

DEVELOPMENT OF COGNITIVE DIATHESSES FOR DEPRESSION SUBSEQUENT TO
PEER VICTIMIZATION: MODERATION BY AGE AND GENDER

By

Kathryn M. Roeder

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Professor David A. Cole

Professor Bruce E. Compas

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CHAPTER I

INTRODUCTION

The link between childhood peer victimization and future psychological maladjustment has received considerable research attention, and a substantial body of literature indicates that peer victimization (PV) is prospectively associated with a range of pathological outcomes, including depression, anxiety, externalizing symptoms, health-risk behaviors, deliberate self-harm, and suicide (Hawker & Boulton, 2000; Prinstein, Boergers & Vernberg, 2001; Rigby & Slee, 1995; Roland, 2002; Schwartz, Gorman, Nakamoto & Toblin; Storch, Masia-Warner, Crip & Klein, 2005). Of these, the link between PV and internalizing symptoms is especially strong, with depression representing a particular concern (Hawker & Boulton, 2000; Boivin, Hymal & Bukowski, 1995); however, considerably less is known about the intermediary cognitive processes that underlie this relation. The current study addresses this gap in the literature by examining the longitudinal effects of peer victimization on self-cognitions that are relevant to the onset of depressive symptoms.

Previous studies have tested the hypothesis that PV represents a salient stressor that interacts with existing cognitive diatheses to produce internalizing disorders (Panak & Garber, 1992; Prinstein & Aikins, 2004). A complementary model, which has received considerably less research attention, posits that PV shapes the *development* of cognitive diatheses. To date, only a few longitudinal studies have examined this possibility. Of these, two studies provide indirect support for this hypothesis, in the context of a larger model. In a sample of fourth- to sixth-grade students, Troop-Gordon and Ladd (2005) found that peer victimization predicted decreases in

self-perceived social competence and global self-esteem, an effect that was equally strong for boys and girls. In a study of seventh- to tenth-grade students, Barchia and Bussey (2010) found that the relation between victimization and future depression was partially mediated by depression rumination and self-efficacy beliefs. Neither of these studies focused specifically on the development of self-cognitions, but rather included the link between PV and cognition as part of larger mediational models, and no data were presented on the roles of age or type of PV in shaping such cognitions. Accordingly, these studies lend only preliminary support to the hypothesis that the changes in self-cognitions may be an important facet of the relation between PV and future negative outcomes, and additional studies that specifically examine the impact of PV on relevant self-cognitions, as well as moderating factors, are needed.

To our knowledge, only one published study has directly examined how PV shapes the formation of cognitive diatheses for internalizing disorders, while paying particular attention to moderating effects of gender and type of PV. In a sample of third- to sixth-grade students, Sinclair and Cole (in press) found that PV predicted increases in negative self-cognitions and decreases in positive self-cognitions over time, and this relation was stronger for boys than for girls. Additionally, relational victimization was more consistently related to changes in self-cognitions than was physical victimization.

None of the above studies directly examined how the effects of PV on self-cognitions might vary as a function of age. This represents a significant limitation of the existing literature, as several intersecting lines of research clearly indicate the importance of developmental considerations in the examination of child and adolescent self-cognitions. From a developmental psychopathology perspective, a major task of middle and late childhood is the construction of self-concept and self-perceived competence. Difficulty with this task can predispose future

psychopathology (Garber, 1984). Around age ten, children begin to exhibit an understanding that stable traits underlie behavior and that traits can be consistent across situations. This understanding of personal traits becomes more mature and comprehensive as individuals progress through adolescence (Rholes & Ruble, 1984). Additionally, beliefs about one's competence in various domains become increasingly stable during this time period (Cole, Jacquez & Maschman, 2001). Various cognitive diatheses for depression are still under construction during middle childhood and do not consolidate into enduring risks for depression until adolescence (Cole, 1991; Cole et al, 2008; Hankin & Abela, 2005). Although PV is associated with negative consequences at all ages, its effects may be particularly severe during the transition from childhood to early adolescence, when the construction of self-perceived competence is an especially salient developmental task. For all of these reasons, PV could exert differential effects on the construction of self-cognitions at various ages. Further elucidation of this relation could aid the identification of "sensitive periods" during which youth are particularly susceptible to negative effects of PV. The existence of such sensitive periods could advance efforts to adapt cognitive interventions to specific developmental levels.

In view of these limitations, the present study focuses on age as a possible moderator of the relation between PV and self-cognition. The literature on this point is mixed. On the one hand, considerable evidence indicates that depression-related self-cognitions become increasingly stable with increases in age (Cole et al, 2008; Hankin & Abela, 2005; LaGrange et al, 2008; Wigfield, Eccles et al, 1997). This pattern suggests that PV may have a greater impact on self-cognitions at younger ages, when self-cognitions are still malleable, less stable, and perhaps more susceptible to outside influences. On the other hand, the importance of peer relationships increases during the transition from childhood to adolescence, suggesting that PV

may be especially related to changes in self-cognitions at slightly older ages. Accordingly, the current study tests age as a moderator of the prospective relation between PV and self-cognitions with the goal of identifying age ranges, or sensitive periods, when the effect is especially strong.

Gender is also a potential moderator of the relation between PV and self-cognitions. The existing evidence consistently demonstrates that rates of depression rise more for girls than for boys during adolescence (Angold, Costello & Worthman, 1998; Nolen-Hoeksema, 1990), and a substantial body of literature has attempted to explain this phenomenon from a cognitive vulnerability-stress perspective (Cyranowski, Frank et al, 2000; Hankin, Abramson et al, 1998; Hankin & Abramson, 2001; Hyde, Mezulis et al, 2008; Nolen-Hoeksema & Girgus, 1994). Despite this, relatively little is known about gender differences in the *development* of cognitive diatheses, or how these developmental processes relate to stressors such as peer victimization. Some studies suggest that peer victimization may affect girls more strongly than boys because of the greater emphasis on interpersonal relationships among females (Crick, Casas & Ku, 1999; Paquette & Underwood, 1999). Others have argued that boys may be equally impacted by peer victimization because of its impact on social standing (Rose & Rudolph, 2006). To our knowledge, no studies to date have directly examined whether sensitive periods for the effect of PV on self-cognitions differ as a function of gender. Consequently, a specific goal of the current study was to examine the moderating effects of gender on age-related periods of heightened sensitivity to PV.

Type of peer victimization also represents a potential moderator of the link between PV and self-cognitions. Historically, researchers have focused on overt, physical forms of victimization, in which a child is subjected to physical harm or controlled by threats of physical damage. More recent studies have broadened the scope to include relational victimization, which

Crick and Bigbee (1998) define as the attempt to damage peer relationships by excluding the victim from group activities, spreading rumors, or withholding friendship. Results from studies of gender differences in the experience of PV have been mixed. Boys consistently report higher rates of physical PV than have girls, but evidence of gender differences in rates of relational PV is mixed (Cole, Maxwell, Dukewich & Yosick, 2010; Crick & Grotpeter, 1995; French, Jansen & Pidada, 2002; Smith, Rose & Schwartz-Mette, 2010). Studies that have attempted to identify gender differences in the relation between type of PV and future outcomes have also been inconsistent (Cole et al, 2010; Prinstein, Boergers & Vernberg, 2001). By including age as well as gender and type of PV in our analyses, the current study aims to identify developmental trends that could help explain these conflicting findings.

Accordingly, the current study had two primary goals. First, we used longitudinal data from multiple informants to identify age ranges, or sensitive periods, during which peer victimization has an especially strong effect on self-relevant cognitions. Second, we examined whether such sensitive periods varied as a function of gender and type of peer victimization.

CHAPTER II

METHODS

Participants

We recruited participants from five elementary schools and four middle schools in a metropolitan area in Tennessee. At Time 1, letters describing the project and parental consent forms were distributed to 2076 students in the third, fourth, fifth, and sixth grades. Of these, 1501 returned completed consent forms, with 1135 being given permission to participate in the study. On the day of testing, 1021 (90.0% of students with parental consent) were present and gave their assent to participate. At Time 2 (7 months later), 2241 consent forms were sent to parents of students in the fourth, fifth, sixth and seventh grades. Of these, 1507 completed forms were returned, 1158 students received permission to participate, and 1064 (91.9% of consented students) were present on the day of data collection and gave their assent to participate in the study. The total N of 1692 contained two patterns of missing data: those who participated at Time 1 but not Time 2 (dropouts, 37.1%) and those who participated in Time 2 but not Time 1 (joiners, 39.7%). Comparison of these two subgroups to students who participated at both time points revealed students participating at both time points were more likely to be female than students participating at only one time point ($p = .015$). As expected, participant ages also varied across time points, due to our recruitment strategy ($ps < .001$). Racial composition did not vary as a function of time point or participation status ($ps > .05$). To avoid unnecessarily biasing the sample and to enhance the fidelity of parameter estimation, we included all participants in the

data analysis and used full information maximum likelihood statistical methods for all parameter estimations.

At the beginning of the study, participants were evenly distributed across grades 3 through 6, and ages ranged from 8.3 to 13.6 years ($M = 10.9$, $SD = 1.12$). Overall, the sample had roughly similar proportions of males and females (45.1% and 54.9%, respectively) and was 62.2% Caucasian, 32.7% African American, 8.2% Hispanic, 5.2% Native American, 5.1% Asian, and 4.7% other. (Because participants could endorse more than one racial/ethnic affiliation, percentages do not sum to 100%.)

Measures

Peer victimization. In order to correct for shared method variance between self-report measures of cognition and victimization, we assessed levels of peer victimization using the peer nomination method. Our peer nomination measure followed a format similar to that used in studies of children's social status (e.g., Coie, Dodge, & Coppotelli, 1982). After consent forms were returned, lists of children with consent to participate were generated for each homeroom. At data collection, each participant received a list of the other consented students in their homerooms, in a randomized order. Separate forms were used to obtain peer nominations of relational and physical victimization. The physical victimization item was: "Some kids get picked on or hurt by other kids at school. They might get pushed around. They might get bullied by others. They might even get beaten up. Who gets treated like this? Who gets pushed around or bullied by others?" The relational victimization measure used an equivalent format to ask about kids who get excluded, teased, or talked about behind their backs. Instructions asked respondents to mark all the names of classmates who fit a particular question. Scores for each student were

the proportion of participating classmates who indicated that the student was physically or relationally victimized.

Self-cognition. Harter's (1982) Self-Perception Profile for Children (SPPC) is a self-report inventory with 36 items reflecting developmentally appropriate domains; the current study included 18 items reflecting the scales for physical attractiveness, global self-worth, and social acceptance. For each item, children select one of two statements to indicate whether they are more like a child who is good or a child who is not so good at a particular activity. Then they select statements indicating whether the selected statement is "sort of true" or "really true". Responses are converted to 4-point rating scales with high scores reflecting better self-perceptions. The SPPC has a highly interpretable factor structure and all subscales have good internal consistency (Harter, 1982, 1985). In our sample, Cronbach's alpha for the SPPC scales ranged from 0.78 to 0.85.

The Cognitive Triad Inventory for Children (CTI-C; Kaslow, Stark, Printz, Livingston, & Tsai, 1992) is a 36-item self-report questionnaire assessing children's views of themselves (e.g., "I am a failure"), their world (e.g. "The world is a very mean place"), and their future (e.g., "Nothing is likely to work out for me"). Children indicate whether or not they have had specific thoughts using a yes/maybe/no response format, scored on 3-point scales. Scores range from 0 to 72 with higher scores indicating more negative views. Despite the word "triad" in the title, recent factor analysis of the measure reveals a two-factor solution with a positive and a negative factor that emerges over the course of middle childhood (LaGrange et al., 2008). The measure has high internal consistency and good construct validity, correlating with measures of self-perception, self-worth, self-control, perceived contingency, and attributional style (Kaslow et al., 1992;

LaGrange et al., 2008). In the present study, Cronbach's alphas for the positive and negative CTI-C scales were .87 and .88, respectively.

The Children's Automatic Thoughts Scale (CATS; Schniering & Rapee, 2002) is a self-report questionnaire assessing negative self-cognitions in youth. The original questionnaire asks children to rate the frequency with which they have had 56 different negative thoughts in the previous week. Ratings are made on 5-point scales, ranging from 1 (not at all) to 5 (all the time). The current study included the 20 items that comprise the Social Threat (e.g., "I'm afraid I will make a fool of myself") and Personal Failure (e.g., "It's my fault that things have gone wrong") subscales, with higher scores indicating more negative views. In the original sample, test-retest reliability was 0.79 at 1 month (Schniering & Rapee, 2002). For the current study, Cronbach's alphas were 0.90 for Personal Failure and .92 for Social Threat.

Procedures

Prior to Time 1 data collection, informed consent documents were distributed to all children in each participating classroom. We offered a \$100 donation to each classroom if 90% of children returned consent forms signed by a parent or guardian, either granting or denying permission for their child's participation. Students returned signed consent forms to their classroom teachers in sealed envelopes, which were then collected by research assistants. During regular school hours, psychology graduate students gathered consented students into small groups and administered the questionnaires, reading the questionnaires aloud while allowing participants to answer the questions on their own forms. Research assistants circulated among students to answer questions before, during, and after questionnaire administration. At the end of the survey, students were given snacks and a novelty pencil for their participation. For Time 2,

the entire procedure was repeated seven months later. All procedures were approved by the Institutional Review Board at Vanderbilt University.

CHAPTER III

RESULTS

Preliminary Analyses

Correlations among all study variables are given in Table 1. With the exception of age and gender, all study variables were standardized with a mean of 0 and standard deviation of 1 prior to analysis. Within-time and within-measure correlations tended to be larger than their cross-time counterparts, although many cross-wave correlations were significant and in the moderate to large range. Victimization was significantly correlated with nearly every cognitive measure, both within and across waves, and these correlations were in the expected directions.

Analysis Overview

We performed a series of multiple linear regressions to evaluate the longitudinal relations between various measures of peer victimization and self-cognition. For each regression, a measure of self-cognition was the dependent variable. Gender, age, and peer-nominated victimization, as well as the 2- and 3-way interactions between these variables, were entered as predictor variables. Corresponding Time 1 measures of self-cognition were also included as covariates. Each analysis was conducted separately for relational and physical victimization (see Tables 2 and 3). For each significant 3-way interaction, we calculated regions of significance, according to standard procedures (Aiken & West, 1991; Dearing & Hamilton, 2006) and using Preacher, Curran, and Bauer's (2006) online interaction utility (see Figures 1 and 2). These analyses are detailed below.

Table 1. Variable correlations, means, and standard deviations

Measure	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Gender †	1.000										
2. Age T1 †	.096**	1.000									
3. PPV Nom T1 †	.208**	-.132**	1.000								
4. RPV Nom T1	.082**	-.112**	.695**	1.000							
5. CATS PF T1	0.007	-.093**	.229**	.199**	1.000						
6. CATS Soc T1	-0.046	-.105**	.268**	.263**	.726**	1.000					
7. CTI-C Neg T1	.079*	-0.051	.236**	.214**	.687**	.566**	1.000				
8. CTI-C Pos T1	0.007	0.009	.200**	.218**	.583**	.521**	.642**	1.000			
9. SPPC App T1	.079*	-.116**	-.098**	-.157**	-.462**	-.505**	-.472**	-.477**	1.000		
10. SPPC Glo T1	-0.002	0.006	-.213**	-.210**	-.683**	-.562**	-.649**	-.623**	.638**	1.000	
11. SPPC Soc T1	0.004	.115**	-.246**	-.304**	-.430**	-.514**	-.451**	-.489**	.460**	.494**	1.000
12. PPV Nom T2	.104**	-.146**	.377**	.419**	.234**	.247**	.196**	.143**	-0.072	-.111*	-.277**
13. RPV Nom T2	.065*	-.102*	.337**	.449**	.170**	.229**	.193**	.109*	-.128*	-.142**	-.315**
14. CATS PF T2	-0.005	-0.081	.250**	.239**	.437**	.445**	.419**	.349**	-.298**	-.454**	-.387**
15. CATS Soc T2	-.068*	-0.035	.122*	.177**	.274**	.403**	.304**	.279**	-.235**	-.328**	-.353**
16. CTI-C Neg T2	.067*	-0.073	.270**	.227**	.417**	.378**	.533**	.445**	-.314**	-.477**	-.399**
17. CTI-C Pos T2	0.029	-0.040	.191**	.154**	.345**	.357**	.380**	.526**	-.318**	-.455**	-.423**
18. SPPC App T2	.074*	-.102*	-0.001	-0.048	-.294**	-.323**	-.275**	-.338**	.545**	.411**	.379**
19. SPPC Glo T2	0.038	-0.002	-.160**	-.142**	-.311**	-.308**	-.350**	-.351**	.405**	.488**	.443**
20. SPPC Soc T2	0.017	0.073	-.120*	-.173**	-.288**	-.359**	-.325**	-.399**	.299**	.353**	.632**

Table 1 (continued)

Measure	12.	13.	14.	15.	16.	17.	18.	19.	20.
12. PPV Nom T2	1.000								
13. RPV Nom T2	.730**	1.000							
14. CATS PF T2	.160**	.184**	1.000						
15. CATS Soc T2	.234**	.257**	.720**	1.000					
16. CTI-C Neg T2	.172**	.179**	.680**	.538**	1.000				
17. CTI-C Pos T2	.127**	.149**	.636**	.541**	.681**	1.000			
18. SPPC App T2	-.116**	-.142**	-.538**	-.534**	-.485**	-.537**	1.000		
19. SPPC Glo T2	-.164**	-.192**	-.693**	-.604**	-.671**	-.715**	.666**	1.000	
20. SPPC Soc T2	-.274**	-.304**	-.521**	-.571**	-.496**	-.534**	.532**	.598**	1.000

Note. PPV Nom = Peer-nominated Physical PV; RPV Nom = Peer-nominated Relational; CATS = Children's Automatic Thoughts Scale (PF = Personal Failure, Soc = Social Threat); CTI-C = Cognitive Triad Inventory for Children (Neg = Negative, Pos = Positive); SPPC = Self-Perception Profile for Children (App = Appearance; Glo = Global; Soc = Social). The SPPC is scaled in the opposite direction of the CATS and CTI-C.

[†] Proportion male = .451; mean Age T1 = 10.937 yrs (SD 1.054); all other scores standardized.

* $p < .05$; ** $p < .01$

Table 2. Physical PV, age, gender, and their interactions predicting self-cognitions

Predictor	Unst. <i>B</i>	<i>SE(B)</i>	<i>b</i>	<i>t</i>	<i>p</i>
DV = CATS Personal Failure (Time 2)					
CATS Personal Failure (Time 1)	0.511	0.037	0.514	13.739	< .001
Physical PV	2.241	0.604	2.059	3.712	< .001
Age	0.048	0.051	0.051	0.943	0.346
Gender	0.165	0.813	0.081	0.203	0.840
Physical PV x Age	-0.179	0.057	-1.793	-3.121	0.002
Physical PV x Gender	-2.699	0.790	-1.791	-3.416	< .001
Gender x Age	-0.022	0.074	-0.122	-0.298	0.765
Physical PV x Gender x Age	0.231	0.073	1.703	3.149	0.002
DV = CATS Social Threat (Time 2)					
CATS Social Threat (Time 1)	0.416	0.045	0.413	9.321	< .001
Physical PV	1.397	0.681	1.281	2.051	0.040
Age	0.023	0.057	0.024	0.396	0.692
Gender	-0.294	0.882	-0.146	-0.334	0.739
Physical PV x Age	-0.120	0.065	-1.199	-1.854	0.064
Physical PV x Gender	-2.135	0.868	-1.419	-2.459	0.014
Gender x Age	0.017	0.08	0.092	0.206	0.837
Physical PV x Gender x Age	0.191	0.081	1.407	2.363	0.018
DV = CTI-C Negative (Time 2)					
CTI-C Negative (Time 1)	0.527	0.036	0.535	14.474	< .001
Physical PV	2.251	0.597	2.083	3.769	< .001
Age	-0.037	0.051	-0.039	-0.719	0.472
Gender	-1.045	0.805	-0.522	-1.298	0.194
Physical PV x Age	-0.192	0.057	-1.937	-3.390	< .001
Physical PV x Gender	-1.926	0.783	-1.291	-2.461	0.014
Gender x Age	0.097	0.073	0.542	1.329	0.184
Physical PV x Gender x Age	0.173	0.073	1.286	2.379	0.017
DV = CTI-C Positive (Time 2)					
CTI-C Negative (Time 1)	0.523	0.038	0.526	13.932	< .001
Physical PV	1.983	0.622	1.829	3.190	0.001
Age	-0.048	0.053	-0.051	-0.914	0.360
Gender	-0.898	0.831	-0.448	-1.080	0.280
Physical PV x Age	-0.171	0.059	-1.714	-2.894	0.004
Physical PV x Gender	-2.151	0.811	-1.439	-2.654	0.008
Gender x Age	0.087	0.076	0.486	1.154	0.248
Physical PV x Gender x Age	0.183	0.075	1.359	2.432	0.015

Table 2 (continued)

Predictor	Unst. <i>B</i>	<i>SE(B)</i>	<i>b</i>	<i>t</i>	<i>p</i>
DV = SPPC Appearance (Time 2)					
SPPC Appearance (Time 1)	0.547	0.038	0.545	14.248	< .001
Physical PV	-1.847	0.636	-1.698	-2.906	0.004
Age	0.037	0.055	0.039	0.673	0.501
Gender	1.001	0.848	0.498	1.181	0.238
Physical PV x Age	0.182	0.060	1.823	3.025	0.002
Physical PV x Gender	1.929	0.827	1.286	2.334	0.020
Gender x Age	-0.089	0.077	-0.494	-1.153	0.249
Physical PV x Gender x Age	-0.193	0.077	-1.426	-2.513	0.012
DV = SPPC Global (Time 2)					
SPPC Global (Time 1)	0.543	0.038	0.545	14.475	< .001
Physical PV	-1.886	0.626	-1.731	-3.013	0.003
Age	-0.017	0.053	-0.018	-0.318	0.751
Gender	0.491	0.837	0.244	0.587	0.557
Physical PV x Age	0.164	0.059	1.634	2.752	0.006
Physical PV x Gender	2.000	0.817	1.329	2.449	0.014
Gender x Age	-0.037	0.076	-0.204	-0.484	0.628
Physical PV x Gender x Age	-0.174	0.076	-1.287	-2.301	0.021
DV = SPPC Social (Time 2)					
SPPC Social (Time 1)	0.661	0.034	0.655	19.706	< .001
Physical PV	-0.498	0.580	-0.454	-0.858	0.391
Age	-0.037	0.049	-0.039	-0.765	0.444
Gender	-0.407	0.784	-0.201	-0.519	0.604
Physical PV x Age	0.041	0.055	0.411	0.752	0.452
Physical PV x Gender	0.425	0.765	0.281	0.555	0.579
Gender x Age	0.038	0.071	0.21	0.536	0.592
Physical PV x Gender x Age	-0.039	0.071	-0.289	-0.556	0.578
DV = SPPC Social (Time 2)					
SPPC Social (Time 1)	0.661	0.034	0.654	19.693	< .001
Physical PV	-0.341	0.377	-0.311	-0.904	0.366
Age	-0.039	0.049	-0.041	-0.809	0.419
Gender	-0.37	0.781	-0.183	-0.475	0.635
Physical PV x Age	0.026	0.036	0.259	0.734	0.463
Physical PV x Gender	-0.004	0.084	-0.003	-0.052	0.958
Gender x Age	0.036	0.071	0.196	0.502	0.616

Table 3. Relational PV, age, gender, and their interactions predicting self-cognitions

Predictor	Unst. <i>B</i>	<i>SE(B)</i>	<i>b</i>	<i>t</i>	<i>p</i>
DV = CATS Personal Failure (Time 2)					
CATS Personal Failure (Time 1)	0.530	0.037	0.535	14.481	< .001
Relational PV	2.204	0.572	2.058	3.855	< .001
Age	0.034	0.051	0.036	0.674	0.501
Gender	-0.106	0.795	-0.052	-0.133	0.894
Relational PV x Age	-0.180	0.053	-1.845	-3.397	< .001
Relational PV x Gender	-2.364	0.814	-1.403	-2.904	0.004
Gender x Age	0.006	0.072	0.034	0.085	0.932
Relational PV x Gender x Age	0.203	0.074	1.352	2.752	0.006
DV = CATS Social Threat (Time 2)					
CATS Social Threat (Time 1)	0.415	0.044	0.413	9.378	< .001
Relational PV	1.374	0.639	1.283	2.150	0.032
Age	0.029	0.056	0.030	0.513	0.608
Gender	-0.272	0.856	-0.135	-0.317	0.751
Relational PV x Age	-0.111	0.059	-1.144	-1.884	0.060
Relational PV x Gender	-2.380	0.881	-1.416	-2.702	0.007
Gender x Age	0.015	0.078	0.083	0.193	0.847
Relational PV x Gender x Age	0.202	0.08	1.350	2.532	0.011
DV = CTI-C Negative (Time 2)					
CTI-C Negative (Time 1)	0.551	0.036	0.560	15.374	< .001
Relational PV	2.182	0.567	2.052	3.846	< .001
Age	-0.045	0.050	-0.047	-0.892	0.372
Gender	-1.040	0.788	-0.52	-1.320	0.187
Relational PV x Age	-0.190	0.052	-1.965	-3.625	< .001
Relational PV x Gender	-2.682	0.807	-1.608	-3.325	< .001
Gender x Age	0.100	0.072	0.557	1.394	0.163
Relational PV x Gender x Age	0.237	0.073	1.596	3.246	0.001
DV = CTI-C Positive (Time 2)					
CTI-C Negative (Time 1)	0.543	0.037	0.544	14.597	< .001
Relational PV	2.133	0.581	1.998	3.671	< .001
Age	-0.058	0.051	-0.061	-1.130	0.259
Gender	-0.830	0.806	-0.414	-1.030	0.303
Relational PV x Age	-0.188	0.054	-1.936	-3.503	< .001
Relational PV x Gender	-2.536	0.824	-1.514	-3.077	0.002
Gender x Age	0.082	0.073	0.457	1.121	0.262
Relational PV x Gender x Age	0.211	0.075	1.415	2.828	0.005

Table 3 (continued)

Predictor	Unst. <i>B</i>	<i>SE</i> (<i>B</i>)	<i>b</i>	<i>t</i>	<i>p</i>
DV = SPPC Appearance (Time 2)					
SPPC Appearance (Time 1)	0.555	0.039	0.553	14.38	< .001
Relational PV	-1.592	0.603	-1.488	-2.643	0.008
Age	0.016	0.053	0.017	0.295	0.768
Gender	0.712	0.825	0.354	0.863	0.388
Relational PV x Age	0.152	0.056	1.562	2.733	0.006
Relational PV x Gender	2.021	0.848	1.204	2.384	0.017
Gender x Age	-0.060	0.075	-0.335	-0.805	0.421
Relational PV x Gender x Age	-0.186	0.077	-1.245	-2.426	0.015
DV = SPPC Global (Time 2)					
SPPC Global (Time 1)	0.554	0.038	0.555	14.781	< .001
Relational PV	-1.582	0.596	-1.474	-2.652	0.008
Age	-0.015	0.052	-0.015	-0.278	0.781
Gender	0.479	0.819	0.238	0.585	0.559
Relational PV x Age	0.136	0.055	1.400	2.479	0.013
Relational PV x Gender	1.761	0.842	1.046	2.091	0.037
Gender x Age	-0.036	0.075	-0.199	-0.484	0.628
Relational PV x Gender x Age	-0.149	0.076	-0.996	-1.958	0.050
DV = SPPC Social (Time 2)					
SPPC Global	0.660	0.034	0.654	19.197	< .001
Relational PV	-0.321	0.548	-0.298	-0.585	0.558
Age	-0.039	0.048	-0.040	-0.804	0.421
Gender	-0.495	0.763	-0.245	-0.649	0.516
Relational PV x Age	0.023	0.051	0.237	0.458	0.647
Relational PV x Gender	0.779	0.785	0.461	0.992	0.321
Gender x Age	0.045	0.069	0.249	0.652	0.515
Relational PV x Gender x Age	-0.063	0.071	-0.416	-0.882	0.378
DV = SPPC Social (Time 2)					
SPPC Global	0.659	0.034	0.653	19.154	< .001
Relational PV	-0.095	0.395	-0.088	-0.24	0.811
Age	-0.039	0.048	-0.041	-0.811	0.418
Gender	-0.464	0.76	-0.229	-0.61	0.542
Relational PV x Age	0.002	0.036	0.019	0.051	0.96
Relational PV x Gender	0.086	0.078	0.051	1.113	0.266
Gender x Age	0.043	0.069	0.238	0.625	0.532

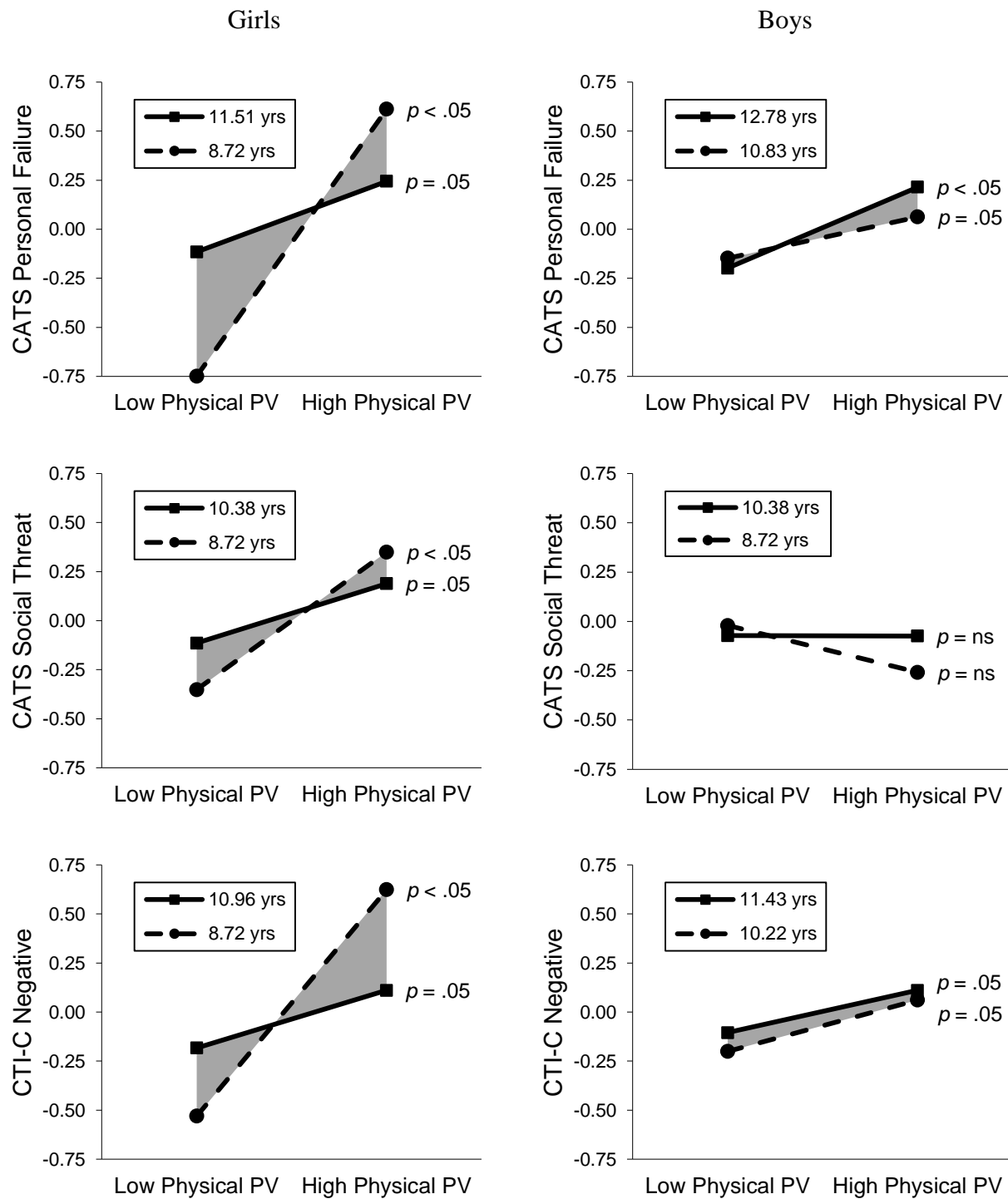


Figure 1. Regions of significance for 3-way interactions between gender, age, and physical PV predicting self-cognitions

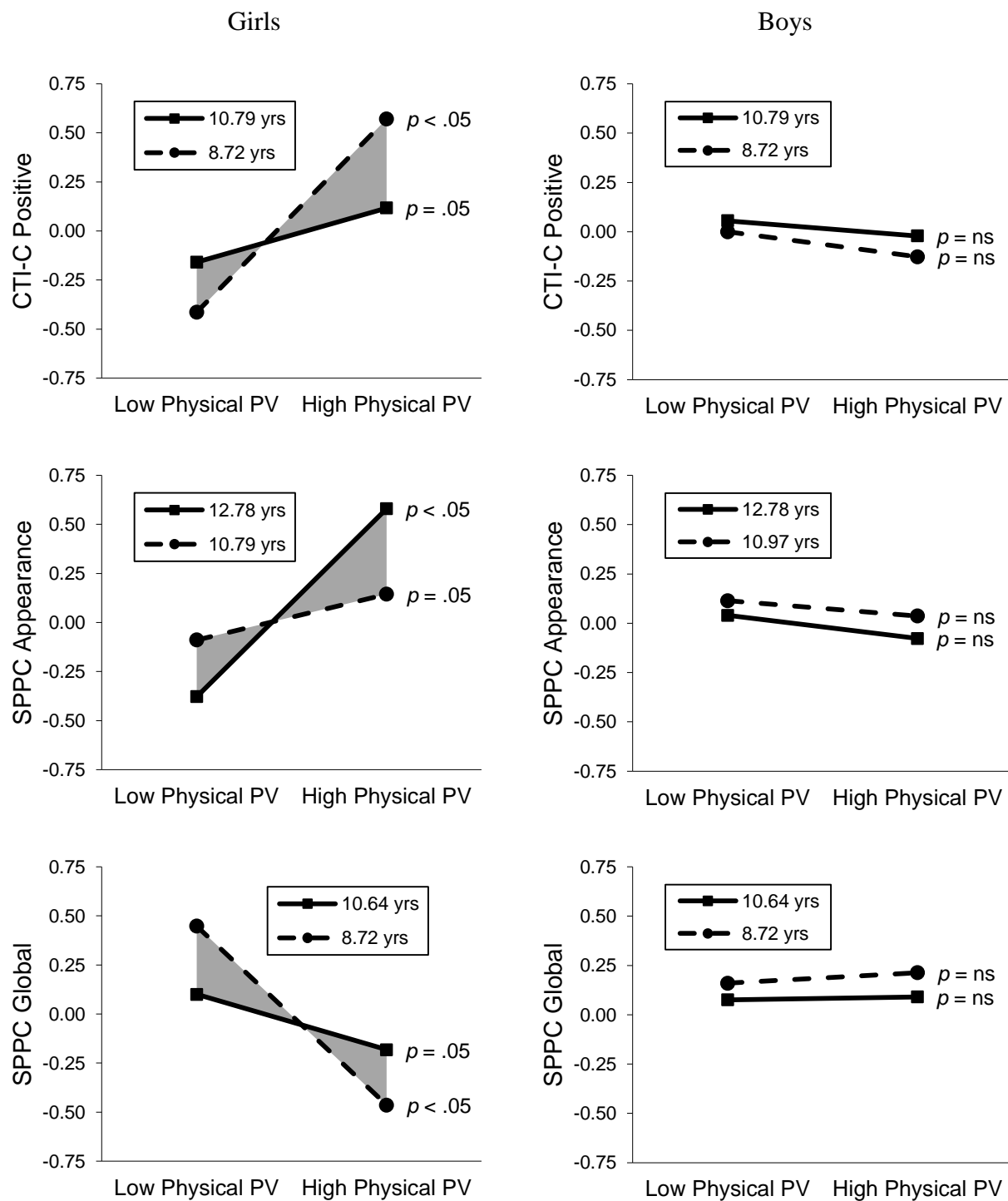


Figure 1 (continued)

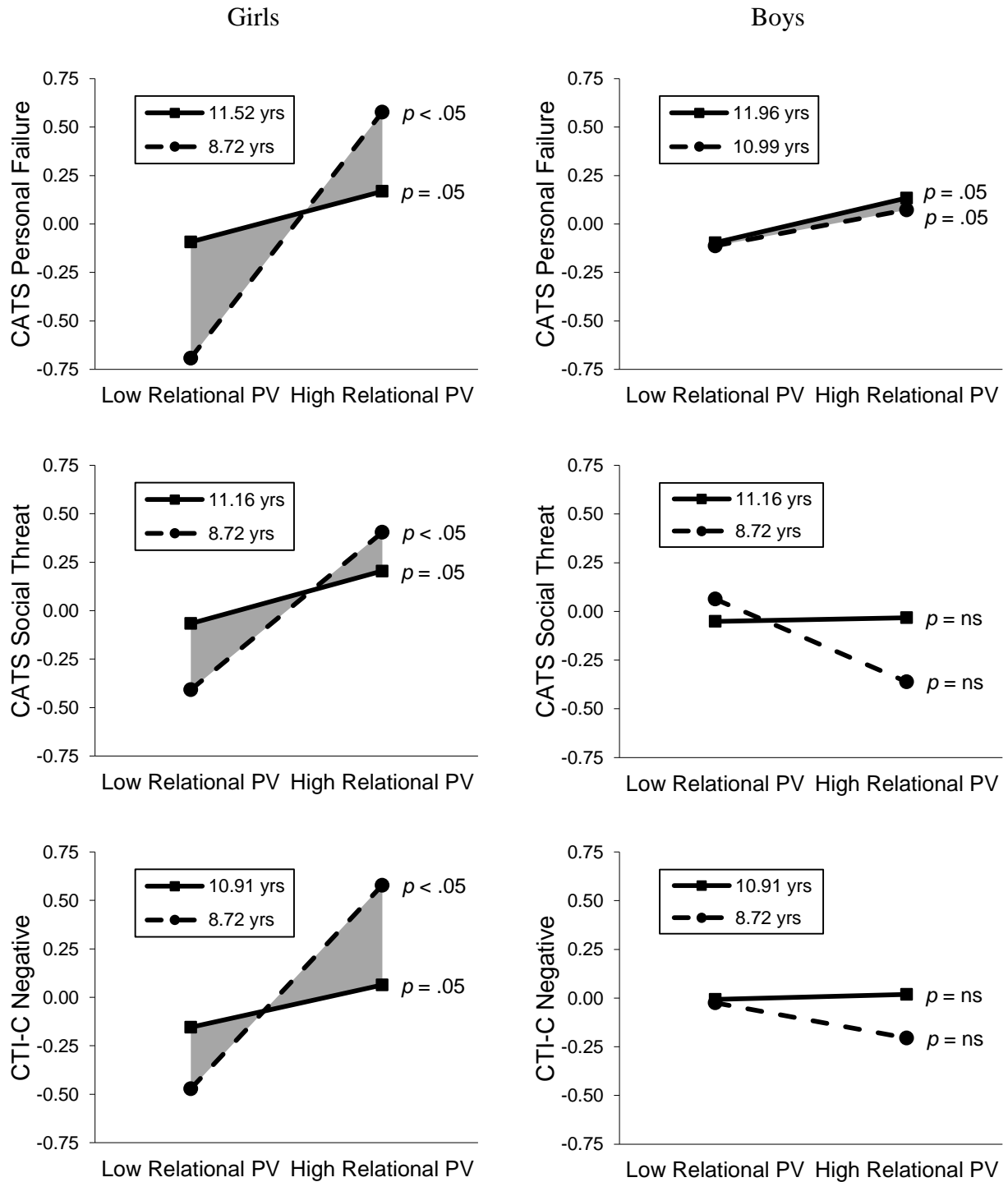


Figure 2. Regions of significance for 3-way interactions between gender, age, and relational PV predicting self-cognitions

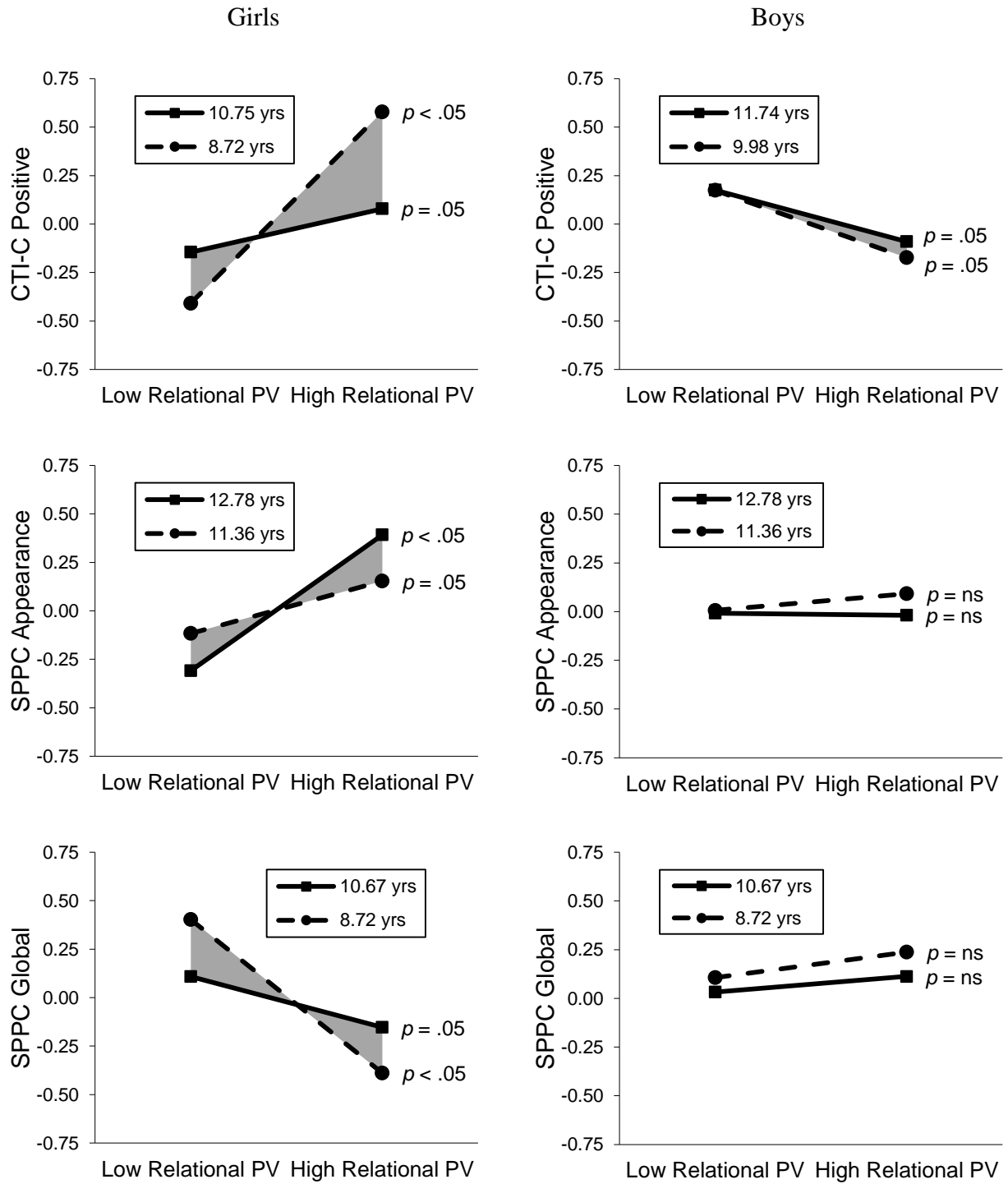


Figure 2 (continued)

Predicting Changes in Self-Cognitions

CATS Personal Failure. For physical PV, the 3-way interaction between PV, gender, and age was significant ($p < .002$) in predicting Time 2 scores on the Personal Failure subscale of the CATS, even after controlling for CATS Personal Failure at Time 1. For each gender, we conducted follow-up analyses to determine the region of significance for this interaction; that is, we identified the age ranges for which the association between the independent variable (physical PV) and the dependent variable (CATS Personal Failure at Time 2) was statistically significant at the .05 level.

For girls, we obtained a region of significance from 8.72 to 11.51 years.¹ This indicates that physical PV at Time 1 was significantly associated with self-perceptions of failure for girls between the ages of 8.72 and 11.51 years, but this association was not significant for girls older than 11.51 years. For boys, the region of significance was 10.83 to 12.78 years. That is, physical PV was significantly associated with self-perceptions of failure for boys between 10.83 and 12.78 years of age, but this association was not significant for boys younger than 10.83 years of age.

The same methods were used to calculate age ranges for which the association between relational PV and CATS Personal Failure at Time 2 was significant. For girls, the region of significance was 8.72 years to 11.52 years; for boys, the region of significance was 10.99 to 11.96 years. Thus, relational PV was associated with self-perceptions of failure for girls between the ages of 8.72 and 11.52 years and boys between the ages of 10.99 and 11.96 years.

¹ Calculations of regions of significance should not be interpreted beyond the extremes of the values surveyed. Accordingly, we did not allow our regions of significance to extend beyond the 2.5th and 97.5th percentiles of the ages included in the current study (8.72 and 12.78 years, respectively). For example, the relation between PV and CATS Personal Failure was significant below ages 11.51; however, this region is only reliable when it corresponds to the values included in the original analysis, so the region of significance is reported as 8.72 to 11.51 years of age.

These interactions are depicted in Figures 1 (physical PV) and 2 (relational PV). In each graph, the dashed line represents the relation between the independent variable (Time 1 PV) and the dependent variable (Time 2 self-cognition) at the lower bound of the region of significance, and the solid line represents this relation at the upper bound of the region of significance; thus, the lines represent different ages in each graph. The shaded area between the two lines represents the age range (region of significance) for which the relation of peer victimization to self-cognition was significant. As shown in the first row of Figure 1, the association between physical PV and CATS Personal Failure for girls is stronger at younger ages: at age 8.72, β equals .68 ($p < .05$), then decreases in magnitude as age increases and is no longer significant past age 11.51. For boys, the association between these two variables is stronger at older ages: at age 10.83, β equals .10 ($p = .05$), then increases slightly with age (at age 12.78, $\beta = .21$, $p < .05$). We observe a similar pattern of results for relational PV (Figure 2). Again, for girls, the strength of association between relational PV and CATS Personal Failure is strongly and inversely related to age, but this pattern does not hold for boys.

CATS Social Threat. For physical PV, the 3-way interaction between PV, gender, and age was significant ($p = .018$) in predicting scores on the Social Threat subscale of the CATS at Time 2, even after controlling for CATS Social Threat at Time 1 (Table 2). For girls, the region of significance for the association between Time 1 physical PV and Time 2 CATS Social Threat was 8.72 to 10.38 years of age. That is, levels of physical PV at Time 1 were significantly associated with perceptions of social hostility for girls between the ages of 8.72 and 10.38 years, but this association was not significant for girls older than 10.38 years. For boys, there was no region of significance for this association, indicating that levels of physical PV were not significantly associated with perceptions of social threat for boys at any age surveyed. The

corresponding graphs in Figure 1 show that for girls, the association between physical PV and CATS Social Threat was slightly stronger at younger ages. Figure 1 also depicts the interaction for boys, using the bounds of the region of significance for girls. This is provided for the purposes of visual comparison, as the associations were not significant for boys at any age..

For relational PV, the 3-way interaction between PV, gender, and age was significant ($p = .011$) in predicting CATS Social Threat at Time 2, even after controlling for CATS Social Threat at Time 1 (Table 3). For girls, the region of significance for the association was 8.72 to 11.16 years of age, while there was no region of significance for boys. Figure 2 shows that for girls, the strength of association between relational PV and CATS Social Threat was inversely related to age. Figure 2 also provides a graph of the interaction between relational PV and CATS Social Threat for boys, using the bounds of the region of significance for girls, even though the associations are not significant for boys at these ages.

CTI-C Negative. After controlling for Time 1 cognition, the 3-way interactions between PV, gender, and age were significant in predicting scores on the CTI-C-C Negative subscale for both physical and relational PV ($ps = .017$ and $.001$, respectively; see Tables 2 and 3). For girls, the region of significance for the association between physical PV and CTI-C-C Negative was 8.72 to 10.96 years of age, with the strength of association being inversely related to age. For boys, the region of significance was 10.22 to 11.43 years of age, and the strength of association did not appear to vary as a function of age. For relational PV, the region of significance for girls was 8.72 to 10.91 years of age, while the association was not significant for boys at any age surveyed. Again, the relation between PV and self-cognition was stronger for younger girls than for older girls.

CTI-C Positive. The 3-way interactions between PV, gender, and age were significant in predicting CTI-C Positive for both physical and relational PV ($ps = .015$ and $.005$, respectively; see Tables 2 and 3). For girls, the region of significance for the association between physical PV and CTI-C Positive was 8.72 to 10.79 years of age, and this association was stronger for younger than for older girls. For boys, there was no region of significance for the relation between physical PV and CTI-C Positive. For relational PV, the region of significance for girls was 8.72 to 10.75 years of age, and the region of significance for boys was 9.98 to 11.74 years. For girls, higher levels of PV were associated with higher scores on CTI-C Positive, which corresponds to less positive cognition. For boys, this pattern was reversed, with higher levels of relational PV being associated with more positive cognition.

SPPC Appearance. The 3-way interactions between PV, gender, and age were significant for both physical and relational PV ($ps < .016$) in predicting the Appearance subscale of the SPPC. There was no region of significance for boys for physical PV or for relational PV. For girls, the region of significance was 10.79 to 12.78 years of age for physical PV and 11.36 to 12.78 years for relational PV. In both cases, the strength of association increased with age, and victimization was positively correlated with higher scores of self-appraised attractiveness.

SPPC Global. For both physical and relational PV, the 3-way interactions between PV, gender, and age were significant in predicting SPPC Global ($ps = .021$ and $.050$, respectively). There were no regions of significance for boys on either type of PV. For girls, the interaction between physical PV and SPPC Global was significant from ages 8.72 to 10.64, and the interaction between relational PV and SPPC Global was significant from ages 8.72 to 10.67. For both types of PV, the association was stronger at younger ages, with higher levels of PV being associated with lower (i.e., worse) scores of self-perceived competence.

SPPC Social. The 3-way interaction between PV, gender, and age was not significant in predicting SPPC Social for either physical PV ($p = .578$) or relational PV ($p = .378$). When tested without the 3-way interaction term, all 2-way interaction terms remained nonsignificant.

CHAPTER IV

DISCUSSION

The current study found that the relation between peer victimization and self-cognitions varied as a function of age and gender. For girls, these interactions followed a consistent pattern, with PV predicting increases in negative self-cognitions and decreases in positive self-cognitions on most measures for younger girls. For boys, peer victimization and self-cognitions were not significantly related at any age for the majority of self-cognitions assessed. These results are discussed in detail below.

Seven types of self-cognitions were included in the current study: self-perceptions of personal failure, social threat, physical attractiveness, global self-worth, and social competence, as well as positive or negative views of one's self, world, and future. These cognitions were selected because of their hypothesized roles as vulnerability factors for future depression. Among girls, the experience of peer victimization prospectively predicted changes in six of these seven domains. Of these, five followed a highly similar pattern. Experiencing high levels of physical or relational peer victimization was associated with longitudinal decreases in global self-worth and positive cognition, as well as increases in perceptions of personal failure, social threat, and negative cognition. The effect was significant for girls from 8.7 to roughly 11 years of age and was stronger at younger ages.

This pattern did not hold for girls for two of the cognitive domains examined in the current study. Contrary to expectations, neither physical nor relational peer victimization predicted changes in self-perceived social competence for girls at any age. Alternatively, peer

victimization did predict changes in self-perceptions of physical attractiveness, but this effect was in an unexpected direction, with higher levels of peer victimization predicting increases in self-perceived attractiveness. Additionally, this effect was significant only for older girls, and the strength of this effect increased with age.

The results for boys in this sample were not similar to those observed among the girls. On the majority of measures administered, there was not a significant relation between victimization and future self-cognitions. Among boys, physical victimization only predicted increases in self-perceptions of failure and negative views of one's self, world, and future, and this effect was significant at slightly older ages than it was for girls. Subsequent to relational victimization, boys experienced small but significant increases in feelings of failure; again, this occurred at a slightly later age than it did for girls (11 to 12 years for boys, compared to 8.7 to 11.5 years for girls). Relational victimization also predicted changes in positive cognition, albeit in an unexpected direction, with boys experiencing higher levels of victimization also reporting more positive cognition.

Considered jointly, these findings have significant theoretical implications. First, the experience of peer victimization during middle childhood and early adolescence does indeed contribute to the development of some, but perhaps not all, cognitive risk factors among girls. Existing research in this area has largely examined PV as a salient stressor that can interact with existing cognitive diatheses to produce negative mental health outcomes. As noted earlier, these are two complementary perspectives that need not be in competition with each other. It may be the case that peer victimization influences the development of certain cognitive diatheses for depression among younger girls, while peer victimization during adolescence acts as a salient stressor that can activate existing diatheses. A comparison of these models is beyond the scope of

the current article, but further exploration of this hypothesis may help resolve some of the conflicting findings on the impact of victimization while also contributing to our understanding of the changing nature of cognitive vulnerabilities across childhood and adolescence (Cole et al, 2008).

Second, the effects of victimization on self-cognitions were strongest for younger girls. Though age had not previously been tested as a moderator of this relation, the current results correspond to related findings that self-perceptions become increasingly stable across middle childhood and early adolescence (Cole et al, 2008; Hankin & Abela, 2005; LaGrange et al, 2008; Wigfield, Eccles et al, 1997). Accordingly, the impact of peer victimization was strongest at younger ages, when self-relevant cognitions were still relatively malleable. Future research in this area could help clarify whether these effects are responsive to intervention or whether they consolidate into enduring patterns that remain stable over longer periods of time.

Third, the development of cognitive diatheses differs for boys and girls. With the exception of global self-worth, victimization was not consistently predictive of self-cognitions for boys. This result is partially supported and partially contradicted by a study by Troop-Gordon and Ladd (2005), which found that peer victimization predicted decreases in self-perceived social competence and global self-esteem for both boys and girls. A consensus has yet to emerge from the current literature on gender differences in the effects of peer victimization, and the current study does not resolve this; however, the results do clearly implicate the importance of considering gender as a salient variable in this domain.

Results of the current study also have important practical and clinical implications. At the broadest level, our finding that both relational and physical PV are associated with prospective declines in positive self-cognitions and increases in negative self-cognitions highlights the

importance of intervening with children who are victimized by their peers. The conventional wisdom about “sticks and stones” has been contradicted by studies from a range of disciplines, and the current study directly demonstrates that both physical and relational aggression hurts children in significant and lasting ways. This is particularly disconcerting, given the high prevalence of victimization during middle childhood (Olweus, 1995; Pelligreni & Long, 2002; Sinclair & Cole, in press). Teachers, school officials, and parents should be aware that the experience of peer victimization, whether physical or not, can damage self-cognitions in a way that can confer risk for negative mental health outcomes, and the importance of recognizing and responding to peer victimization must be emphasized.

More specifically, our findings provide a rationale for identifying subgroups of victimized children who may substantially benefit from interventions to offset the negative impact of PV. For example, our consistent finding that girls ages 11 and younger were most strongly affected by PV indicates that such children should be the focus of targeted prevention efforts. Moreover, interventions should be aimed at victims of relational as well as physical victimization. Existing anti-bullying programs focus predominantly on physical victimization, but our results indicate that they should be expanded to include relational victimization as well. An important avenue for future work includes the examination of the effects of prevention programs such as the Olweus Bullying Prevention Program (Olweus et al, 2007) to determine whether they are effective in combating relational victimization as well as physical victimization.

These findings and recommendations must be considered in light of methodological limitations. Most importantly, although the current study was longitudinal, it was not experimental. While the results provide preliminary support for the relation between victimization and cognitive risk factors, strong causal inferences are not possible without random

assignment to treatment and control conditions. Future studies of controlled prevention efforts could significantly enhance our understanding of cause-effect relations in this domain.

Additionally, the current findings have led us to speculate that the link between victimization and future depression might be mediated by the impact of victimization on negative self-cognitions; however, such conclusions await multi-wave longitudinal investigations in which victimization, cognition, and depression are all tracked over time. Despite these shortcomings, the current study indicates promising avenues for further research and highlights several important considerations for future work in this field.

REFERENCES

- Aiken, L.S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage Publications.
- Angold, A., Costello, E. J., & Worthman, C. M. (1998). Puberty and depression: The roles of age, pubertal status and pubertal timing. *Psychological Medicine*, *28*, 51-61.
- Barchia, K., & Bussey, K. (2010). The psychological impact of peer victimization: Exploring self-cognitive mediators of depression. *Journal of Adolescence*, *33*, 615-623.
- Boivin, M., Hymel, S., & Bukowski, W. M. (1995). The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology*, *7*, 765-685.
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology*, *18*, 557-570.
- Cole, D. A. (1991). Preliminary support for a competency-based model of depression. *Journal of Abnormal Psychology*, *100*(2), 181-190.
- Cole, D. A., Ciesla, J. A., Dallaire, D. H., Jacquez, F. M., Pineda, A. Q., LaGrange, B., Truss, A. E., Folmer, A. S., Tilghman-Osborne, C., & Felton, J. W. (2008). Emergence of attributional style and its relation to depressive symptoms. *Journal of Abnormal Psychology*, *117*(1), 16-31.
- Cole, D. A., Jacquez, F., & Maschman, T. L. (2001). Social origins of depressive cognitions: A longitudinal study of self-perceived competence in children. *Cognitive Therapy & Research*, *25*, 377-395.
- Cole, D. A., Maxwell, M. A., Dukewich, T. L., & Yosick, R. (2010). Targeted peer victimization and the construction of positive and negative self-cognitions: Connections to depressive symptoms in children. *Journal of Clinical Child and Adolescent Psychology*, *39*(3), 421-445.
- Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multi-informant approach. *Journal of Consulting and Clinical Psychology*, *66*, 337-347.
- Crick, N. R., Casas, J. F., & Ku, H. (1999). Relational and physical forms of peer victimization in preschool. *Developmental Psychology*, *35*(2), 376-385.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, *66*(3), 710-722.

- Cyranowski, J. M., Frank, E., Young, E., & Shear, M. K. (2000). Adolescent onset of the gender difference in lifetime rates of major depression. *Archives of General Psychiatry*, *57*(1), 21-27.
- Dearing, E., Hamilton, L. C., McCartney, K., Burchinal, M. R., & Bub, K. L. (2006). Contemporary advances and classic advice for analyzing mediating and moderating variables. *Monographs of the Society for Research in Child Development*, *71*(3), 88-104.
- French, D. C., Jansen, E. A., & Pidada, S. (2002). United States and Indonesian children's and adolescents' reports of relational aggression by disliked peers. *Child Development*, *73*(4), 1143-1150.
- Garber, J. (1984). Classification of childhood psychopathology: A developmental perspective. *Child Development*, *55*, 30-48.
- Hankin, B. L., & Abela, J. R. Z. (2005). Depression from childhood through adolescence and adulthood: A developmental vulnerability-stress perspective. In B. Hankin & J. Abela (Eds.), *Development of psychopathology: A vulnerability-stress perspective* (pp. 245-258). Thousand Oaks, California: Sage Publications.
- Hankin, B. L., & Abramson, L. Y. (2001). Development of gender differences in depression: An elaborated cognitive vulnerability-transactional stress theory. *Psychological Bulletin*, *127*(6), 773-796.
- Hankin, B. L., Abramson, L. Y., Moffitt, T. E., Silva, P. A., McGee, R., & Angell, K. E. (1998). Development of depression from preadolescence to young adulthood: Emerging gender differences in a 10-year longitudinal study. *Journal of Abnormal Psychology*, *107*(1), 128-140.
- Harter, S. (1982). The perceived competence scale for children. *Child Development*, *53*, 87-97.
- Harter, S. (1985). *Manual for the Self-Perception Profile for Children*. Denver, CO: University of Denver.
- Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry*, *41*, 441-455
- Hyde, J. S., Mexulis, A. H., & Abramson, L. Y. (2008). The ABCs of depression: Integrating affective, biological, and cognitive models to explain the emergence of the gender difference in depression. *Psychological Review*, *115*(2), 291-313.
- Kaslow, N. J., Stark, K. D., Printz, B., Livingston, R., & Tsai, S. L. (1992). Cognitive Triad Inventory for Children: Development and relation to depression and anxiety. *Journal of Clinical Child Psychology*, *21*, 339-347.

- LaGrange, B., Cole, D. A., Dallaire, D.H., Ciesla, J. A., Pineda, A. Q., Truss, A. E., & Folmer, A. (2008). Developmental changes in depressive cognitions: A longitudinal evaluation of the Cognitive Triad Inventory for Children *Psychological Assessment*, *20*, 217-226.
- Nolen-Hoeksema, S. (1990). *Sex differences in depression*. Stanford, CA: Stanford University Press.
- Nolen-Hoeksema, S., & Girgus, J. S. (1994). The emergence of gender differences in depression during adolescence. *Psychological Bulletin*, *115*(3), 424-443.
- Olweus, D. (1995). Bullying or peer abuse at school: Facts and interventions. *Current Directions in Psychological Science*, *4*(6), 196-200.
- Olweus, D., Limber, S. P., Flerx, V. C., Mullin, N., Riese, J., & Snyder, M. (2007). *Olweus Bullying Prevention Program: Schoolwide guide*. Center City, MN: Hazelden.
- Panak, W. F., & Garber, J. (1992). Role of aggression, rejection, and attributions in the prediction of depression in children. *Development and Psychopathology*, *4*(1), 145-165.
- Paquette, J. A., & Underwood, M. K. (1999). Gender differences in young adolescents' experiences of peer victimization: Social and physical aggression. *Merrill-Palmer Quarterly*, *45*(2), 242-266.
- Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, *31*(4), 437-448.
- Prinstein, M. J., & Aikins, J. W. (2004). Cognitive moderators of the longitudinal association between peer rejection and adolescent depressive symptoms. *Journal of Abnormal Child Psychology*, *32*(2), 147-158.
- Prinstein, M. J., Boegers, J., & Vernberg, E. M. (2001). Overt and relational aggression in adolescents: Social-psychological adjustments of aggressors and victims. *Journal of Clinical Child Psychology*, *30*(4), 479-491.
- Rholes, W. S., & Ruble, D. N. (1984). Children's understanding of dispositional characteristics of others. *Child Development*, *55*, 550-560.
- Rigby, K., & Slee, P. (1999). Suicidal ideation among adolescent school children, involvement in bully-victim problems, and perceived social support. *Suicide and Life-Threatening Behaviors*, *29*(2), 119-130.
- Roland, E. (2002). Bullying, depressive symptoms, and suicidal thoughts. *Educational Research*, *44*(1), 55-67.
- 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.

- Schniering, C. A., & Rapee, R. M. (2002). Development and validation of a measure of children's automatic thoughts: The children's automatic thoughts scale. *Behaviour Research and Therapy*, 40, 1091–1109.
- Schwartz, D., Gorman, A. H., Nakamoto, J., & Toblin, R. L. (2005). Victimization in the peer group and children's academic functioning. *Journal of Educational Psychology*, 97(3), 425-435.
- Sinclair, K. R., & Cole, D. A. (In press). Impact of physical and relational peer victimization on self-cognitions in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*.
- Smith, R. L., Rose, A. J., & Schwartz-Mette, R. A. (2010). Relational and overt aggression in childhood and adolescence: Clarifying mean-level gender differences and associations with peer acceptance. *Social Development*, 19(2), 243-268.
- Storch, E. A., Masia-Warner, C., Crisp, H., & Klein, R. G. (2005). Peer victimization and social anxiety in adolescence: A prospective study. *Aggressive Behavior*, 31(5), 437-452.
- 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(5), 1072-1091.
- Wigfield, A., Eccles, J. S., Yoon, K. S., Harold, R. D., Arbretton, A. J. A., Freedman-Doan, C., & Blumenfeld, P. C. (1997). Change in children's competence beliefs and subjective task values across the elementary school years: A 3-year study. *Journal of Educational Psychology*, 89(3), 451-469.