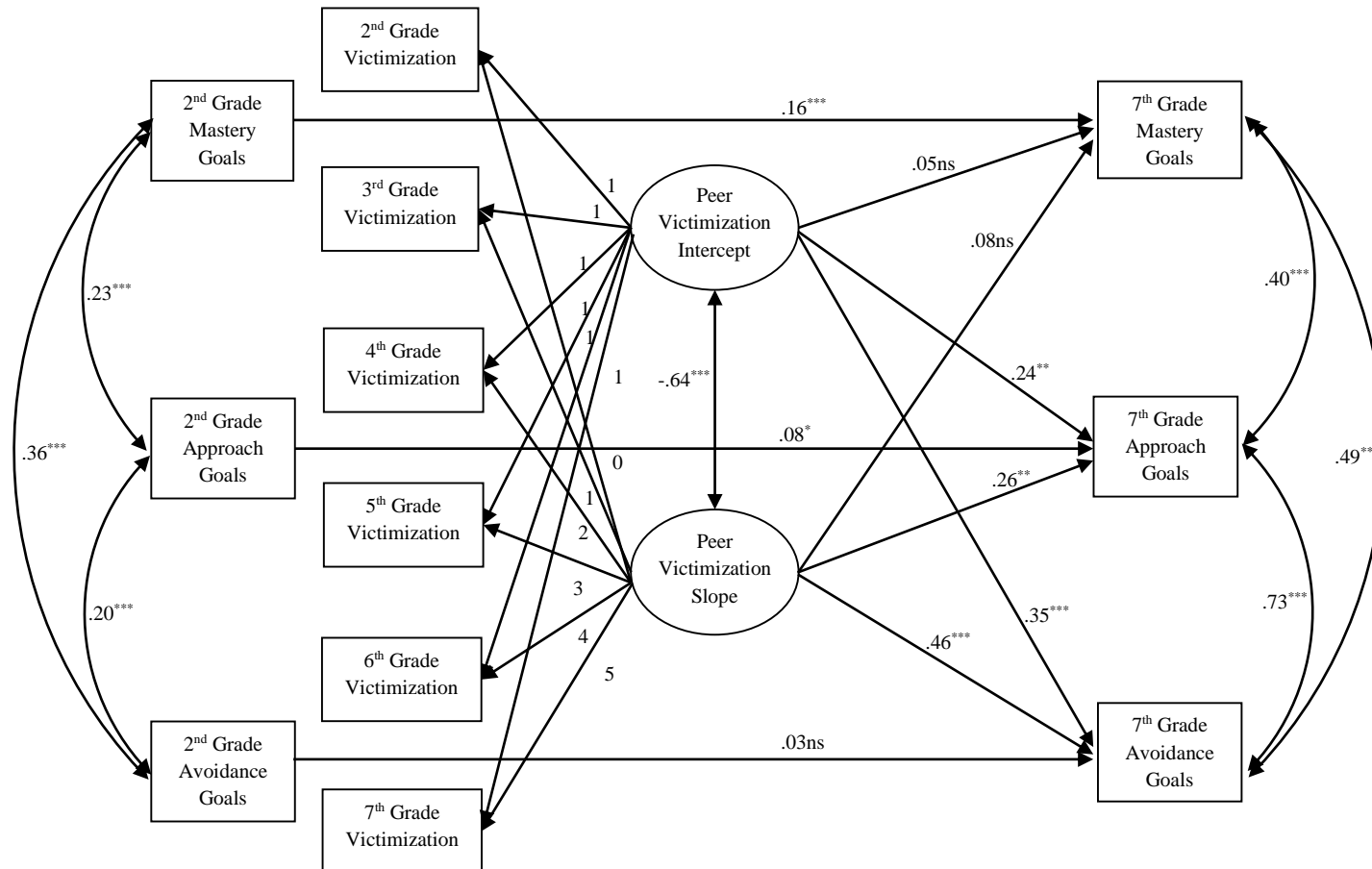
Note: Values above the diagonal are for boys and below the diagonal are for girls. Within wave correlations are in bold.

[^] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure

Figure 1.

Latent growth curve analysis of the contribution of initial victimization (2nd grade) and trajectories of victimization (2nd to 7th grade) to 7th grade mastery, approach, and avoidance goals. Not shown are covariances between 2nd grade goals and the intercept and slope of the victimization trajectories (see text). * $p < .05$. ** $p < .01$. *** $p < .001$.



Appendices

Appendix A: Social Experiences Questionnaire: Self-Report

Overt Items

- How often do you get hit by another kid?
- How often does another kid yell at you or call you mean names?
- How often do you get pushed or shoved by another kid?
- How often does another kid kick you or pull your hair?
- How often does another kid say they will beat you up if you don't do what they want you to do?
- How often do you get teased by another kid?
- How often does another kid insult you or put you down?
- How often is another kid rude to you?
- How often do you get pinched by another kid?
- How often does another kid trip you on purpose?
- How often does another kid swear or cuss at you?

Relational items

- How often do other kids leave you out on purpose when it's time to play or do an activity?
- How often does a kid who is mad at you try to get back at you by not letting you in their group anymore?
- How often does another kid tell lies about you to make other kids not like you anymore?
- How often does another kid say they won't like you unless you do what they want you to do?
- How often does another kid try to keep others from liking you by saying mean things about you?
- How often does a friend spread rumors about you because they are mad at you?
- How often does a friend who is mad at you ignore you or stop talking to you?
- How often does a friend threaten to not see you anymore to get even with you (for example, not come over to your house to play or not sit with you at lunch?)
- How often does a friend threaten to stop being your friend to hurt you or to get their way?
- How often does a friend get even with you by spending time with new friends instead of you?

Note: Some minor wording changes were made in middle school to maintain age-appropriateness.

Appendix B: Social Goals Survey: Self-Report

When I am around other kids...

Mastery Items

I try to figure out what makes a good friend.
I like it when I learn better ways to get along with friends.
I like to learn new skills for getting along with other kids.
One of my goals is that my friendships become even better over time.
I feel successful when I learn something new about how to get along with other kids.
It is important to me to learn more about other kids and what they are like.
One of my goals is to get to know other kids better.
I try to figure out what makes kids' friendships work.

Performance Approach Items

I try to do things that make me look good to other kids.
It is important to me that other kids think I am popular.
It is important to me to have cool friends.
One of my main goals is that a lot of kids like me.
I want to be friends with the popular kids.
My goal is to show other kids how much everyone likes me.

Performance Avoidance Items

It is important to me that I don't embarrass myself around my friends.
I try not to do anything that might make other kids tease me.
My main goal is to make sure I don't look like a loser.
I try to avoid doing things that make me look bad to other kids.
When I am around other kids, I mostly just try not to goof up.
One of my main goals is to make sure other kids don't say anything bad about me.
When I am around other kids, I don't want to be made fun of.

Appendix C: Robustness Checks

In order to examine the unique effects of the intercept and slope of victimization on social goals, separate models were run in which the intercept and slope were each sequentially constrained to be zero. Both models yielded substantially similar results to the final model depicted in Figure 1, with the same significances and directions of effect, and some modest reductions in effect size for the hypothesized paths between victimization and performance approach and avoidance (when intercept set to 0, slope coefficients were $.21, p < .001$ and $.34, p < .001$, respectively; when slope set to 0, intercept coefficients were $.19, p < .001$ and $.28, p < .001$, respectively) and no effects on mastery.

Next, a model was run in which the intercept was set at the central point between the first and final waves of the study (between the 4th and 5th grade) rather than at 2nd grade, in order to eliminate the correlation between the intercept and slope. In this model, the intercept and slope were indeed not significantly associated with one another ($-.14$ ns), but the significance and directions of effects of the victimization slope on performance approach and avoidance goals were maintained, with smaller effect sizes ($.13, p < .05$ and $.28, p < .001$, respectively). The effects of this victimization intercept on performance approach and avoidance goals were similar to that of the effect of the original 2nd grade intercept, but with modestly smaller effect sizes ($.19, p < .001$ and $.27, p < .001$, respectively). Again, no significant effects of victimization on mastery were found in this model. These two sets of supplemental analyses support the assertion that both the intercept and slope of victimization do indeed have unique effects on social goals, with some variation in the precise effect sizes.

Last, the possibility that the effect of the trajectory of victimization may have depended on initial level of victimization (or vice versa) was investigated. The interactive effects of

victimization slope and intercept on each social goal were assessed and found to be nonsignificant ($Bs = .46$ ns for mastery, $.07$ ns for approach, $-.28$ ns for avoidance), indicating that there were no meaningful effects of early victimization on the associations between victimization trajectory and goals (or vice versa).