

Reciprocal Influences Among Relational Self-Views, Social Disengagement, and Peer Stress During Early Adolescence

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This study examined reciprocal-influence models of the association between relational self-views and peer stress during early adolescence. The first model posited that adolescents with negative self-views disengage from peers, creating stress in their relationships. The second model posited that exposure to peer stress fosters social disengagement, which elicits negative self-views. Participants were 605 early adolescents (M age = 11.7). As part of a 3-wave longitudinal study adolescents reported on self-views and stress, and teachers reported on social disengagement. As hypothesized, negative self-views predicted social disengagement, which contributed to peer stress. Stress predicted subsequent disengagement and negative self-views. These findings suggest that adolescents and their environments participate in reciprocal-influence processes that account for cross-temporal continuity in personal attributes of youth and their social experiences.

Transactional perspectives on development emphasize the complex interchanges that emerge between individuals and their social contexts over time (Boyce et al., 1998; Caspi, Elder, & Bem, 1987, 1988; Cicchetti & Aber, 1998; Lerner, 1978, 1987; Sameroff, 1975; Sameroff & MacKenzie, 2003; Scarr & McCartney, 1983; Sroufe & Rutter, 1984). In particular, these perspectives propose that individuals play an active role in constructing and shaping environments that, in turn, influence their future developmental trajectories. These person–environment transactions are believed to promote continuity in development over time. Despite the proliferation of such transactional perspectives, and their more recent application to theories of peer relationships (e.g., Crick & Dodge, 1994; Parker, Rubin, Price, & DeRosier, 1995; Rubin, Bukowski, & Parker, 1998; Rubin, LeMare, & Lollis, 1990; Rudolph & Asher,

2000), empirical research on peer relationships often focuses on a single direction of influence. Whereas some research emphasizes how experiences in the peer group influence the psychological and emotional well-being of youth, other research emphasizes how attributes of youth contribute to their behavior and experiences with peers. The objective of the present research was to unite these two theoretical perspectives to understand possible reciprocal-influence processes between youth and their social worlds. Specifically, the hypothesized models emphasized the transactions among youth's relational self-views, engagement in the peer group, and stressful peer experiences.

Transactional Framework of Peer Relationship Processes

The present research integrates theoretical perspectives that consider (a) how youth contribute to stressful peer experiences and environments (stress-generation models), and (b) how stressful peer experiences influence youth's self-views and behavior (stress-reaction models). We proposed that adolescents with negative relational self-views would disengage from their peer groups, creating stressful interpersonal circumstances, which would, in turn, intensify their tendency to disengage from peers and their consequent negative self-views.

Stress generation. Based on the principle of dynamic interactionism, several developmental theories suggest that youth actively select, process, and contribute to their environments in ways that maintain their individual predispositions over time (Lerner, 1978, 1987). For example, Caspi et al. (1987, 1988)

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have proposed that dispositional tendencies, such as shyness and ill-tempereness, persist across the life course through two processes—cumulative continuity and interactional continuity—whereby individual predispositions elicit personal and interpersonal consequences that reinforce and sustain these tendencies across development. Similarly, theories of genotype–environment correlations (O'Connor, Deater-Deckard, Fulker, Rutter, & Plomin, 1998; Scarr & McCartney, 1983) emphasize how genetically determined attributes of individuals promote the selection and construction of environments that consolidate these attributes over time.

Consistent with these models, the present research examined how one personal attribute of youth, namely, views regarding their worth and efficacy in peer relationships, influences their future behavior in ways that elicit maintaining responses from their peers. In particular, this research drew from a model of stress generation that originated in efforts to understand the stressful life circumstances of depressed individuals (Hammen, 1991, 1992). According to this model, depression, associated impairment, and personal attributes linked to depression cause depressed individuals to generate stressful circumstances, which trigger, maintain, or exacerbate depressive reactions. In support of this model, research shows that depressed women (Hammen, 1991), female adolescents (Daley et al., 1997), and youth (Rudolph et al., 2000) experience high levels of self-generated stress, particularly stress of an interpersonal nature. However, research suggests that personal attributes and behaviors other than depression contribute to the stress-generation cycle, including age and sex (Rudolph & Hammen, 1999; Rudolph et al., 2000), personality styles (Daley et al., 1997; Nelson, Hammen, Daley, Burge, & Davila, 2001), interpersonal competence (Herzberg et al., 1998), interpersonal problem-solving ability (Davila, Hammen, Burge, Paley, & Daley, 1995), and social support behaviors (Davila, Bradbury, Cohan, & Tochluk, 1997).

Integrating transactional models of development with stress-generation models of psychopathology, we proposed that deprecating relational self-views (i.e., beliefs that one is ineffective and unworthy in the context of peer relationships) contribute to continuity in youth's developmental trajectories by fostering behaviors that create stress in their relationships. Youth who perceive themselves as underserving of peers' attention or ineffective in peer relationships will likely approach social situations in a manner that leads to isolation or rejection. Specifically, these youth may withdraw from social inter-

actions to protect themselves from expected maltreatment by peers and may give up easily when faced with challenging social situations. They also may fail to initiate prosocial interactions because of a fear of being rebuffed. This social disengagement may interfere with the establishment of close relationships or may even elicit overt teasing, exclusion, and related stressful experiences in the peer group (e.g., Boivin & Hymel, 1997; Boivin, Hymel, & Bukowski, 1995; Rubin, Chen, & Hymel, 1993; Rubin et al., 1990).

Consistent with this proposed stress-generation process, theory and research (for reviews, see Crick & Dodge, 1994; Parker et al., 1995; Rudolph & Asher, 2000) link negative self-views and biased attributions and schemas about social events to a broad range of maladaptive interpersonal behaviors and problems in peer relationships, including social withdrawal (Rubin & Mills, 1988), loneliness (Cillessen & Bellmore, 1999), peer rejection (Boivin & Begin, 1989; Cillessen & Bellmore, 1999), peer neglect (Patterson, Kupersmidt, & Griesler, 1990), victimization (Egan & Perry, 1998), and lack of reciprocal friendships (Cassidy, Kirsh, Scolton, & Parke, 1996). More specifically, Rudolph and colleagues (Rudolph, Hammen, & Burge, 1995) found that youth with negative relational self-views tended to engage in less positive dyadic interactions with unfamiliar peers during a conflict-negotiation task. In addition, these youth were more likely to be rejected at school. Research also shows that internal (specifically, personal incompetence) attributions for social failure are linked to helpless responses to rejection (Goetz & Dweck, 1980). Moreover, rejection sensitivity (i.e., the tendency to expect defensively, perceive readily, and overreact to social rejection; Downey, Lebolt, Rincon, & Freitas, 1998; Purdie & Downey, 2000) predicts a range of maladaptive social behaviors and interpersonal difficulties.

Maladaptive social behaviors characteristic of youth with negative relational self-views may, in turn, precipitate stress in peer relationships. Displays of helplessness and social avoidance may mark youth as suitable targets of aggressive acts or may lead to social isolation and poor quality friendships. Peers may harass or victimize youth who show avoidant and helpless behavior because these youth may be viewed as unusual, vulnerable, and lacking in social resources (e.g., other peers may be unwilling to defend them against mistreatment). Consistent with this idea, lack of social initiative, low rates of assertive behavior, and withdrawal predict exposure to peer victimization (Hodges, Malone, & Perry, 1997; Schwartz, Dodge, & Coie, 1993). Peers also may

actively isolate such youth by blocking their access to peer activities and relationships. Such lack of social initiative also is likely to prevent youth from forming high-quality friendships. Thus, many types of peer stress may result from social disengagement.

Stress reactions. Although relational self-views may influence youth's behavior and experiences in the peer group, these social interactions are likely to exert reciprocal effects on self-views. Indeed, symbolic interactionist theories (Cooley, 1902; Mead, 1934) suggest that the judgments of significant others are incorporated over time into one's own self-concept (see also Berndt & Burgoyne, 1996; Cillessen & Bellmore, 1999; Harter, 1998). Because peers represent a key aspect of youth's social worlds, particularly during adolescence, views of one's social self-worth and self-efficacy stemming from other sources (e.g., early interactions within the family) may be further molded by experiences with peers during this period. That is, peers may represent the generalized other (Mead, 1934) that helps shape self-perceptions (Harter, Waters, & Whitesell, 1998). For example, youth who are mistreated or excluded by peers and who have few friends may begin to believe that they are ineffective at forming healthy relationships and unworthy of peers' attention and respect. Consistent with this idea, research suggests that relationship adversity in the form of rejection, victimization, and friendlessness is linked to negative self-appraisals, including self-blame for peer problems, lower levels of perceived social self-competence, and diminished social and global self-worth (Boivin & Begin, 1989; Egan & Perry, 1998; Graham & Juvonen, 1998; Ladd & Troop-Gordon, 2003; Rudolph et al., 1995; Troop-Gordon & Ladd, 2003). Moreover, actual appraisals and children's perceptions of appraisals from others, including peers, predict self-worth in relationships and self-perceived social competence over time (Cole, Jacques, & Maschman, 2001; Harter et al., 1998). Disruptions in peer relationships (e.g., loss of friends, social isolation, conflicts) also contribute to subsequent lower levels of perceived social efficacy (Rudolph, Kurlakowsky, & Conley, 2001).

Stressful peer interactions also likely influence youth's social behavior, perhaps causing them to disengage from the peer group. Youth who are exposed to maltreatment or isolation and who have little friendship support may withdraw from peers and engage in few efforts to develop new relationships to avoid further exposure to social failure. In support of this hypothesis, aversive social experiences such as peer exclusion, victimization, and other forms of social disruption predict higher levels

of submissiveness, avoidance, and helplessness, and lower levels of social initiative concurrently (e.g., Crick & Bigbee, 1998; Schwartz et al., 1998) and over time (e.g., Gazelle & Rudolph, 2004; Rudolph, Kurlakowsky, et al., 2001).

We expected, therefore, that youth who were exposed to stressful peer relationships (e.g., isolation, conflicts, lack of friends or poor quality friendships) would disengage from their peers and develop negative views of their social self-worth and self-efficacy. It is possible that social disengagement accounts for the adverse influence of stressful peer experiences on self-views. That is, youth may disengage in response to stress and then interpret their disengagement as a sign of social incompetence. For example, research shows that social withdrawal contributes to negative self-regard over time (Rubin, Chen, McDougall, Bowker, & McKinnon, 1995). Alternatively, stressful experiences may contribute independently to both social disengagement and negative self-views.

Overview of the Present Study

The present study examined two complementary models of the associations among relational self-views, social disengagement, and peer stress. According to the first model, youth with negative views of their social self-worth and self-efficacy disengage from their peers by showing low levels of social initiative, withdrawing from social interactions, and giving up easily when faced with challenging social situations. This disengagement then creates stressful peer relationships, reflected in such problems as social isolation, teasing, and poor quality friendships. According to the second model, exposure to stressful peer circumstances fosters disengagement, causing youth to adopt negative views of their social worth and efficacy. Together, these models suggest that personal attributes of youth (i.e., negative self-views) shape their social environment (i.e., peer stress), which then further shapes personal attributes. It is proposed that youth's social behavior, a construct that lies at the intersection of person and environment, mediates these reciprocal influences.

This study contributes beyond prior research on the associations among self-views, social engagement, and peer relationship experiences in several ways. Although research demonstrates associations among several aspects of the proposed models, much of this research relies on concurrent data, making it difficult to draw conclusions about the direction of influence. Moreover, little research examines both directions of influence within the same

study. The present study tested the proposed reciprocal-influence processes across a 1-year period. Furthermore, this study included more comprehensive assessments of key constructs in the model. In contrast to prior research in this area, which focuses almost exclusively on self-appraisals as reflected in perceived social acceptance or global self-worth, this investigation examined perceptions of social self-worth, specific social competencies, and self-efficacy in peer relationships. Social disengagement was assessed in terms of low levels of prosocial initiative, high levels of social withdrawal, and helpless responses to social challenges (e.g., a lack of persistence when rejected). Multiple aspects of stressful peer experiences were assessed, including ongoing strains and disruptions in relationships within the general peer group (e.g., isolation, exclusion, conflict) and within friendships (e.g., lack of availability, closeness, and support; loss of friends), as well as the experience of stressful life events with peers and friends (e.g., arguments).

The proposed models were examined in a sample of early adolescents. Adolescence is a formative stage of development for the emergence of peer relationships. During adolescence, the peer group acts as a salient socialization context, and youth begin to rely more on peers for social support (Furman & Buhrmester, 1992). Youth's relational self-views are therefore likely to play a critical role in shaping their behavior and experiences with peers during this time. Specifically, youth with negative self-views may begin to move away from the peer group just as most of their agemates are moving even closer to the peer group. This disengagement would likely be viewed by peers as unusual, thereby provoking negative reactions. Indeed, research suggests that social withdrawal is particularly likely to elicit rejection and harassment by peers during later childhood (Boivin, Hymel, & Hodges, 2001; Rubin, 1993), leading researchers to suggest that negative views of disengagement develop with age (Rubin & Asendorpf, 1993) and may peak during adolescence. Because of the important role of peer judgments in self-definition and identity development during adolescence (Harter et al., 1998), such negative reactions are likely to reinforce youth's tendency to withdraw from peers and to damage further youth's views of their social worth and efficacy. Indeed, adolescents' greater capacity for abstraction and self-reflection may create a stronger likelihood that they incorporate relationship experiences into their self-views than would occur earlier in development (Harter, Stocker, & Robinson, 1996; Ladd & Troop-Gordon, 2003).

Method

Participants

Participants were 605 early adolescents who were recruited from several elementary and middle schools in a Midwestern school district to participate in the University of Illinois Transition to Adolescence Project (Gazelle & Rudolph, in press; Rudolph & Clark, 2001; Rudolph, Kurlakowsky, et al., 2001; Rudolph, Lambert, Clark, & Kurlakowsky, 2001). These adolescents constituted the second cohort of the larger study. The sample was composed of fifth and sixth graders (305 girls, 300 boys) with a mean age at the first assessment of 11.7 years ($SD = .68$). The ethnic composition was 60.8% White, 32.4% African American, 3.8 % Asian American, 0.5% Latino, and 2.5% other. The participating school district included families from a wide range of socioeconomic classes, with 36% of the adolescents receiving a federally subsidized school lunch. At Wave 1, teacher data were available for 99.7% of the eligible students in the targeted schools, and adolescent data were available for 97.2% of the eligible students, resulting in a highly representative sample of the geographic region. Of those adolescents who participated in the Wave 1 administration, 91% participated at Wave 2, and 81% participated at Wave 3. Because the program used for structural equation modeling (SEM) allowed for missing data, youth with child data only or teacher data only were included in tests of the models, resulting in total participation rates of 96% and 90% at Waves 2 and 3, respectively.

Procedures

Participants completed measures at three time points, each separated by approximately 6 months. Measures were administered in classrooms by a graduate student in psychology or by trained undergraduates. Researchers read each item and response option aloud as participants followed along and provided a written recording of their responses. Teachers completed measures of social disengagement at each wave.

Measures

Table 1 provides psychometric information on the measures. Adequate internal consistency and test-retest reliability were found, although the internal consistencies of the dependent life stress measure and the perceived control measure were moderate. Tables 2 through 4 present bivariate correlations among the variables.

Table 1
Psychometric Properties of the Measures

Measure	Internal consistency			Stability correlations		
	Wave 1 α	Wave 2 α	Wave 3 α	Wave 1–2	Wave 1–3	Wave 2–3
Relational self-views						
Social self-worth	.79	.78	.82	.55***	.47***	.58***
Social self-competence	.58	.60	.67	.48***	.38***	.54***
Perceived control	.49	.46	.57	.42***	.40***	.55***
Social disengagement						
Social helplessness	.92	.93	.94	.44***	.41***	.68***
Social withdrawal	.69	.65	.69	.39***	.37***	.58***
Prosocial behavior	.85	.83	.87	.45***	.39***	.65***
Peer stress						
Dependent episodic stress	.45	.51	.43	.37***	.22***	.33***
Chronic strain	.84	.81	.84	.57***	.41***	.54***
Role disruption	.84	.85	.84	.50***	.41***	.55***

*** $p < .001$.

Relational self-views. Adolescents' relational self-views were assessed with two measures. First, adolescents completed the Self subscale of the Perceptions of Peers and Self Questionnaire (Rudolph & Clark, 2001; Rudolph et al., 1995). This subscale examines appraisals of social self-worth (e.g., "It's a waste of other kids' time to be friends with me") and social self-competence (e.g., "If another kid makes me angry or sad, I am not good at standing up for myself") in the context of peer relationships. Each item is rated on a 4-point scale (1 = *not at all* to 4 = *very much*). Two separate scores were calculated as the means of the eight self-worth items and the seven self-competence items, with higher scores

reflecting more negative self-views. This measure shows strong internal consistency and test-retest reliability (Rudolph & Clark, 2001; Rudolph et al., 1995; Rudolph, Hammen, & Burge, 1997; see also Table 1). Convergent and predictive validity have been established through correlations with measures tapping conceptions of relationships and social competence (Rudolph et al., 1995). This measure also distinguishes in the expected ways among groups of youth with different social status and symptom profiles (Rudolph & Clark, 2001).

Second, adolescents completed an abbreviated version (Rudolph, Kurlakowsky, et al., 2001) of the Peer subscale of the Perceived Control Scale (Weisz,

Table 2
Correlations Between Negative Relational Self-Views and Social Engagement

	Social helplessness			Social withdrawal			Prosocial behavior		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Wave 1									
Social self-worth	.19***	.25***	.22***	.20***	.24***	.18***	-.12***	-.18***	-.10*
Social self-competence	.15***	.23***	.20***	.18***	.27***	.20***	-.09*	-.14***	-.10*
Perceived control	-.22***	-.18***	-.20***	-.14***	-.21***	-.20***	.12**	.11*	.13**
Wave 2									
Social self-worth	.15***	.21***	.20***	.18***	.23***	.16***	-.16***	-.18***	-.11*
Social self-competence	.10*	.17***	.16***	.17***	.20***	.15***	-.12**	-.16***	-.10*
Perceived control	-.08†	-.19***	-.13**	-.14**	-.17***	-.13**	.06	.11**	.07
Wave 3									
Social self-worth	.18***	.17***	.22***	.16***	.19***	.11*	-.15**	-.19***	-.18***
Social self-competence	.21***	.15***	.18***	.18***	.23***	.16***	-.17***	-.16***	-.14**
Perceived control	-.18***	-.15***	-.19***	-.13**	-.18***	-.15***	.16***	.20***	.14**

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3
Correlations Between Negative Relational Self-Views and Peer Stress

	Dependent peer stress			Peer chronic strain			Peer role disruption		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Wave 1									
Social self-worth	.13**	.16***	.12*	.53***	.42***	.30***	.50***	.32***	.24***
Social self-competence	.09*	.08 [†]	.06	.44***	.32***	.25***	.40***	.32***	.16***
Perceived control	-.02	-.08 [†]	-.13**	-.42***	-.36***	-.23***	-.46***	-.32***	-.19***
Wave 2									
Social self-worth	.11*	.17***	.11*	.42***	.47***	.44***	.36***	.46***	.33***
Social self-competence	.05	.11*	.03	.33***	.37***	.31***	.29***	.42***	.25***
Perceived control	-.08 [†]	-.13**	-.07	-.32***	-.41***	-.28***	-.32***	-.45***	-.29***
Wave 3									
Social self-worth	.10*	.16**	.14**	.38***	.46***	.45***	.35***	.37***	.41***
Social self-competence	.04	.13**	.11*	.26***	.34***	.41***	.23***	.27***	.38***
Perceived control	-.07	-.11*	-.15**	-.32***	-.42***	-.43***	-.29***	-.39***	-.45***

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

Southam-Gerow, & McCarty, 2001). This measure examines the degree to which adolescents feel that they are able to exert control over success in peer relationships (e.g., "I can get other kids to like me if I try"). Each item is rated on a 4-point scale (1 = *not at all* to 4 = *very much*). Scores were calculated as the mean of the four items, with higher scores reflecting enhanced perceptions of control. Reliability and validity of this measure have been demonstrated in prior research. For example, consistent with Weisz et al.'s (2001) conceptual model, perceptions of control are jointly predicted by perceived competence and perceived contingency. Moreover, consistent with theories of depression, low perceptions of con-

trol significantly predict depressive symptoms (Rudolph, Kurlakowsky, et al., 2001; Weisz et al., 2001).

Social disengagement. Teachers reported on three aspects of social engagement and disengagement. First, they completed the Social Helplessness Scale (Nolen-Hoeksema, Girgus, & Seligman, 1992). On a 5-point scale (1 = *not true* to 5 = *very true*), teachers rate the tendency of the student to exhibit helpless behavior in the context of peer interactions (e.g., "Shows little persistence when trying to get along with a classmate"; "Is easily discouraged in his/her attempts to get along with other children"). Scores were calculated as the mean of the 12 items, with higher scores reflecting more socially helpless

Table 4
Correlations Between Social Engagement and Peer Stress

	Dependent peer stress			Peer chronic strain			Peer role disruption		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Wave 1									
Social helplessness	.16***	.16***	.15**	.26***	.24***	.22***	.19***	.17***	.28***
Social withdrawal	-.01	-.03	-.04	.14***	.10*	.07	.11**	.07	.13**
Prosocial behavior	-.22***	-.24***	-.15***	-.15***	-.20***	-.24***	-.14***	-.17***	-.23***
Wave 2									
Social helplessness	.25***	.26***	.07	.36***	.34***	.22***	.21***	.23***	.18***
Social withdrawal	.07	.05	-.08	.25***	.26***	.21***	.16***	.18***	.17***
Prosocial behavior	-.24***	-.20***	-.11*	-.18***	-.22***	-.25***	-.15***	-.11**	-.13**
Wave 3									
Social helplessness	.13**	.21***	.07	.29***	.32***	.28***	.22***	.25***	.31***
Social withdrawal	-.03	.04	-.09+	.15***	.13**	.21***	.12**	.11*	.14**
Prosocial behavior	-.18***	-.17***	-.13***	-.16***	-.15***	-.20***	-.12**	-.10*	-.16***

* $p < .05$. ** $p < .01$. *** $p < .001$.

behavior. Reliability and validity of this measure have been established in past research. For example, social helplessness has been linked to low levels of prosocial behavior and peer popularity, high levels of anxious solitude, and depressive symptoms (Gazelle & Rudolph, in press; Nolen-Hoeksema et al., 1992; Rudolph, Kurlakowsky, et al., 2001).

Teachers also completed the Social Withdrawal and Prosocial subscales of the Teacher Assessment of Social Behavior (Cassidy & Asher, 1992). Each subscale contains three items, rated on a 5-point scale (1 = *very uncharacteristic*, 3 = *neutral*, 5 = *very characteristic*). Scores were calculated as the mean of the three items on each scale, with higher scores representing higher levels of withdrawal (e.g., "This child is shy/withdrawn") and prosocial behavior (e.g., "This child is friendly and nice to other children"). Reliability and validity of this measure have been established in past research. For example, exploratory factor analysis yielded factors consistent with the hypothesized dimensions of social behavior, and teacher ratings of withdrawal and prosocial behavior are significantly associated with comparable peer assessments (Cassidy & Asher, 1992). Moreover, comparison of peer-based sociometric groups revealed that low-accepted children demonstrate higher levels of teacher-reported withdrawal and lower levels of prosocial behavior than do high-accepted children (Cassidy & Asher, 1992). Teacher ratings of withdrawal and prosocial behavior also are associated in the expected ways with psychological adjustment (Rudolph & Clark, 2001).

Peer stress. Three aspects of stress within peer relationships were assessed: stressful life events, chronic strain, and role disruption. For each measure, adolescents were asked to report on the amount of stress experienced since the last assessment (or in the past 6 months for the first assessment). First, adolescents' experience of stressful life events in the peer domain was assessed with the peer items from a modified version of the Life Events Questionnaire (Robinson, Garber, & Hilsman, 1995). Because the original measure included a limited number of peer events, several events related to peers were added. Adolescents first indicate whether they have experienced each event. For each event endorsed, they rate the degree of stressfulness on a 5-point scale (1 = *not bad at all* to 5 = *horrible*). To yield information about the objective impact of the stressors, a weighted life events score was calculated for each event by substituting the average impact rating across all adolescents for the score of any adolescent who had experienced the event (see Turner & Cole, 1994). This methodology was employed to prevent

the likelihood that scores would reflect adolescents' idiosyncratic perceptions of events, which may be confounded by their self-views or previous exposure to stress.

To determine the degree to which participants contributed to their experiences with peer stress, peer events were categorized as dependent if the adolescent likely played a role in creating the event or independent if the adolescent did not contribute to the occurrence of the event. Two coders independently categorized events as dependent or independent, and they reached 100% agreement. Only the three dependent life events (e.g., "You had a physical fight with another kid"; "You had a big fight or argument with a close friend"; "You had a problem other than a big fight or argument with a close friend") were included in calculating the life event scores. Higher scores indicate higher levels of dependent peer stress.

Second, peer chronic strain was assessed with the Peer subscale of the Child Chronic Strain Questionnaire (Rudolph, Kurlakowsky, et al., 2001). On a 5-point scale (1 = *not at all* to 5 = *very much*), adolescents rate the degree to which they have experienced ongoing difficulties in their peer relationships and friendships (e.g., "Are you often left out of games or other kids' activities at school?"; "Do you sometimes need someone to talk to about your feelings and you don't have a friend to listen?"). Scores were calculated as the mean of the 11 items, with higher scores reflecting more peer chronic strain. Although it is possible that adolescents experience chronic strain in their peer relationships that is entirely independent of their behavior (e.g., many of their friends suddenly move away), adolescents most likely contribute to the types of chronic strain assessed with this measure. Thus, chronic strain was viewed as a measure of ongoing dependent stress. This perspective is consistent with recent research that extends the concept of self-generated stress to include chronic stressful circumstances (Herzberg et al., 1998; Nelson et al., 2001). Validity of this measure has been established in prior research (Rudolph, Kurlakowsky, et al., 2001). Moreover, in a similar sample of early adolescents, a significant association was found between mothers' and adolescents' reports on this questionnaire, $r(59) = .41, p < .01$, providing evidence of convergent validity.

Third, recent disruptions in relationships were assessed with the Peer subscale of the Role Disruption Questionnaire (Rudolph, Kurlakowsky, et al., 2001). This measure assesses adolescents' experience of difficult recent changes in their peer relationships and friendships (e.g., "It is harder for me to get along with the other kids at school"; "I am not as close to

my friends"). Adolescents rate each item on a 5-point scale (1 = *not at all* to 5 = *very much*). Scores were calculated as the mean of the 10 items, with higher scores reflecting more peer role disruption. Strong internal consistency, test-retest reliability, and predictive validity of this measure have been established (Rudolph, Kurlakowsky, et al., 2001).

Convergent validity of the peer stress measures was established by correlating a composite measure of peer stress (sum of the standardized scores on the three measures) with teacher ratings of peer popularity peer exclusion. Peer stress was significantly negatively correlated with popularity (average within-wave $r = -.24$, $ps < .001$) and was significantly positively correlated with exclusion (average within-wave $r = .24$, $ps < .001$). These correlations are moderate in size, consistent with the fact that the measures of peer stress included a wide range of stressors beyond popularity and exclusion, but suggest that youth's reports of stress were associated with teacher perceptions of their peer relationship experiences.

Results

To examine the validity of the proposed models, we conducted SEM with Mplus Version 2.02, which uses

full information maximum likelihood to handle missing data (Muthén & Muthén, 1998). Two models were tested to examine the reciprocal influences between adolescents and their peer environments. The first model evaluated the extent to which Wave 2 social disengagement mediated the association between Wave 1 negative self-views and Wave 3 peer stress (see Figure 1). The second model evaluated the extent to which Wave 2 social disengagement mediated the association between Wave 1 peer stress and Wave 3 negative self-views (see Figure 2). Together, these models allowed for testing of reciprocal-influence processes.

In both models, negative self-views were represented by latent variables composed of three indicators: low perceived social self-worth, low perceived social self-competence, and low perceived control over social success. Social disengagement was represented by latent variables composed of three indicators: social helplessness, social withdrawal, and low prosocial behavior. Peer stress was represented by latent variables composed of three indicators: dependent stress, chronic strain, and role disruption. All of the indicators loaded significantly on their respective latent factors (see Figures 1 and 2). Covariance matrices for these models are available from the second author.

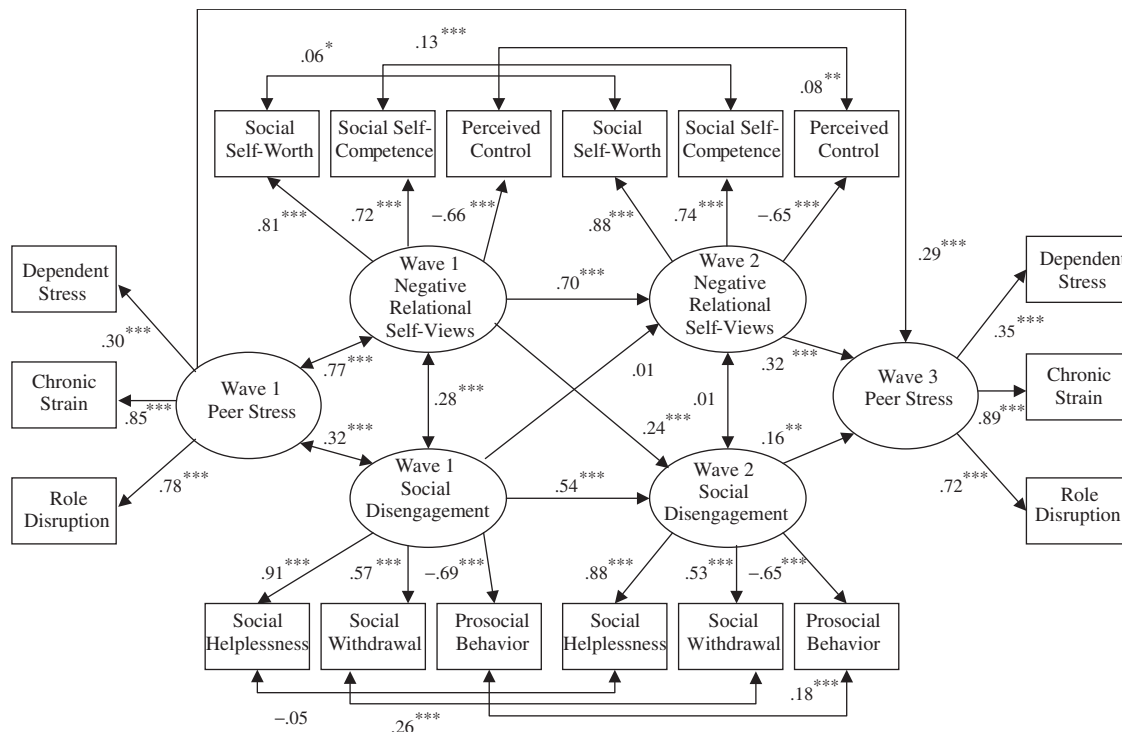


Figure 1. Model of Wave 2 social disengagement as a mediator of the link between Wave 1 negative relational self-views and Wave 3 peer stress. Correlations between Wave 1 and Wave 3 error terms for the peer stress indicators were as follows: dependent stress = $.16^{***}$, chronic strain = $.03$, role disruption = $.10^{***}$. * $p < .05$. ** $p < .01$. *** $p < .001$.

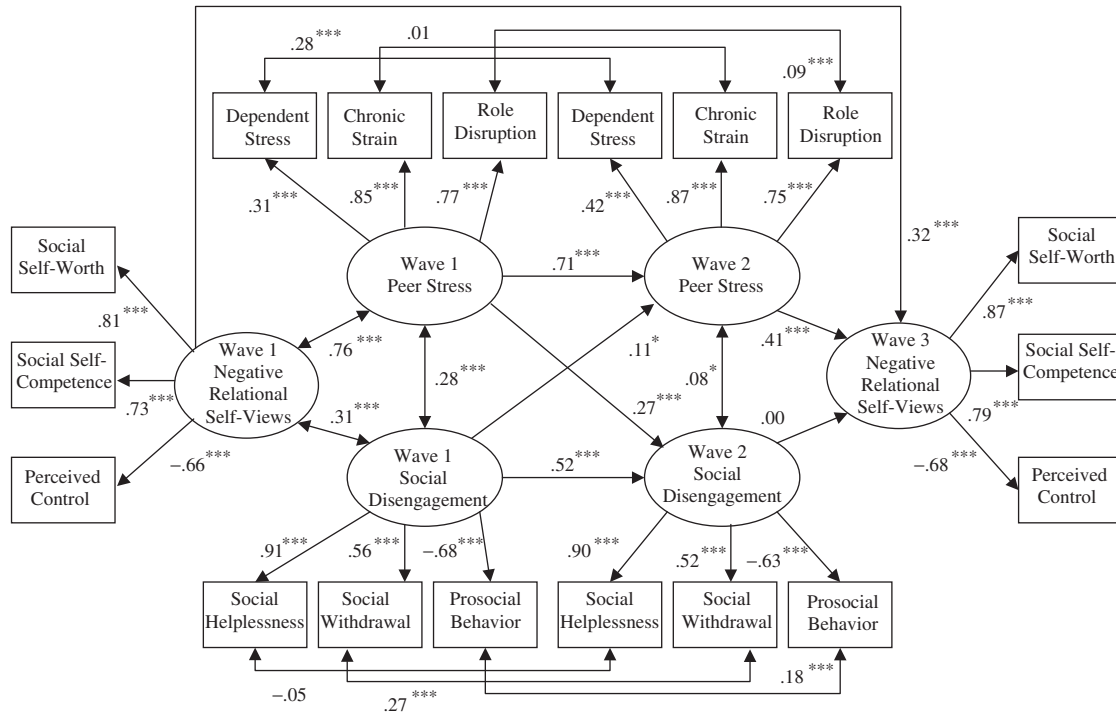


Figure 2. Model of Wave 2 social disengagement as a mediator of the link between Wave 1 peer stress and Wave 3 negative relational self-views. Correlations between Wave 1 and Wave 3 error terms for the negative relational self-views indicators were as follows: social self-worth = .09***, social self-competence = .08**, perceived control = .13***. * $p < .05$. ** $p < .01$. *** $p < .001$.

Stress-Generation Model

The first model evaluated the proposed stress-generation process (see Figure 1). This model included Wave 1 negative self-views as a predictor of Wave 2 social disengagement, and Wave 1 social disengagement as a predictor of Wave 2 negative self-views. Wave 2 negative self-views and Wave 2 social disengagement were set to predict Wave 3 peer stress. In addition, paths were included between Wave 1 peer stress and Wave 1 negative self-views and disengagement, as well as between Wave 1 peer stress and Wave 3 peer stress. This design enabled us to determine whether Wave 1 negative self-views contributed to Wave 2 social disengagement beyond the influence of earlier social disengagement, and whether Wave 2 social disengagement contributed to Wave 3 peer stress beyond the influence of earlier peer stress and negative self-views. The model also included the within-wave covariation between self-views and disengagement. Because significant stability was expected in self-views and disengagement, stability paths between these constructs at Wave 1 and Wave 2 were included. Finally, the errors between the same measures assessed at different waves were allowed to correlate.

As expected, Wave 1 negative self-views predicted Wave 2 social disengagement after adjusting for earlier disengagement. Wave 2 disengagement then predicted Wave 3 peer stress after adjusting for earlier stress. Wave 2 self-views also provided an independent contribution to Wave 3 peer stress. Wave 1 social disengagement was not a significant predictor of Wave 2 self-views. Significant cross-wave stability was found for negative self-views, social disengagement, and stress. A significant concurrent association was found between negative self-views and disengagement at Wave 1 but not at Wave 2. Significant concurrent associations also were found at Wave 1 between stress and self-views, and between stress and disengagement. This model provided a good fit to the data, $\chi^2(115, N = 605) = 292.19, p < .001$, comparative fit index (CFI) = .95, root mean square error of approximation (RMSEA) = .050 (90% confidence interval [CI] = .043 to .058), standardized root mean square residual (SRMR) = .051. The indirect effect of Wave 1 negative self-views on Wave 3 peer stress as mediated by Wave 2 social disengagement was significant, $\beta = .04, Z = 2.31, p < .05$, providing evidence for the proposed mediational pathway (Baron & Kenny, 1986; Kenny, Kashy, & Bolger, 1998). The indirect effect of Wave 1 disengagement on

Wave 3 peer stress as mediated by Wave 2 negative self-views was not significant, $\beta = .00$, $Z = .27$, *ns*, suggesting that self-views did not mediate the association between disengagement and peer stress. This model accounted for 37% of the variance in Wave 3 peer stress. Thus, findings support the stress-generation hypothesis that negative self-views predict disengagement from peers, which then elicits stress.

Stress-Reaction Model

The second model evaluated the proposed stress-reaction process (see Figure 2). This model included Wave 1 peer stress as a predictor of Wave 2 social disengagement, and Wave 1 social disengagement as a predictor of Wave 2 peer stress. Wave 2 peer stress and Wave 2 social disengagement were set to predict Wave 3 negative self-views. In addition, paths were included between Wave 1 negative self-views and Wave 1 peer stress and disengagement, as well as between Wave 1 self-views and Wave 3 self-views. This design enabled us to determine whether Wave 1 peer stress contributed to Wave 2 social disengagement beyond the influence of earlier social disengagement, and whether Wave 2 social disengagement contributed to Wave 3 negative self-views beyond the influence of earlier self-views and peer stress. The model also included the within-wave covariation between peer stress and disengagement. Once again, because significant stability was expected in peer stress and disengagement, these stability paths also were included. Finally, the errors between the same measures assessed at different waves were allowed to correlate.

Wave 1 peer stress predicted Wave 2 social disengagement after adjusting for earlier disengagement. However, Wave 2 social disengagement did not significantly predict Wave 3 negative self-views after adjusting for earlier self-views. Wave 1 disengagement significantly predicted Wave 2 peer stress after adjusting for earlier stress. Wave 2 stress, in turn, predicted Wave 3 self-views after adjusting for earlier self-views. Significant cross-wave stability was found for peer stress, social disengagement, and self-views. A significant concurrent association was found between peer stress and disengagement at Wave 1 and Wave 2. Significant concurrent associations also were found at Wave 1 between self-views and stress, and between self-views and disengagement. This model provided a good fit to the data, $\chi^2(115, N = 605) = 268.50$, $p < .001$, CFI = .96, RMSEA = .047 (90% CI = .040 to .054), SRMR = .049. The indirect effect of Wave 1 peer stress on Wave 3 self-views as mediated by Wave 2 social disengagement was

nonsignificant, $\beta = .00$, $Z = .05$, *ns*, suggesting that disengagement did not mediate the association between peer stress and self-views. However, the indirect effect of Wave 1 disengagement on Wave 3 self-views as mediated by Wave 2 peer stress was significant, $\beta = .05$, $Z = 2.20$, $p < .05$. Likewise, the indirect effect of Wave 1 peer stress on Wave 3 self-views as mediated by Wave 2 peer stress was significant, $\beta = .29$, $Z = 3.93$, $p < .001$. This model accounted for 42% of the variance in Wave 3 self-views. Thus, findings support the stress-reaction hypothesis that peer stress predicts both social disengagement and negative self-views. However the adverse influence of peer stress on self-views was not due to adolescents' own behavior in the peer group.

Discussion

Consistent with a transactional perspective on development and peer relationships, reciprocal influences were found between attributes of adolescents and their social environments over a 1-year period. Reflecting a stress-generation process, adolescents with deprecating relational self-views disengaged from their peers, which contributed to heightened stress in their relationships. Reflecting a stress-reaction process, peer stress contributed to subsequent social disengagement and negative self-views.

Stress-Generation Processes

In line with previous research demonstrating that negative self-views are associated with adverse social circumstances, this study indicated that low perceptions of social self-worth and self-efficacy have a disruptive influence on adolescents' interpersonal environments. Adolescents who viewed themselves as unworthy of peers' attention and respect, incompetent in important social tasks, and ineffective in achieving desirable social outcomes were more likely to disengage from their peers over a 6-month period. Specifically, they demonstrated lower levels of prosocial initiative, heightened withdrawal, and more helpless behavior when faced with social challenges. This disengagement, in turn, generated problems in their peer relationships, as reflected in stressful events (e.g., arguments with friends) and circumstances (e.g., chronic teasing by classmates, social isolation, absence of high-quality friendships). Social disengagement mediated the influence of earlier negative self-views on stress 1 year later, suggesting that self-deprecating views of one's own social worth and prowess cause adolescents to generate stress because these beliefs interfere with

prosocial behavior and social persistence, and increase social withdrawal tendencies.

These findings are consistent with previous research implicating "anxious vulnerability" (Troy & Sroufe, 1987), nonassertive behavior (Schwartz et al., 1993), and social withdrawal (Boivin et al., 1995; Rubin et al., 1993) as predictors of stressful peer experiences. Moreover, these results elaborate on prior studies of stress generation by elucidating one behavioral mechanism through which personal vulnerability, in the form of negative self-views, produces interpersonal adversity (see also Davila et al., 1997). The next step in understanding this stress-generation process is to investigate why negative self-views lead to social disengagement. Several processes may account for this link. Self-perceptions may influence motivation in social contexts (Dweck, 1996). For example, adolescents who expect to fail in their peer interactions may adopt social goals aimed at minimizing their distress or embarrassment, leading to social avoidance. Negative self-views within relationships also may undermine accurate perception and interpretation of social cues (Crick & Dodge, 1994). Distortion of social information and ensuing negative emotional responses may then give rise to maladaptive behaviors. For instance, adolescents who believe that they are unworthy of positive social attention may overreact to perceived slights by withdrawing from interpersonal encounters.

Studying the translation of negative self-views into behavior also will clarify the range of behaviors, beyond social disengagement, that may emanate from these views and lead to the generation of stress. For example, adolescents who question their social self-worth and competence may engage in frequent efforts to seek reassurance about their worth or likability from their peers. This type of excessive reassurance seeking has been found to generate stress in relationships (Potthoff, Holahan, & Joiner, 1995). It also is possible that adolescents with negative self-views engage in openly antagonistic behavior because of frustration about their inability to achieve social success. For example, theory and research suggest that rejection-sensitive children may show either anxious or angry reactions to rejection (Downey et al., 1998). Understanding the varied pathways to the generation of stress resulting from negative self-views will facilitate the elaboration of stress-generation processes in peer relationships.

Stress-Reaction Processes

Consistent with transactional perspectives on development (e.g., Lerner, 1987; Sameroff & Mac-

Kenzie, 2003), not only did adolescents actively contribute to the construction of their social environments but they also were influenced by these environments. Specifically, when adolescents experienced adversity in their peer relationships, they adopted negative self-views and disengaged from their peers 6 months later.

Findings regarding the emergence of negative self-views are consistent with symbolic interactionist theories, which suggest that social interactions and experiences are internalized in the form of self-views (Cooley, 1902; Harter, 1998; Mead, 1934). Thus, although relational self-views may emerge in part from early relationships, such as those with caregivers (Bowlby, 1969; Main, Kaplan, & Cassidy, 1985; Rudolph et al., 1995), subsequent experiences with peers likely further shape these views (Ladd & Troop-Gordon, 2003). This refinement of relational self-views in light of peer experiences may be particularly salient during adolescence because of an increasing emphasis at this time on peer relationships as a source of self-definition and support (Furman & Buhrmester, 1992; Harter et al., 1998). At this time, peers may be the social reference group that most closely reflects the generalized other (Mead, 1934) on which self-views are based (Harter et al., 1998). Exposure to relationship stress during this time may therefore cause youth to infer that they are unworthy of positive peer attention and ineffective at developing strong relationships.

Not surprising, when youth faced adversity in their peer relationships, they also began to disengage from peers. However, this disengagement did not account for the emergence of negative self-views, suggesting that these self-views were not a consequence of youth's interpretation of their own social behavior but rather were a direct result of experiences with peers. Indeed, whereas disengagement predicted subsequent stress in both models, disengagement did not predict subsequent self-views in either model. These findings are consistent with the suggestion that negative self-perceptions do not emerge from youth's own behavior but rather from their experiences in peer relationships (Ladd & Troop-Gordon, 2003). In fact, some research indicates that children rely almost exclusively on indirect cues about their relationships, derived from peer interactions, to evaluate their social competence, rather than self-observation or interpretation of their own behavior (Hymel, LeMare, Ditner, & Woody, 1999). Such indirect cues would be readily accessible from the types of stressful experiences assessed here, such as exclusion, conflict, and poor quality friendships.

Future Directions

Although this research identified one important mechanism through which adolescents generate stress in their relationships, there are likely a variety of processes underlying how children shape their interpersonal environments (Scarr, 1992; Scarr & McCartney, 1983). One fascinating possibility emerges from recent research implicating a genetic basis to stress exposure (Kendler, 1995; Kendler, Neale, Kessler, Heath, & Eaves, 1993; Silberg et al., 1999). Researchers have suggested that this genetic liability may result from self-selection to high-risk environments, but evidence has not yet confirmed this selection process as the mode of action (Kendler et al., 1993). It is possible that genetic factors influence the experience of life stress not only through selection to high-risk environments but also through creation of high-risk environments through the process of stress generation. This genetic risk for stress generation may occur as a result of the intergenerational transmission of personality traits or social-cognitive processes linked to stress generation. For instance, one study demonstrated that neuroticism during adolescence predicted increased exposure to stressful life events in adulthood (Van Os, Park, & Jones, 2001). Together, these findings suggest exciting possibilities for research into the genetic basis of stress generation.

The model examined in this study also has implications for developmentally based stress-generation models of psychopathology (e.g., Rudolph et al., 2000). For example, negative relational views of self and others have been identified as risk factors for depression and other types of emotional distress (Hammen et al., 1995; Ladd & Troop-Gordon, 2003; Rudolph et al., 1997), but research has not yet fully examined the processes underlying this pathway of vulnerability. The present findings suggest that negative self-views may increase risk for depression through the disruption of interpersonal environments and the generation of stress, creating a self-perpetuating cycle of dysfunction (see Rudolph, Hammen, & Daley, *in press*). Alternatively, depression itself may foster negative self-views (Pomerantz & Rudolph, 2003), which then lead depressed individuals to generate stress in their relationships. Future efforts should be directed toward elaborating on stress-generation processes that link normative and atypical development.

Limitations of the Present Study

This study contributes significantly beyond prior research by using prospective data to track the re-

ciprocal influences between adolescents and their peer environments. However, because only three waves of data were available, two separate models were needed to examine the proposed transactional pathways (i.e., negative self-views → social disengagement → peer stress; and peer stress → social disengagement → negative self-views). A more elegant test of a transactional perspective would involve examining the sequential unfolding of the proposed processes in a single model using five waves of data. Yet, together the two models do effectively demonstrate the role of reciprocal-influence processes that have direct implications for transactional models of development.

This study also was limited by its reliance on youth's report of their stressful experiences. Because the index of dependent peer stress relied on nomothetic weightings (i.e., averaged ratings of stressfulness across all adolescents), the results cannot be due entirely to adolescents' subjective perceptions of stress. Moreover, youth's reports of peer stress were significantly correlated with maternal and teacher reports of peer relationship difficulties, providing convergent validity for the self-reports. The fact that social disengagement significantly predicted subsequent stress but not self-views also supports the distinction between self-views and stress. Finally, the use of teacher reports of social disengagement ensured that relationship problems were not viewed purely from the youth's perspective. However, additional research is needed using assessments that rely more heavily on objective ratings of stress (e.g., Daley et al., 1997; Hammen, 1991; Rudolph et al., 2000) or reports of relationship adversity from other informants such as peers.

Finally, the measures of dependent peer stress and perceived control showed moderate internal consistency at each of the three waves, perhaps because of the small number of items on the measures. Future research should include more comprehensive assessments using more reliable measures.

Conclusions

This research provided support for two complementary models of peer relationships. First, deprecating relational self-views lead adolescents to disengage from peers, which precipitates stress in their relationships. Second, peer stress reinforces youth's negative self-views and avoidant tendencies. These findings illustrate the complexity of person-environment transactions over the course of development by demonstrating that individuals not only react to stressful circumstances but also take an ac-

tive role in creating the contexts that then determine their future adjustment. Such transactional influences help account for continuity in development over time. Understanding these transactional processes is vital for creating effective interventions that interrupt these self-perpetuating cycles and redirect youth toward more adaptive developmental trajectories.

References

- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Berndt, T. J., & Burgoyne, L. (1996). Social self-concept. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 171–209). New York: Wiley.
- Boivin, M., & Begin, G. (1989). Peer status and self-perception among early elementary school children: The case of the rejected children. *Child Development, 60*, 591–596.
- Boivin, M., & Hymel, S. (1997). Peer experiences and social self-perceptions: A sequential model. *Developmental Psychology, 33*, 135–145.
- 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 children. *Development and Psychopathology, 7*, 765–785.
- Boivin, M., Hymel, S., & Hodges, E. V. E. (2001). Toward a process view of peer rejection and harassment. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 265–289). New York: Guilford Press.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.
- Boyce, W. T., Frank, E., Jensen, P. S., Kessler, R. C., Nelson, C. A., Steinberg, L., et al. (1998). Social context in developmental psychopathology: Recommendations for future research from the MacArthur Network on Psychopathology and Development. *Development and Psychopathology, 10*, 143–164.
- Caspi, A., Elder, G. H., & Bem, D. J. (1987). Moving against the world: Life-course patterns of explosive children. *Developmental Psychology, 23*, 308–313.
- Caspi, A., Elder, G. H., & Bem, D. J. (1988). Moving away from the world: Life-course patterns of shy children. *Developmental Psychology, 24*, 824–831.
- Cassidy, J., & Asher, S. R. (1992). Loneliness and peer relations in young children. *Child Development, 63*, 350–365.
- Cassidy, J., Kirsh, S. J., Scolton, K. L., & Parke, R. D. (1996). Attachment and representations of peer relationships. *Developmental Psychology, 32*, 892–904.
- Cicchetti, D., & Aber, J. L. (1998). Contextualism and developmental psychopathology. *Development and Psychopathology, 10*, 137–141.
- Cillessen, A. H. N., & Bellmore, A. D. (1999). Accuracy of social self-perceptions and peer competence in middle childhood. *Merrill-Palmer Quarterly, 45*, 650–676.
- Cole, D. A., Jacquez, F. M., & Maschman, T. L. (2001). Social origins of depressive cognitions: A longitudinal study of self-perceived competence in children. *Cognitive Therapy and Research, 25*, 377–395.
- Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.
- Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multiinformant approach. *Journal of Consulting and Clinical Psychology, 66*, 337–347.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*, 74–101.
- Daley, S. E., Hammen, C., Burge, D., Davila, J., Paley, B., Lindberg, N., et al. (1997). Predictors of the generation of episodic stress: A longitudinal study of late adolescent women. *Journal of Abnormal Psychology, 106*, 251–259.
- Davila, J., Bradbury, T. N., Cohan, C. L., & Tochluk, S. (1997). Marital functioning and depressive symptoms: Evidence for a stress generation model. *Journal of Personality and Social Psychology, 73*, 849–861.
- Davila, J., Hammen, C., Burge, D., Paley, B., & Daley, S. E. (1995). Poor interpersonal problem solving as a mechanism of stress generation in depression among adolescent women. *Journal of Abnormal Psychology, 104*, 592–600.
- Downey, G., Lebolt, A., Rincon, C., & Freitas, A. L. (1998). Rejection sensitivity and children's interpersonal difficulties. *Child Development, 69*, 1074–1091.
- Dweck, C. S. (1996). Social motivation: Goals and social-cognitive processes. A comment. In J. Juvonen & K. R. Wentzel (Eds.), *Social motivation: Understanding children's school adjustment* (pp. 181–195). New York: Cambridge University Press.
- Egan, S. K., & Perry, D. G. (1998). Does low self-regard invite victimization? *Developmental Psychology, 34*, 299–309.
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*, 103–115.
- 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*, 246–255.
- Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology, 34*, 538–587.
- Hammen, C. (1991). Generation of stress in the course of unipolar depression. *Journal of Abnormal Psychology, 100*, 555–561.
- Hammen, C. (1992). Cognitive, life stress, and interpersonal approaches to a developmental psychopathology model of depression. *Development and Psychopathology, 4*, 191–206.

- Hammen, C., Burge, D., Daley, S. E., Davila, J., Paley, B., & Rudolph, K. D. (1995). Interpersonal attachment cognitions and prediction of symptomatic responses to interpersonal stress. *Journal of Abnormal Psychology, 104*, 436–443.
- Harter, S. (1998). The development of self-representations. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 553–617). New York: Wiley.
- Harter, S., Stocker, C., & Robinson, N. S. (1996). The perceived directionality of the link between approval and self-worth: The liabilities of a looking glass self-orientation among young adolescents. *Journal of Research on Adolescence, 6*, 285–308.
- Harter, S., Waters, P., & Whitesell, N. R. (1998). Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child Development, 69*, 756–766.
- Herzberg, D. S., Hammen, C., Burge, D., Daley, S. E., Davila, J., & Lindberg, N. (1998). Social competence as a predictor of chronic interpersonal stress. *Personal Relationships, 5*, 207–218.
- Hodges, E. V. E., Malone, M. J., & Perry, D. G. (1997). Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental Psychology, 33*, 1032–1039.
- Hymel, S., LeMare, L., Ditner, E., & Woody, E. Z. (1999). Assessing self-concept in children: Variations across self-concept domains. *Merrill-Palmer Quarterly, 45*, 602–623.
- Kendler, K. S. (1995). Adversity, stress and psychopathology: A psychiatric genetic perspective. *International Journal of Methods in Psychiatric Research, 5*, 163–170.
- Kendler, K. S., Neale, M., Kessler, R., Heath, A., & Eaves, L. (1993). A twin study of recent life events and difficulties. *Archives of General Psychiatry, 50*, 789–796.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert, S. T. Fiske, & L. Gardner (Eds.), *The handbook of social psychology* (Vol. 1, pp. 233–265). New York: McGraw-Hill.
- 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*, 1325–1348.
- Lerner, R. M. (1978). Nature, nurture, and dynamic interactionism. *Human Development, 21*, 1–20.
- Lerner, R. M. (1987). A life-span perspective for early adolescence. In R. M. Lerner & T. T. Foch (Eds.), *Biological-psychosocial interactions in early adolescence* (pp. 9–34). Hillsdale, NJ: Erlbaum.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs of the Society for Research in Child Development, 50* (Serial No. 209), 66–104.
- Mead, G. H. (1934). *Mind, self, and society*. Chicago: University of Chicago Press.
- Muthén, L. K., & Muthén, B. O. (1998). *Mplus user's guide*. Los Angeles: Authors.
- Nelson, D. R., Hammen, C., Daley, S. E., Burge, D., & Davila, J. (2001). Sociotropic and autonomous personality styles: Contributions to chronic life stress. *Cognitive Therapy and Research, 25*, 61–76.
- Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. P. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. *Journal of Abnormal Psychology, 101*, 405–422.
- O'Connor, T. G., Deater-Deckard, K., Fulker, D., Rutter, M., & Plomin, R. (1998). Genotype–environment correlations in late childhood and early adolescence: Antisocial behavioral problems and coercive parenting. *Developmental Psychology, 34*, 970–981.
- Parker, J. G., Rubin, K. H., Price, J. M., & DeRosier, M. E. (1995). Peer relationships, child development, and adjustment: A developmental psychopathology perspective. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol. 2: Risk, disorder, and adaptation* (pp. 96–161). New York: Wiley.
- Patterson, C. J., Kupersmidt, J. B., & Griesler, P. C. (1990). Children's perceptions of self and of relationships with others as a function of sociometric status. *Child Development, 61*, 1335–1349.
- Pomerantz, E. M., & Rudolph, K. D. (2003). What ensues from emotional distress? Implications for competence estimation. *Child Development, 74*, 329–345.
- Potthoff, J. G., Holahan, C. J., & Joiner, T. E. (1995). Reassurance seeking, stress generation, and depressive symptoms: An integrative model. *Journal of Personality and Social Psychology, 68*, 664–670.
- Purdie, V., & Downey, G. (2000). Rejection sensitivity and adolescent girls' vulnerability to relationship-centered difficulties. *Child Maltreatment: Journal of the American Professional Society on the Abuse of Children, 5*, 338–349.
- Robinson, N. S., Garber, J., & Hilsman, R. (1995). Cognitions and stress: Direct and moderating effects on depressive versus externalizing symptoms during the junior high school transition. *Journal of Abnormal Psychology, 104*, 453–463.
- Rubin, K. H. (1993). The Waterloo Longitudinal Project: Correlates and consequences of social withdrawal from childhood to adolescence. In K. H. Rubin & J. B. Asendorpf (Eds.), *Social withdrawal, inhibition, and shyness in childhood* (pp. 291–314). Hillsdale, NJ: Erlbaum.
- Rubin, K. H., & Asendorpf, J. B. (Eds.). (1993). *Social withdrawal, inhibition, and shyness in childhood*. Hillsdale, NJ: Erlbaum.
- Rubin, K. H., Bukowski, W., & Parker, J. G. (1998). Peer interactions, relationships, and groups. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 619–700). New York: Wiley.
- Rubin, K. H., Chen, X., & Hymel, S. (1993). Socioemotional characteristics of withdrawn and aggressive children. *Merrill-Palmer Quarterly, 39*, 518–534.

- Rubin, K. H., Chen, X., McDougall, P., Bowker, A., & McKinnon, J. (1995). The Waterloo Longitudinal Project: Predicting internalizing and externalizing problems in adolescence. *Developmental Psychopathology*, *7*, 751–764.
- Rubin, K. H., LeMare, L. J., & Lollis, S. (1990). Social withdrawal in childhood: Developmental pathways to peer rejection. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 217–249). New York: Cambridge University Press.
- Rubin, K. H., & Mills, R. S. (1988). The many faces of social isolation in childhood. *Journal of Consulting and Clinical Psychology*, *56*, 916–924.
- Rudolph, K. D., & Asher, S. R. (2000). Adaptation and maladaptation in the peer system: Developmental processes and outcomes. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (pp. 157–175). New York: Plenum.
- Rudolph, K. D., & Clark, A. G. (2001). Conceptions of relationships in children with depressive and aggressive symptoms: Social-cognitive distortion or reality? *Journal of Abnormal Child Psychology*, *25*, 447–475.
- Rudolph, K. D., & Hammen, C. (1999). Age and gender as determinants of stress exposure, generation, and reactions in youngsters: A transactional perspective. *Child Development*, *70*, 660–677.
- Rudolph, K. D., Hammen, C., & Burge, D. (1995). Cognitive representations of self, family, and peers in school-age children: Links with social competence and sociometric status. *Child Development*, *66*, 1385–1402.
- Rudolph, K. D., Hammen, C., & Burge, D. (1997). A cognitive-interpersonal approach to depressive symptoms in preadolescent children. *Journal of Abnormal Child Psychology*, *25*, 33–45.
- Rudolph, K. D., Hammen, C., Burge, D., Lindberg, N., Herzberg, D. S., & Daley, S. E. (2000). Toward an interpersonal life-stress model of depression: The developmental context of stress generation. *Development and Psychopathology*, *12*, 215–234.
- Rudolph, K. D., Hammen, C., & Daley, S. E. (in press). Adolescent mood disorders. In E. J. Mash & D. A. Wolfe (Eds.), *Behavioral and emotional disorders in adolescents*. New York: Guilford Press.
- Rudolph, K. D., Kurlakowsky, K. D., & Conley, C. S. (2001). Developmental and social-contextual origins of depressive control-related beliefs and behavior. *Cognitive Therapy and Research*, *25*, 447–475.
- Rudolph, K. D., Lambert, S. M., Clark, A. G., & Kurlakowsky, K. D. (2001). Negotiating the transition to middle school: The role of self-regulatory processes. *Child Development*, *72*, 929–946.
- Sameroff, A. (1975). Transactional models in early social relations. *Human Development*, *18*, 65–79.
- Sameroff, A. J., & MacKenzie, M. J. (2003). Research strategies for capturing transactional models of development: The limits of the possible. *Development and Psychopathology*, *15*, 613–640.
- Scarr, S. (1992). Developmental theories for the 1990s: Development and individual differences. *Child Development*, *63*, 1–19.
- Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of genotype–environment correlations. *Child Development*, *54*, 424–435.
- Schwartz, D., Dodge, K. A., & Coie, J. D. (1993). The emergence of chronic peer victimization in boys' play groups. *Child Development*, *64*, 1755–1772.
- Schwartz, D., Dodge, K. A., Coie, J. D., Hubbard, J. A., Cillessen, A. H. N., Lemerise, E. A., et al. (1998). Social-cognitive and behavioral correlates of aggression and victimization in boys' play groups. *Journal of Abnormal Child Psychology*, *6*, 431–440.
- Silberg, J. L., Pickles, A., Rutter, M., Hewitt, J., Simonoff, E., Maes, H., et al. (1999). The influence of genetic factors and life stress on depression among adolescent girls. *Archives of General Psychiatry*, *56*, 225–232.
- Sroufe, L. A., & Rutter, M. (1984). The domain of developmental psychopathology. *Child Development*, *55*, 17–29.
- Troop-Gordon, W. P., & Ladd, G. W. (2003). *Trajectories of peer victimization and perceptions of the self and schoolmates: Precursors to psychological and school maladjustment*. Manuscript submitted for publication.
- Troy, M., & Sroufe, L. A. (1987). Victimization among preschoolers: Role of attachment relationship history. *Journal of the American Academy of Child and Adolescent Psychiatry*, *26*, 166–172.
- Turner, J. E., & Cole, D. A. (1994). Developmental differences in cognitive diatheses for child depression. *Journal of Abnormal Child Psychology*, *22*, 15–32.
- Van Os, J., Park, S. B., & Jones, P. B. (2001). Neuroticism, life events and mental health: Evidence for person–environment correlation. *British Journal of Psychiatry*, *178*, 72–77.
- Weisz, J. R., Southam-Gerow, M. A., & McCarty, C. A. (2001). Control-related beliefs and depressive symptoms in clinic-referred children and adolescents: Developmental differences and model specificity. *Journal of Abnormal Psychology*, *110*, 97–109.

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