

Rejection Sensitivity in Late Adolescence: Social and Emotional Sequelae

Emily G. Marston, Amanda Hare, and Joseph P. Allen

University of Virginia

This study used longitudinal, multireporter data, in a community sample, to examine the role of rejection sensitivity in late adolescents' social and emotional development. Rejection sensitivity was linked to a relative increase in adolescent depressive and anxiety symptoms over a 3-year period, even after accounting for teens' baseline level of social competence. Additionally, reciprocal relationships emerged between rejection sensitivity and internalizing symptoms. Rejection sensitivity was also linked to relative decreases in peer-reports of teens' social competence over a 3-year period. Consistent with research on gendered socialization, males reported higher levels of rejection sensitivity than females at ages 16 and 17. Results are interpreted as highlighting the importance of rejection sensitivity in understanding late adolescent social and emotional development.

Late adolescence is a challenging period characterized by pervasive social role changes across many domains (Arnett, 2000; Schulenberg, Bryant, & O'Malley, 2004) and the increasing incidence of internalizing disorders is one troubling marker of problems negotiating these role changes (Birmaher, Ryan, Williamson, & Brent, 1996; Kessler, Avenevoli, & Merikangas, 2001; La Greca & Lopez, 1998). Rejection sensitivity has been proposed as a mechanism for explaining the development of internalizing disorders at other points in the life span. But its role in critical social transitions during late adolescence has not yet been explored in longitudinal research (Ayduk, Downey, & Kim, 2001; London, Downey, Bonica, & Paltin, 2007; Sandstrom, Cillessen, & Eisenhower, 2003).

Researchers view rejection sensitivity within the Cognitive-Affective Processing System framework (Ayduk et al., 2000; Mischel & Shoda, 1995), which holds that an individual's personality disposition consists of highly contextualized but stable profiles of if-then situation-dependent behaviors. Specifically, rejection sensitivity is viewed as a dynamic cognitive-affective

mechanism through which internal working models of relationships influence expectations, perceptions, and reactions in interpersonal situations (Ayduk, May, Downey, & Higgins, 2003). Thus, in rejection-relevant situations, expectations are automatically activated, preparing people high in rejection sensitivity to more readily perceive the occurrence of rejection in the behaviors of others and to react defensively (Downey & Feldman, 1996).

Late adolescence is a developmental period during which rejection sensitivity is likely to be particularly important and salient (Harper, Dickson, & Welsh, 2006; Larson & Asmussen, 1991; Larson, Clore, & Wood, 1999). The numerous contextual and role transitions that define this period, along with the steadily increasing centrality of peer and romantic relationships, combine to heighten the salience of issues of social competence and social rejection (Harris, 1995; Larson et al., 1999). This is also a period during which personality dispositions established throughout adolescence are likely to become entrenched as enduring patterns that continue into early adulthood (Roberts, Caspi, & Moffitt, 2001; Schulenberg et al., 2004). Preexisting expectations of acceptance and rejection are likely to interact with late adolescent experiences of new contexts, opportunities, and social networks to profoundly effect subsequent mental health outcomes and interpersonal relationships (Arnett, 2000; Ruble & Seidman, 1996). Yet, we know remarkably little about rejection sensitivity during this critical period.

One fundamental question is whether rejection sensitivity even displays stability over time during this transition-filled period. In the transactional view, changing environments may serve to strengthen earlier personality dispositions as individuals are viewed as active agents in shaping their environments, which in turn shape their personalities (Caspi & Moffitt, 1993). As such, researchers have noted that it is particularly important to study changes in personality during periods of transition (Caspi & Moffitt, 1993). It is possible that a person's level of rejection sensitivity may become entrenched as adolescents are frequently confronted with challenging social situations during late adolescence. However, for individuals who successfully navigate role transitions, it is also possible this period may be a unique opportunity to alter negative interpersonal patterns (Masten et al., 2004; Roisman, Aguilar, & Egeland, 2004; Rutter, 1996). Rejection sensitivity has been found to be relatively stable over short periods of time in early adolescence and adulthood, but no research has yet looked at the stability of rejection sensitivity during the uniquely volatile period of late adolescence (Downey & Feldman, 1996; Downey, Freitas, Michaelis, & Khouri, 1998; London et al., 2007).

Beyond the stability of rejection sensitivity is the question of how it relates to an individual's psychosocial functioning during a period in which the possibility of rejection is likely to be a recurrent theme in new social interactions. Rejection sensitivity appears to be particularly salient in the development of internalizing problems at other points in the life span that are not

characterized by such pervasive change. Children and adults high in rejection sensitivity are more likely to experience a variety of internalizing problems (e.g., social anxiety, withdrawal, loneliness, and depressive symptoms) potentially due to maladaptive coping responses which impair social relationships and a lack of perceived control in preventing social rejection, which trigger negative cognitions and affective responses (Ayduk et al., 2001; Downey, Lebolt, Rincón, & Freitas, 1998; Sandstrom et al., 2003). Interestingly, while longitudinal investigations suggest that internalizing problems peak during late adolescence, few studies have investigated rejection sensitivity during this period (Hankin et al., 1998; Wight, Sepúlveda, & Aneshensel, 2004). To date, the sole study investigating rejection sensitivity during late adolescence found that rejection sensitivity was cross-sectionally related to more depressive symptomatology (Harper et al., 2006). Given the episodic nature of internalizing disorders and their capacity to distort cognitive and affective processing (and hence create rejection sensitivity), however, longitudinal research is needed to disentangle potential confounds in the relation between rejection sensitivity and internalizing problems over time (Salmivalli & Isaacs, 2005; Sameroff & MacKenzie, 2003; Shahar, Blatt, Zuroff, Kuperminc, & Leadbeater, 2004).

One important confound when examining the relation of rejection sensitivity to internalizing problems is the impact of social competence. Researchers have found a robust link between lack of social support and poor mental health outcomes (Cohen, 2004; Hartup, 1996; La Greca & Harrison, 2005; Segrin, 2000). Further, rejection sensitivity has been associated with both previous peer rejection for early adolescent boys and interpersonal difficulties for children (Downey, Lebolt, et al., 1998). It is possible that late adolescents may experience internalizing problems because of a lack of social skills rather than a tendency to over-perceive and over-react to potentially rejecting situations (e.g., rejection sensitivity). Further, researchers have noted that it is important to distinguish the role of actual social skill deficits from cognitive distortions in the development of internalizing disorders (Beck, 1967; Lewinsohn, Mischel, Chaplin, & Barton, 1980). In one study, rejection sensitivity was found to predict more internalizing behaviors after controlling for children's sociometric status (Sandstrom et al., 2003). Yet, no study has looked at the impact of rejection sensitivity on future internalizing problems while also considering its relation to late adolescents' level of competence in peer relationships. In particular, assessments of social competence by a peer are particularly important to examine given the potential of rejection sensitivity to distort teens' self-assessments.

As peer relationships become increasingly important in late adolescence, it is likely that rejection sensitivity will take on an important role in the development of late adolescents' interpersonal relationship quality (Buhrmester, 1990; Harris, 1995). At other points in the life span, rejection sensitivity has been linked to maladaptive interpersonal behaviors in multiple

types of relationships (Ayduk, Downey, Testa, Yen, & Shoda, 1999; Downey & Feldman, 1996; Downey, Lebolt, et al., 1998). Such interpersonal difficulties can be exacerbated, as individuals high in rejection sensitivity display sensitivities and negative expectations that can easily become self-fulfilling in relationships (Downey, Lebolt, et al., 1998). Studies suggest that such self-fulfilling prophecies exist in the romantic relationships of individuals high in rejection sensitivity; however, this effect has not been examined in late adolescent peer relationships (Downey & Feldman, 1996; Purdie & Downey, 2000). To date, early adolescent youth high in rejection sensitivity were found by teacher report, to experience more social difficulties 1 year later (Downey, Lebolt, et al., 1998). Further, as early adolescents became more accepted by their peers, they became less sensitive to rejection over time (London et al., 2007). Taken together, these findings suggest a potentially tight linkage between rejection sensitivity and peer acceptance in late adolescence. Thus, it is surprising that no research has investigated the ways in which rejection sensitivity is linked to adolescent social competence over time and whether it potentially creates a self-fulfilling prophecy leading to associations with decreasing competence in peer relationships.

One major distinguishing feature of late adolescent social relationships is increased involvement in cross-sex peer groups and dating relationships that may ultimately lead to gender differences in levels of rejection sensitivity (Collins, 2003). Gender differences in socialization emerge early, as boys have been found to be less interpersonally oriented (Block, 1983); emphasize shared activities with close peers over closeness and disclosure (Kuttler, La Greca, & Prinstein, 1999); and have fewer intimate friendships than girls (Sharabany, Gershoni, & Hofman, 1981). Perhaps as a result, early adolescent boys appear to experience more distress than girls in adapting to cross-sex friendships (Glickman & La Greca, 2004; Kuttler et al., 1999). Later on in dating situations, college-aged males report experiencing more anxiety than females (Arkowitz, Hinton, Perl, & Himadi, 1978).

As adolescent males experience increasing social pressure to initiate dating interactions, they also face the increased possibility of being publicly rejected (Arkowitz et al., 1978; Zimmer-Gembeck, Siebenbruner, & Collins, 2001). Males appear to be particularly affected by public forms of rejection (Downey, Freitas, et al., 1998; London et al., 2007). Additionally, being categorized as peer-rejected was related to an increase in rejection sensitivity for boys but not for girls during early adolescence (London et al., 2007), suggesting that lack of social status was more detrimental for boys than for girls. While researchers report no significant gender differences in mean levels of rejection sensitivity earlier in adolescence (Downey, Lebolt, et al., 1998; Sandstrom et al., 2003), little research has investigated such differences in late adolescence, when males' vulnerability to rejection is likely to be greatest. The solitary study of rejection sensitivity in late adolescence found no significant gender differences; however, the sample included a broad range of

ages (e.g., 14–21 years of age; Harper et al., 2006), which may have reduced its capacity to detect gender differences linked to particular developmental transitions.

This longitudinal and multireporter study sought to investigate rejection sensitivity in late adolescence. The following hypotheses were assessed in a diverse community sample of late adolescents followed over a 3-year period from 16 to 18 years of age. First, we hypothesized that rejection sensitivity would be relatively stable over a 3-year period in late adolescence. Second, we hypothesized that rejection sensitivity would predict relative increases in future depressive symptoms even after accounting for any potential confounds with teens' baseline levels of social competence. Third, we hypothesized that rejection sensitivity would predict increases in future anxiety symptoms even after accounting for any potential confounds with baseline social competence. We also examined the reciprocal possibility that levels of depression and anxiety would predict increases in rejection sensitivity over time. Fourth, we hypothesized that rejection sensitivity would predict relative decreases in social competence, as assessed by a close peer. We also examined the reciprocal possibility that lack of social competence would predict increases in rejection sensitivity over time. Lastly, it was hypothesized that males would have higher levels of rejection sensitivity than females. Given inconsistent findings in the literature regarding the role of gender in moderating pathways to internalizing disorders in early adolescence (Galambos, Leadbeater, & Barker, 2004; Sheeber, Hops, Alpert, Davis, & Andrews, 1997), gender was also considered as a potential moderator in all analyses, but no specific hypotheses regarding gender moderation were proposed.

METHOD

Participants

The current study uses three waves of measurement to predict changes in overall social competence and internalizing problems during late adolescence. The first wave of data used in this study starts when rejection sensitivity was first assessed and target teens were approximately age 16 (age: $M = 16.35$, $SD = .87$). The second wave of data was collected 1 year later (age: $M = 17.32$, $SD = .88$) and the final wave of data was collected the subsequent year (age: $M = 18.33$, $SD = .99$). This report is drawn from a larger longitudinal investigation of adolescent social development in familial and peer contexts. Participants included 184 adolescents (86 male and 98 female) and their closest friends who were initially interviewed at approximately age 13 (52% female; age: $M = 13.35$, $SD = .64$). The sample was racially/ethnically and socioeconomically diverse: 58% identified as Caucasian, 29% identified as African American, and 13% identified as other and/or mixed minority

groups. Target teens' parents reported a median family income in the US\$40,000–US\$59,999 range.

As part of the larger longitudinal investigation, adolescents were initially recruited from the seventh and eighth grades of a public middle school drawing from suburban and urban populations in the Southeastern United States. Participants were recruited via an initial mailing to all parents of students in the school along with follow-up contact efforts at school lunches. Families of adolescents who indicated they were interested in the study were contacted by telephone. Adolescents were recruited to serve as either target teens or close peers of target teens, as both roles involved extended interview and observational data collection. If adolescents had already been recruited to serve as a close friend of a participating target teen, that close friend was then no longer eligible to participate as a target teen. Of all students eligible for participation, 63% agreed to participate in one of these two primary roles when approached to participate. The resulting sample was similar to the larger community population in terms of both socioeconomic status and racial/ethnic background. All participants provided informed assent before each interview session, and parents provided informed consent. Interviews took place in private offices within a university academic building.

At each wave, target teens were also asked to nominate their "closest friend" of the same gender to be included in the study. This gives the clearest possible picture of the adolescent's recent close peer interactions and eliminates the problem of repeatedly assessing a peer who may no longer be close to the target teen, perhaps due to circumstances that have nothing to do with the friendship (e.g., geographic moves). If target teens appeared to have any difficulty naming close friends, it was explained that naming their "closest" friend did not mean that they were necessarily very close to this person, rather that they were close relative to other acquaintances they might have. At age 16, close friends reported that they had known the target teen for an average of 5.71 years ($SD = 3.72$). The closest friends selected at age 17 reported that they had known adolescents an average of 5.42 years ($SD = 4.05$), and 44% of teens selected the same person as they had at age 16. The closest friends selected at age 18 reported that they had known adolescents an average of 6.43 years ($SD = 5.15$), and 43% of teens selected the same person as they had at age 17.

Procedure

In the initial introduction and throughout both sessions, confidentiality was assured to all family members, and adolescents were told that their parents would not be informed of any of the answers they provided. A Confidentiality Certificate, issued by the U.S. Department of Health and Human Services protected all data from subpoena by federal, state, and local courts.

Attrition Analyses

One hundred and seventy of the original 184 target teens (92%) participated at age 16, 174 of the original teens (95%) participated at age 17, and 155 of the original target teens (84%) participated at age 18. Attrition analyses revealed no significant differences between those target teens from the original sample of 184 who did not participate at ages 16, 17, or 18, from those who did participate. When analyses specifically examined target teens who participated at 16 but not age 17 (2%), no significant differences were found. When analyses specifically examined target teens who participated at age 17 but not at age 18 (15%), target teens did not differ on any measure used in the study. When analyses specifically examined target teens who participated at 16 but not at age 18 (16%), findings indicated that they had lower family incomes as well as higher levels of baseline rejection sensitivity and anxiety at age 16. Other than those three differences, target teens not followed at age 18 did not differ on any other measure used in the study.

To best address any potential biases due to attrition in longitudinal analyses, full imputation maximum likelihood methods were used with analyses, including all variables that were linked to future missing data (i.e., where data were not missing completely at random; Muthén & Muthén, 1998–2006). Because these procedures have been found to yield the least biased estimates when all available data are used for longitudinal analyses (vs. listwise deletion of missing data; Arbuckle, 1996; Enders, 2001; Raykov, 2005), the entire original sample of 184 for the larger study was utilized for these analyses. This larger sample thus provides the best possible estimate of change in internalizing problems and overall social competence, as it was least likely to be biased by missing data. Alternative longitudinal analyses using just those adolescents without missing data (i.e., listwise deletion) yielded results that were substantially identical to those reported below. In sum, analyses suggest that attrition was modest overall and not likely to have distorted any of the findings reported.

Measures

Rejection sensitivity. Target teens' level of rejection sensitivity was assessed using the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996) in all three waves of data collection. The measure consists of 18 hypothetical situations in which rejection by a significant other is possible (e.g., "You ask a friend to do you a big favor"). For each situation, participants were first asked to indicate their degree of concern or anxiety about the outcome of the situation (e.g., "How concerned or anxious would you be over whether or not your friend would want to help you out?") on a 6-point scale ranging from 1 (*very unconcerned*) to 6 (*very concerned*).

Participants were then asked to indicate the likelihood that the other person would respond in an accepting manner (e.g., "I would expect that he/she would willingly agree to help me out") on a 6-point scale ranging from 1 (*very unlikely*) to 6 (*very likely*).

An overall rejection sensitivity score was obtained by weighting the expected likelihood of rejection by the degree of anxiety or concern about the outcome of the request. An *overall rejection sensitivity score* was computed by summing the expectation of rejection by concern ratings for each situation and then dividing by the total number of situations. Next, we computed two subscales: one consisting of the mean *rejection expectancy score* and the other consisting of the mean *rejection concern rating*. Studies have found that the RSQ has sound psychometric properties (Downey & Feldman, 1996; Downey, Feldman, & Ayduk, 2000). Internal consistency for each subscale was very good (Cronbach's α for Total Rejection Sensitivity = .87 at age 16, .88 at age 17, and .90 at age 18; Rejection Expectancy Subscale = .87 at age 16, .92 at age 17, and .90 at age 18; Rejection Concern Subscale = .93 at age 16, .94 at age 17, and .96 at age 18).

Depressive symptoms. At ages 16 and 17, target teens reported on depressive symptoms using the Child Depression Inventory (CDI; Kovacs & Beck, 1977). This 27-item questionnaire has been well validated as a measure of depressive symptomatology linked to poor self-esteem, hopelessness, and negative cognitive attributions (Kazdin, 1990; Smucker, Craighead, Craighead, & Green, 1986). This measure uses a continuum/severity approach assessing depressive symptoms that recognizes that levels of depressive symptoms below diagnostic thresholds may nevertheless be important predictors of significant dysfunction (Lewinsohn, Solomon, Seeley, & Zeiss, 2000). Each item is rated on a 3-point scale (0–2), so that the maximum score is 74. Internal consistency for this measure was good (Cronbach's α = .86 at age 16 and .85 at age 17).

At age 18, target teens completed the Beck Depression Inventory (BDI; Beck & Steer, 1987), a 21-item questionnaire designed to assess the severity of depression in adults. The BDI is one of the most widely accepted instruments for detecting possible depression in normal populations. Summary scores of the 21 items were used to measure adolescents' depressive symptoms. Each item is rated on a 4-point scale (0–3), so that the maximum score is 63. The internal consistency for this measure was good (Cronbach's α = .87).

Anxiety. At ages 16 and 17, target teens completed the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) a 21-item questionnaire designed to assess their recent experience of anxiety. Each item is rated on a 4-point scale (0–3) so that the maximum score is 63. Studies have found that the BAI has shown strong convergent and discriminant validity in clinical studies (Beck et al., 1988; Clark, Beck, & Stewart, 1990). The internal

consistency for this measure was good (Cronbach's $\alpha = .90$ at age 16, $.94$ at age 17).

At age 18, target teens completed the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), a self-report measure of two dimensions of anxiety: state and trait. The STAI has demonstrated concurrent validity in normal populations of adolescents (Carey, Faulstich, & Carey, 1994). The present investigation made use of the trait anxiety subscale (rather than the state subscale) because we were most interested in trait related outcomes. The *trait anxiety subscale* of the STAI measures symptoms of anxiety by asking the target teen to indicate on a 4-point scale the degree to which they experience a symptom (0–4.) A total score for trait anxiety was created by summing all 20 items with a maximum score of 80. The internal consistency for this measure was good (Cronbach's $\alpha = .89$).

Overall social competence. Target teen's close peer completed a modified version of the Adolescent Self-Perception Profile (Harter, 1988) to assess his or her opinion of the target teen's overall social competence at ages 16, 17, and 18. For each item, close peers were presented with two opposing statements (e.g., "Some kids find it hard to make friends BUT for other kids it's pretty easy") and selected which statement was most like the target teen. Next, they indicated whether their choice was *really true* of their friend or *sort of true* for their friend. Responses were scored on a scale of 1–4, with higher scores representing more perceived social competence. For the current study, we were interested in investigating the close peers' perception of the target teen's overall social competence. Therefore, we created a composite *Overall Social Competence* score from three relevant subscales (e.g., social acceptance, close friendship, and romantic appeal). Internal consistency for this combined subscale was acceptable (Cronbach's α was $.76$ at age 16, $.84$ at age 17, and $.82$ at age 18).

RESULTS

Means and standard deviations for all substantive variables are presented in Table 1. Fifteen percent of youth scored above the suggested clinical cutoffs on the CDI for mild depression at age 16, 10% scored above clinical cutoffs at age 17 (a scale score of 13; Kovacs, 1992), and 15% scored above the suggested clinical cutoffs using the BDI for mild to moderate depression at age 18 (a scale score of 10; Beck & Steer, 1987). When looking at levels of anxiety, 25% of youth scored above the suggested clinical cutoffs for mild anxiety using the BAI at age 16, 14% scored above clinical cutoffs at age 17 (a scale score of 10; Beck, Steer, & Beck, 1993), and 25% of youth scored above the suggested cutoff for clinically significant scores using the STAI at age 18 (a scale score of 40; Spielberger et al., 1983).

TABLE 1
Means, Standard Deviations, and Correlations Among Primary Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Rejection sensitivity (<i>t</i>) (16)	8.45	3.52	1.00	0.21**	0.34***	-0.17†	0.64***	0.24**	0.38***	0.23**	0.65***	0.33***	0.21*	-0.29**
2. Anxiety (<i>t</i>) (16)	6.89	7.62	1.00	0.44***	1.00	0.07	0.20*	0.60***	0.44***	0.04	0.20*	0.34***	0.23**	-0.16†
3. Depression (<i>t</i>) (16)	7.17	6.10	1.00	1.00	1.00	-0.20*	0.30***	0.29***	0.59***	-0.10	0.24***	0.49***	0.26**	-0.34**
4. Social competence (cp) (16)	38.46	6.24	1.00	1.00	1.00	1.00	-0.15	0.06	-0.03	0.33***	-0.10	0.03	0.07	0.43***
5. Rejection sensitivity (<i>t</i>) (17)	8.03	3.35	1.00	1.00	1.00	1.00	0.20**	1.00	0.38***	-0.12	0.63***	0.35***	0.28***	-0.28**
6. Anxiety (<i>t</i>) (17)	5.23	6.50	1.00	1.00	1.00	1.00	1.00	1.00	0.54***	-0.03	0.22*	0.38***	0.32***	0.00
7. Depression (<i>t</i>) (17)	6.50	5.42	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-0.11	0.34***	0.58***	0.52***	-0.19*
8. Social competence (cp) (17)	38.63	5.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-0.10	-0.04	0.06	0.35***
9. Rejection sensitivity (<i>t</i>) (18)	7.49	3.42	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.38***	0.19*	-0.16
10. Anxiety (<i>t</i>) (18)	35.10	8.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74***	-0.26**
11. Depression (<i>t</i>) (18)	5.03	6.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-0.15
12. Social competence (cp) (18)	42.52	6.45	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Note. Age of assessment is in parentheses; *t* = target adolescent report; cp = close-peer report about target teen.
****p* < .001; ***p* < .01; **p* < .05.

T-tests were used to examine group differences among male and female adolescents on each of the outcome variables. Significant gender differences emerged, with females having significantly higher levels of anxiety at age 17 than males, $t(164) = -2.24, p = .03$ (males: $M = 4.10, SD = 5.51$; females: $M = 6.29, SD = 7.19$). No significant gender differences were found on any other outcome variables. We will later discuss gender differences that emerged in rejection sensitivity. Because of mean level differences, gender was used as a covariate in each of the subsequent analyses.

Preliminary Analyses

T-tests indicate that at the group level, close peer reports of target teens' social competence significantly increased between the ages of 16 and 18, $t(94) = -5.74, p < .0001$ (age 16: $M = 38.46, SD = 6.24$; age 18: $M = 42.52, SD = 6.45$) and between the ages of 17 and 18, $t(94) = -6.21, p < .0001$ (age 17: $M = 38.63, SD = 5.83$; age 18: $M = 42.52, SD = 6.45$). Teen reports of anxiety symptoms at the group level significantly decreased between the ages of 16 and 17, $t(163) = 2.93, p < .01$ (age 16: $M = 6.89, SD = 7.62$; age 17: $M = 5.23, SD = 6.51$). No significant group level changes were detected in teen reports of depressive symptoms between the ages of 16 and 17. Because developmentally appropriate and therefore different measures assessed for anxiety and depressive symptoms at age 18, group level differences were not tested.

Correlational analyses. For descriptive purposes, Table 1 also presents simple correlations among all primary constructs examined in the study. These analyses indicate simple correlations between target teens' rejection sensitivity with almost every relevant variable at ages 16, 17, and 18. Across domains of functioning assessed, results show moderate to strong concurrent relationships between target teens' depressive and anxiety symptoms between ages 16, 17, and 18.

Primary Analyses

Hypothesis 1. *Rejection sensitivity will be stable across a 3-year period in late adolescence.*

Table 1 presents results indicating that target teens' rejection sensitivity remains relatively stable over the 3-year period in terms of teens' rank ordering relative to one another. The correlation between rejection sensitivity at ages 16, 17, and 18 was between .63 and .65 (p 's $< .001$). At the group level, teens' rejection sensitivity significantly decreased between ages 16 and 18, $t(129) = 2.37, p < .05$ (age 16: $M = 8.45, SD = 3.52$; age 18: $M = 7.49, SD = 3.42$).

No significant group level differences were detected in teens' rejection sensitivity between ages 16 and 17 or 17 and 18.

Hypothesis 2. Rejection sensitivity will predict relative increases in future depressive symptoms.

This hypothesis was tested using structural cross-lagged regression models with Mplus Version 5.0 (Muthén & Muthén, 1998–2006). Model fit was evaluated using the chi-square test, which measures absolute fit. However, the chi-square test is also sensitive to sample size and slight departures of the data from the model (Bollen, 1989). As a result, we looked at several other fit indices: the comparative fit index, in which values $> .90$ suggest model acceptance (Hoyle & Panter, 1995); the Tucker-Lewis index (also called the nonnormed fit index), in which values $> .90$ suggest model acceptance; and the root mean error of approximation, in which values $\leq .05$ indicate close fit, but a value of $.07$ is acceptable (Browne & Cudeck, 1993).

Analyses followed Ferrer and McArdle's (2003) guidelines. We tested the following alternative nested models positing that (a) cross-lagged paths exist for both rejection sensitivity and depressive symptoms, (b) there exists only a cross-lagged path from rejection sensitivity to depressive symptoms, (c) there exists only a cross-lagged path from depressive symptoms to rejection sensitivity, and (d) no cross-lagged paths are detectable. Comparing the change in fit for nested models allows alternative hypotheses to be evaluated systematically (Jöreskog & Sörbom, 1979). All models accounted for the demographic variables of gender and family income. Further, given the robust link between adolescents' peer relations and internalizing problems, we accounted for close peers' ratings of target teens' social competence in analyses of target teens' both depressive and anxiety symptoms (Cohen, 2004; Hartup, 1996; La Greca & Lopez, 1998).

Results presented in Figure 1 indicate that adolescent rejection sensitivity at 16 predicted a relative increase in depressive symptoms at 17, after adjusting for earlier adolescent depressive symptoms, demographic effects, and close peer-reports of target teens' social competence. Similarly, target teens' rejection sensitivity at age 17 predicted a relative increase in depressive symptoms at age 18. No direct relationship was detected between target teens' rejection sensitivity at age 16 and depressive symptoms at age 18 after accounting for the intervening paths. Also, no direct relationship was detected between target teens' depressive symptoms at age 16 and rejection sensitivity at age 18.

Further, a reciprocal cross-lagged relationship was observed, with depressive symptoms predicting relative increases in rejection sensitivity a year later from both ages 16 to 17 and ages 17 to 18. Removing either of the cross-lagged paths from depressive symptoms to rejection sensitivity, Model b: $\Delta\chi^2(1, N = 184) = 6.18, p < .05$, or from rejection sensitivity to depressive

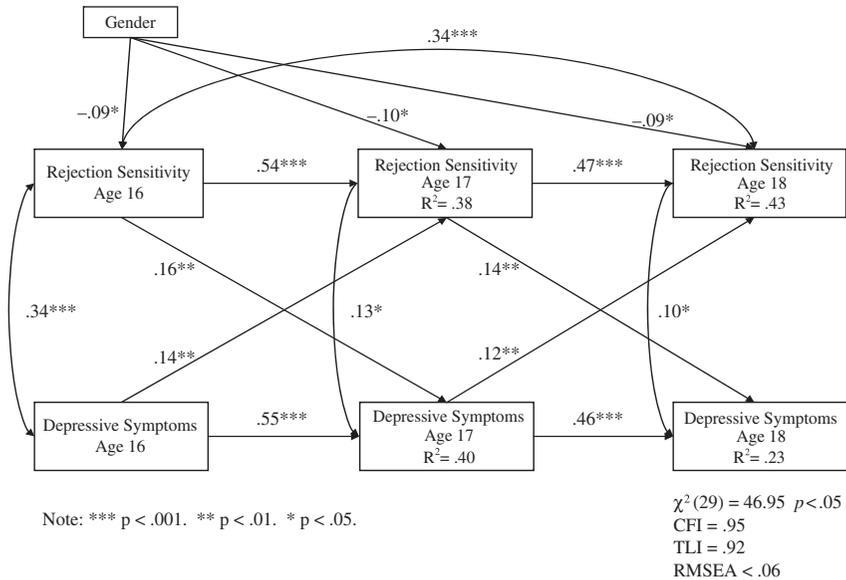


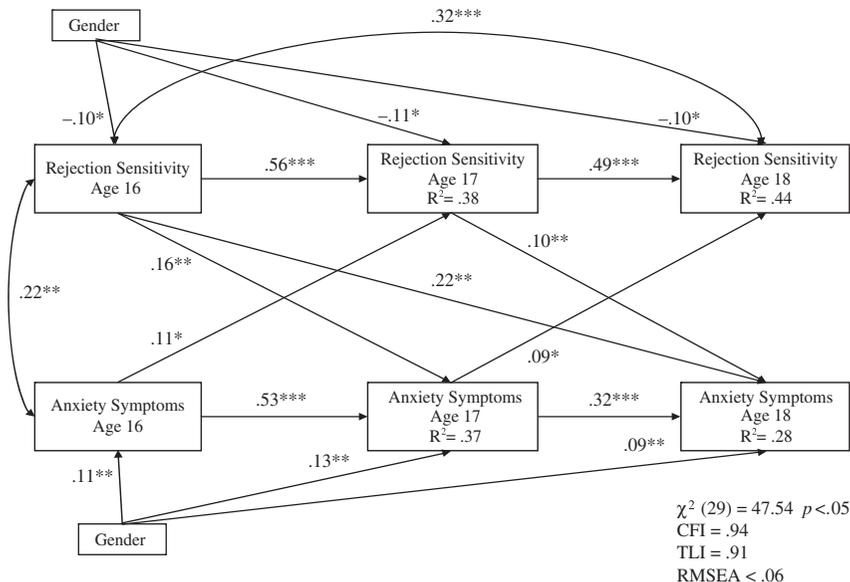
FIGURE 1 Path diagram of cross-lagged regression model of target teens' rejection sensitivity and depressive symptoms in late adolescence. Path coefficients are standardized. Only significant paths are represented.

symptoms, Model c: $\Delta\chi^2(1, N = 184) = 8.97, p < .01$, resulted in a significant decrease in fit, indicating that both cross-lagged effects are making significant contributions to the model fit. Therefore, a full cross-lagged regression model appears to best represent the data (Model a, in the Ferrer and McArdle nomenclature).

Hypothesis 3. Rejection sensitivity will predict relative increases in future anxiety symptoms.

Figure 2 presents results of structural cross-lagged regression analyses using the approach outlined above, indicating that adolescent rejection sensitivity at 16 predicted a relative increase in anxiety symptoms at ages 17 and 18, after adjusting for earlier adolescent anxiety symptoms, demographic effects, and close peer reports of target teens' social competence. Similarly, target teens' rejection sensitivity at age 17 predicted a relative increase in anxiety symptoms at age 18. No direct relationship was detected between target teens' anxiety symptoms at age 16 and rejection sensitivity at age 18 after accounting for the intervening paths.

Further, a reciprocal cross-lagged relationship was observed with anxiety symptoms predicting relative increases in rejection sensitivity a year later from both ages 16 to 17 and ages 17 to 18. Removing either of the cross-lagged



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

FIGURE 2 Path diagram of cross-lagged regression model of target teens’ rejection sensitivity and anxiety symptoms in late adolescence. Path coefficients are standardized. Only significant paths are represented.

paths from anxiety symptoms to rejection sensitivity, Model b: $\Delta\chi^2 (1, N = 184) = 4.58, p < .05$, or from rejection sensitivity to anxiety symptoms, Model c: $\Delta\chi^2 (1, N = 184) = 8.97, p < .01$, resulted in a significant decrease in fit, indicating that both cross-lagged effects are making significant contributions to the model fit. Therefore, a full cross-lagged regression model appears to again best represent the data.

Hypothesis 4. *Rejection sensitivity will predict relative decreases in target teens’ social competence as assessed by a close peer.*

Figure 3 presents results of structural cross-lagged regression analyses using the approach outlined above, indicating that target teens’ rejection sensitivity at age 16 predicted a relative decrease in close peer reports of target teens’ social competence at ages 17 and 18, after adjusting for earlier close peer reports of target teens’ social competence and demographic effects. Similarly, rejection sensitivity at age 17 predicted a relative decrease in close peer reports of target teens’ social competence at age 18. No direct relationship was detected between target teens’ rejection sensitivity at age 16 and close peer reports of target teens’ social competence at age 18, after accounting for the intervening paths. Also, no direct relationship was

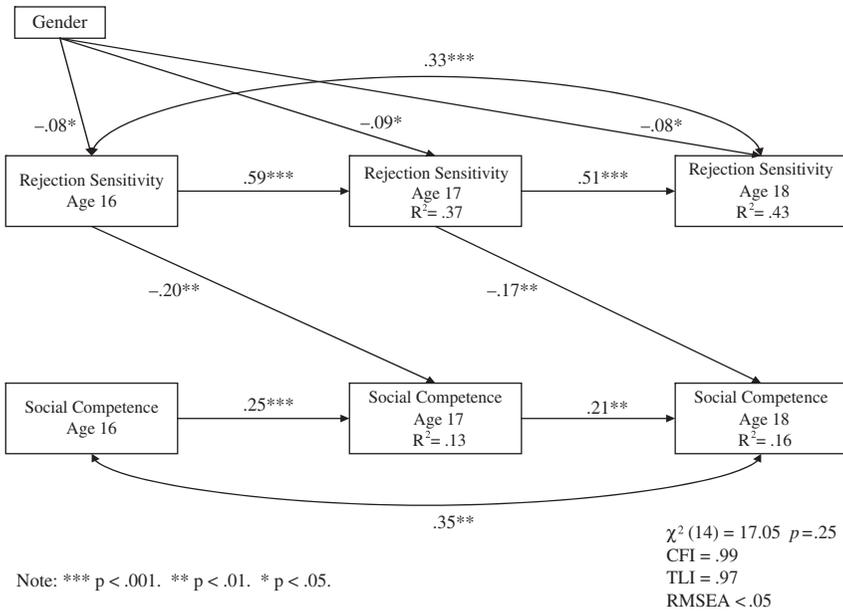


FIGURE 3 Path diagram of cross-lagged regression model of target teens’ rejection sensitivity and close peer report of target teens’ social competence in late adolescence. Path coefficients are standardized. Only significant paths are represented.

detected between close peer reports of target teens’ social competence at age 16 and target teens’ rejection sensitivity at age 18.

Further, a reciprocal cross-lagged relationship does not appear to exist between target teens’ rejection sensitivity and close peer reports of target teens’ social competence. Removing the cross-lagged regression from close peer reports of target teens’ social competence to target teens’ rejection sensitivity, Model c: $\Delta\chi^2(1, N = 184) = .04, ns$, did not alter the fit, indicating that this path did not contribute significantly in this model. However, removing the cross-lagged regression from target teens’ rejection sensitivity to close peer reports of target teens’ social competence, Model b: $\Delta\chi^2(1, N = 184) = 8.67, p < .01$, did result in a significant decrease in fit. Therefore, Model b appears to be the best representation of the data, indicating that target teens’ rejection sensitivity was found to predict lower levels of close peer reports of target teens’ social competence over time.

Hypothesis 5. *Late adolescent males will have higher levels of rejection sensitivity than females.*

T-tests indicated that total rejection sensitivity scores for males were significantly higher than females at age 16, $t(159) = 2.08, p = .04$ (males:

$M = 9.05$, $SD = 3.43$; females: $M = 7.91$, $SD = 3.52$) and at age 17, $t(161) = 2.40$, $p = .02$ (males: $M = 8.67$, $SD = 3.40$; females: $M = 7.43$, $SD = 3.21$). No significant differences between male and female total rejection sensitivity scores were found at age 18. When looking at the two rejection sensitivity subscales (e.g., rejection expectancy and rejection concern rating), males endorsed more expectations of rejection than females at age 16, $t(149) = 3.13$, $p < .01$ (males: $M = 2.48$, $SD = .78$; females: $M = 2.13$, $SD = .67$) and at age 17, $t(161) = 2.71$, $p < .01$ (males: $M = 2.39$, $SD = .92$; females: $M = 2.06$, $SD = .60$). No significant differences in expectations of rejection emerged at age 18. Additionally, no significant differences were found between male and female rejection concern ratings at ages 16, 17, or 18. In sum, these findings indicate that at ages 16 and 17, males and females found rejection to be of equal concern; however, males were more likely to display heightened expectations of rejection than females.

DISCUSSION

As hypothesized, rejection sensitivity was found to be closely linked to several aspects of late adolescents' psychosocial functioning. The tendency to readily perceive and overreact to potential rejection remained relatively stable over a 3-year period during late adolescence even as overall levels of rejection sensitivity decreased for the sample as a whole. Further, late adolescent rejection sensitivity was predictive of changes over time in measures of depressive symptoms, anxiety symptoms, and social competence. In turn, changes in rejection sensitivity over time were predicted by depressive and anxiety symptoms. In essence, not only does rejection sensitivity appear to reciprocally predict relative increases in adolescents' internalizing problems, it also predicts the erosion of an important potential protective mechanism (e.g., social support). Finally, when looking at mean level gender differences, results indicated that males had significantly higher levels of rejection sensitivity than females at ages 16 and 17 though not at age 18. Each of these findings is discussed in turn below.

This study found that rejection sensitivity remained relatively stable over a significant period of time during a critical 3-year period in late adolescence. Our finding replicates and extends previous findings on the stability of rejection sensitivity in early adolescence and adulthood (Downey & Feldman, 1996; Downey, Lebolt, et al., 1998; London et al., 2007). Notably, this is the first study to look at the stability of rejection sensitivity during this important period in which developing personality dispositions start to become more stable patterns that may continue into early adulthood (Roberts et al., 2001; Schulenberg et al., 2004). Although we found stability for individuals' relative position with respect to the sample, we also found that rejection sensitivity decreased over time for the sample as a whole. This may indicate that during this period of increasing cognitive and emotional capacities, late

adolescents are, as a group, maturing in ways that allow for more reflective and deliberate behaviors in social situations (Roberts et al., 2001).

As hypothesized, adolescents who were more likely to perceive and intensely react to potential rejection reported experiencing relative increases in internalizing problems (e.g., anxiety and depressive symptoms) during this 3-year period. The link between rejection sensitivity and internalizing problems is consistent with cognitive-interpersonal models of depressive and anxiety symptoms that stress the salience of negative cognitions and interpersonal rejection (Blatt & Zuroff, 1992; Chansky & Kendall, 1997; Eng & Heimberg, 2006; Hammen & Brennan, 2001). The current findings extend previous research on rejection sensitivity into late adolescence—a crucial period in the developmental course of internalizing problems.

Interestingly, adolescents' high in rejection sensitivity were more likely to report a relative increase in internalizing problems, even after controlling for their overall social competence. Research indicates that youth with internalizing problems often exhibit a lack of social skills (Blechman, McEnroe, Carella, & Audette, 1986; Dalley, Bolocofsky, & Karlin, 1994; Hops, Sherman, & Biglan, 1990). However, our research suggests that this tendency to readily perceive and over-react to potentially rejecting situations may potentially contribute to the development of late adolescent internalizing problems over and above reported levels of social competence. Indeed, after accounting for initial levels of internalizing problems, close peer reports of teens' social competence were not found to be associated with future levels of teen's internalizing problems, though rejection sensitivity was. Further, late adolescents' internalizing problems predicted relative increases in rejection sensitivity, which is consistent with (though not definitive proof of) the existence of a reciprocal-causality model for internalizing problems (Shahar et al., 2004). It is possible that internalizing symptoms decrease self-confidence and increase self-doubt in social situations, which might exacerbate any preexisting sensitivity to rejection (Joiner, 2000; Nolen-Hoeksema, Girgus, & Seligman, 1992). In addition to supporting a reciprocal-causality model, these findings highlight the potential importance of distorted perceptions and affective responses in the development and maintenance of internalizing problems during late adolescence.

We also found a link between rejection sensitivity and future decreases in adolescents' social competence, suggesting that expectations of rejection may lead adolescents to behave in ways that confirm their expectations and elicit rejection from peers (Miller & Turnbull, 1986). Prior research in rejection sensitivity has found that a similar self-fulfilling prophecy occurs in the romantic relationships of adults and adolescent girls, but this is the first study to extend this process into the broader peer domain (Downey & Feldman, 1996; Downey, Freitas, et al., 1998; Downey, Lebolt, et al., 1998). Notably, at each wave, target teens high in rejection sensitivity did not necessarily have close peers who perceived them as less socially competent. Rather, target teens

with high levels of rejection sensitivity had peers who reported 1 year later that the target teen had become relatively less socially competent (e.g., less socially accepted, not as close of a friend, and less romantically appealing). This is striking because, as a group, close peers report that target teens' social competence actually increased over time. Our findings suggest that during a period when adolescents are faced with increasingly complex social situations, rejection sensitivity may be particularly damaging for late adolescents' interpersonal relationships.

Consequently, rejection sensitivity may erode late adolescents' ability to count on a strong social support network that would buffer them against the development of internalizing problems that become more prevalent during this age (Kessler et al., 2001). Notably, two of the most effective psychosocial interventions for internalizing problems in adolescence—cognitive-behavior therapy and interpersonal psychotherapy—utilize social skill training and social interaction approaches (Kaslow, McClure, & Connell, 2002; Mufson, Weissman, Moreau, & Garfinkel, 1999). The findings of this study, if replicated, could help such interventions more precisely target the cognitive-affective mechanisms, such as rejection sensitivity, that place adolescents at risk for diminishing social supports and for developing internalizing problems.

Our finding that males had higher levels of rejection sensitivity than females at ages 16 and 17 is consistent with research into gendered socialization, which suggests that adolescent males have a harder time making the transition to more emotionally complex, heterosocial friendships and romantic relationships than females (Block, 1983; Kuttler et al., 1999; La Greca & Mackey, 2007). One reason for this could be because males may not have developed the kind of supportive friendships found to ease adolescents' adjustment, such as sharing advice on how to handle new and confusing situations (Brown, 1999; Crosnoe, 2000). In addition, males have been found to be more sensitive to rejection cues in situations that threaten their social status (as early dating situations may do; Downey, Freitas, et al., 1998; London et al., 2007). This sensitivity to public forms of rejection combined with relatively undeveloped emotionally supportive relationships may explain males' higher levels of rejection sensitivity at ages 16 and 17. More specifically, our findings indicate that males may have higher expectations of rejection during this period. In prior research covering the 14–21 age span, no gender differences were found (Harper et al., 2006). This is consistent with our findings of no differences by age 18, suggesting that ages 16 and 17 may represent a particularly sensitive period to rejection as romantic relationships are being initiated, often for the first time.

Given that levels of rejection sensitivity predicted relative increases in internalizing problems and males had higher levels of rejection sensitivity than females, one might expect to see more internalizing problems in males. However, this was not the case in our study. Indeed, research often indicates

that females have higher rates of internalizing problems in adolescence when compared with males (Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998; Nolen-Hoeksema & Girgus, 1994). While we suggest that maladaptive cognitive-affective processing is one factor in the development of internalizing problems during adolescence, a myriad of other factors also play vital roles. For example, across gender, internalizing symptoms have been shown to be predicted by a range of other factors such as poor health, tendency to ruminate, and maternal history of depression (Lewinsohn et al., 1994, 1998; Nolen-Hoeksema & Girgus, 1994). As such, future research is needed to disentangle the relative importance of rejection sensitivity across gender in late adolescence, over and above well-established risk factors.

There are several limitations to these data that should be kept in mind when interpreting the findings. First, although longitudinal studies predicting relative change over time in internalizing problems and social competence can rule out many alternative noncausal hypotheses, they are not sufficient in and of themselves to establish causal relations. Thus, other factors may have caused adolescents both to have higher levels of baseline rejection sensitivity and to become increasingly internalizing or decreasingly socially competent over time. Further, rejection sensitivity may reflect underlying developmental difficulties that produce both internalizing problems and lack of social competence. Additional research is needed to clarify these questions and better understand the origins of rejection sensitivity.

Second, this study collected data from participants' *current* closest peer, which gives the clearest possible picture of the adolescent's recent close peer interactions and eliminates the problem of repeatedly assessing a peer who may no longer be close to the adolescent. However, it is possible that rejection sensitivity may have led target teens to develop friendships with different kinds of peers over time. Future research should investigate whether characteristics of target teens' friends rather than characteristics of the target teens themselves are associated with reductions in close peer reports of target teens' social competence.

Third, this study was unable to assess absolute change in adolescents' internalizing problems because of developmental considerations with our measures. At ages 16 and 17, target teens were given a measure of depressive symptoms appropriate for children (i.e., CDI), but at age 18 they were given the adult version (i.e., BDI). Similarly, target teens were given two different measures to assess anxiety symptoms (i.e., BAI and STAI). Future research should utilize the same measures for depressive and anxiety symptoms in order to document absolute levels of change that may occur during late adolescence. Fourth, and finally, this study focused entirely on late adolescence, a period in which adolescents are coping with pervasive contextual and social changes. Whether these findings might generalize to other phases of adolescent and adult development is a question that warrants consideration in future research.

ACKNOWLEDGMENTS

The research was supported by Grant #9R01HD058305-11A1 from the National Institute of Child Health and Human Development. We would like to thank the Virginia Adolescent Research Group as well as all the adolescents who participated in the study. We would also like to thank Jennifer Cruz for her feedback on statistical matters.

REFERENCES

- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides & R. E. Schumaker (Eds.), *Advanced structural modeling: Issues and techniques* (pp. 243–277). Mahwah, NJ: Erlbaum.
- Arkowitz, H., Hinton, R., Perl, J., & Himadi, W. (1978). Treatment strategies for dating anxiety in college men based on real-life practice. *Counseling Psychologist, 7*, 41–46.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469–480.
- Ayduk, O., Downey, G., & Kim, M. (2001). Rejection sensitivity and depressive symptoms in women. *Personality and Social Psychology Bulletin, 27*, 868–877.
- Ayduk, O., Downey, G., Testa, A., Yen, Y., & Shoda, Y. (1999). Does rejection elicit hostility in rejection sensitive women? *Social Cognition, 17*, 245–271.
- Ayduk, O., May, D., Downey, G., & Higgins, E. T. (2003). Tactical differences in coping with rejection sensitivity: The role of prevention pride. *Personality and Social Psychology Bulletin, 29*, 435–448.
- Ayduk, O., Mendoza-Denton, R., Mischel, W., Downey, G., Peake, P. K., & Rodriguez, M. (2000). Regulating the interpersonal self: Strategic self-regulation for coping with rejection sensitivity. *Journal of Personality and Social Psychology, 79*, 776–792.
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York, NY: Harper and Row.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 57*, 893–897.
- Beck, A. T., & Steer, R. A. (1987). *Beck Depression Inventory manual*. New York, NY: The Psychological Corporation.
- Beck, A. T., Steer, R. A., & Beck, J. S. (1993). Types of self-reported anxiety in outpatients with DSM-III-R anxiety disorders. *Anxiety, Stress and Coping: An International Journal, 6*, 43–55.
- Birmaher, B., Ryan, N. D., Williamson, D. E., & Brent, D. A. (1996). Childhood and adolescent depression: A review of the past 10 years, Part I. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 1427–1439.
- Blatt, S. J., & Zuroff, D. C. (1992). Interpersonal relatedness and self-definition: Two prototypes for depression. *Clinical Psychology Review, 12*, 527–562.
- Blechman, E. A., McEnroe, M. J., Carella, E. T., & Audette, D. P. (1986). Childhood competence and depression. *Journal of Abnormal Psychology, 95*, 223–227.
- Block, J. H. (1983). Differential premises arising from differential socialization of the sexes: Some conjectures. *Child Development, 54*, 1335–1354.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York, NY: Wiley.
- Brown, B. B. (1999). “You’re going out with who?”: Peer group influences on adolescent romantic relationships. In W. Furman & B. B. Brown (Eds.), *The development of romantic relationships in adolescence. Cambridge studies in social and emotional development* (pp. 291–329). New York, NY: Cambridge University Press.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.

- Buhrmester, D. (1990). Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. *Child Development, 61*, 1101–1111.
- Carey, M., Faulstich, M., & Carey, T. (1994). Assessment of anxiety in adolescents: Concurrent and factorial validities of the trait anxiety scale of Spielberger's State-Trait Anxiety Inventory for Children. *Psychological Reports, 75*, 331–338.
- Caspi, A., & Moffitt, T. E. (1993). When do individual differences matter? A paradoxical theory of personality coherence. *Psychological Inquiry, 4*, 247–271.
- Chansky, T. E., & Kendall, P. C. (1997). *Social expectancies and self-perceptions in anxiety-disordered children. Journal of Anxiety Disorders, 11*, 347–363.
- Clark, D. A., Beck, A. T., & Stewart, B. L. (1990). Cognitive specificity and positive negative affectivity: Complementary or contradictory views on anxiety and depression? *Journal of Abnormal Psychology, 99*, 148–155.
- Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*, 676–684.
- Collins, W. A. (2003). More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence, 13*, 1–24.
- Crosnoe, R. (2000). Friendships in childhood and adolescence: The life course and new directions. *Social Psychology Quarterly, 63*, 377–391.
- Dalley, M. B., Bolocofsky, D. N., & Karlin, N. J. (1994). Teacher-ratings and self-ratings of social competency in adolescents with low- and high-depressive symptoms. *Journal of Abnormal Child Psychology, 22*, 477–485.
- Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*, 1327–1343.
- Downey, G., Feldman, S., & Ayduk, O. (2000). Rejection sensitivity and male violence in romantic relationships. *Personal Relationships, 7*, 45–61.
- Downey, G., Freitas, A. L., Michaelis, B., & Khouri, H. (1998). The self-fulfilling prophecy in close relationships: Rejection sensitivity and rejection by romantic partners. *Journal of Personality and Social Psychology, 75*, 545–560.
- Downey, G., Lebolt, A., Rincón, C., & Freitas, A. L. (1998). Rejection sensitivity and children's interpersonal difficulties. *Child Development, 69*, 1074–1091.
- Enders, C. K. (2001). The performance of the full information maximum likelihood estimator in multiple regression models with missing data. *Educational and Psychological Measurement, 61*, 713–740.
- Eng, W., & Heimberg, R. G. (2006). Interpersonal correlates of generalized anxiety disorder: Self versus other perception. *Journal of Anxiety Disorders, 20*, 380–387.
- Ferrer, E., & McArdle, J. (2003). Alternative structural models for multivariate longitudinal data analysis. *Structural equation modeling: A multidisciplinary journal, 10*, 493–524.
- Galambos, N. L., Leadbeater, B. J., & Barker, E. T. (2004). Gender differences in and risk factors for depression in adolescence: A 4-year longitudinal study. *International Journal of Behavioral Development, 28*, 16–25.
- Glickman, A. R., & La Greca, A. M. (2004). The dating anxiety scale for adolescents: Scale development and associations with adolescent functioning. *Journal of Clinical Child and Adolescent Psychology, 33*, 566–578.
- Hammen, C., & Brennan, P. A. (2001). Depressed adolescents of depressed and nondepressed mothers: Tests of an interpersonal impairment hypothesis. *Journal of Consulting and Clinical Psychology, 69*, 284–294.
- 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*, 128–140.
- Harper, M. S., Dickson, J. W., & Welsh, D. P. (2006). Self-silencing and rejection sensitivity in adolescent romantic relationships. *Journal of Youth and Adolescence, 35*, 459–467.
- Harris, J. R. (1995). Where is the child's environment? A group socialization theory of development. *Psychological Review, 102*, 458–489.

- Harter, S. (1988). *Manual for the self-perception profile for adolescents*. Denver, CO: University of Denver.
- Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67*, 1–13.
- Hops, H., Sherman, L., & Biglan, A. (1990). Maternal depression, marital discord, and children's behavior: A developmental perspective. In G. R. Patterson (Ed.), *Depression and aggression in family interactions* (pp. 185–208). Hillsdale, NJ: Erlbaum.
- Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models. In R. H. Hoyle (Ed.), *Structural equation modeling: Comments, issues, and applications* (pp. 195–222). Thousand Oaks, CA: Sage.
- Joiner, T. E. (2000). Depression's vicious scree: Self-propagating and erosive processes in depression chronicity. *Clinical Psychology: Science and Practice, 7*, 203–218.
- Jöreskog, K., & Sörbom, D. (1979). *Advances in factor analysis and structural equation models*. Cambridge, MA: Abt Books.
- Kaslow, N. J., McClure, E. B., & Connell, A. M. (2002). Treatment of depression in children and adolescents. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 441–464). New York, NY: Guilford Press.
- Kazdin, A. E. (1990). Childhood depression. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 31*, 121–160.
- Kessler, R. C., Avenevoli, S., & Merikangas, K. R. (2001). Mood disorders in children and adolescents: An epidemiologic perspective. *Biological Psychiatry, 49*, 1002–1014.
- Kovacs, M. (1992). *Children's Depression Inventory manual*. New York, NY: Multi-Health Systems.
- Kovacs, M., & Beck, A. T. (1977). *An empirical clinical approach toward a definition of childhood depression*. New York, NY: Raven Press.
- Kuttler, A. F., La Greca, A. M., & Prinstein, M. J. (1999). Friendship qualities and social-emotional functioning of adolescents with close, cross-sex friendships. *Journal of Research on Adolescence, 9*, 339–366.
- La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression? *Journal of Clinical Child and Adolescent Psychology, 34*, 49–61.
- La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology, 26*, 83–94.
- La Greca, A. M., & Mackey, E. R. (2007). Adolescents' anxiety in dating situations: The potential role of friends and romantic partners. *Journal of Clinical Child and Adolescent Psychology, 36*, 522–533.
- Larson, R. W., & Asmussen, L. (1991). Anger, worry, and hurt in early adolescence: An enlarging world of negative emotions. In M. E. Colten & S. Gore (Eds.), *Adolescent stress: Causes and consequences* (pp. 21–41). New York, NY: Aldine de Gruyter.
- Larson, R. W., Clore, G. L., & Wood, G. A. (1999). The emotions of romantic relationships: Do they wreak havoc on adolescents? In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 19–49). New York, NY: Cambridge Press.
- Lewinsohn, P. M., Gotlib, I. H., Lewinsohn, M., Seeley, J. R., & Allen, N. B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of Abnormal Psychology, 107*, 109–117.
- Lewinsohn, P. M., Mischel, W., Chaplin, W., & Barton, R. (1980). Social competence and depression: The role of illusory self-perceptions. *Journal of Abnormal Psychology, 89*, 203–212.
- Lewinsohn, P. M., Roberts, R. E., Seeley, J. R., Rohde, P., Gotlib, I. H., & Hops, H. (1994). Adolescent psychopathology: II: Psychosocial risk factors for depression. *Journal of Abnormal Psychology, 103*, 302–315.
- Lewinsohn, P. M., Solomon, A., Seeley, J. R., & Zeiss, A. (2000). Clinical implications of "sub-threshold" depressive symptoms. *Journal of Abnormal Psychology, 109*, 345–351.

- London, B., Downey, G., Bonica, C., & Paltin, I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence, 17*, 481–506.
- Masten, A. S., Burt, K. B., Roisman, G. I., Obradovic, J., Long, J. D., & Tellegen, A. (2004). Resources and resilience in the transition to adulthood: Continuity and change. *Development and Psychopathology, 16*, 1071–1094.
- Miller, D. T., & Turnbull, W. (1986). Expectancies and interpersonal processes. *Annual Review of Psychology, 37*, 233–256.
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review, 102*, 246–268.
- Mufson, L., Weissman, M. M., Moreau, D., & Garfinkel, R. (1999). Efficacy of interpersonal psychotherapy for depressed adolescents. *Archives of General Psychiatry, 56*, 573–579.
- Muthén, B. O., & Muthén, L. K. (1998–2006). *Mplus (Version 5.0)*. Los Angeles, CA: Muthén & Muthén.
- Nolen-Hoeksema, S., & Girgus, J. S. (1994). The emergence of gender differences in depression during adolescence. *Psychological Bulletin, 115*, 424–443.
- Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. *Journal of Abnormal Psychology, 101*, 405–422.
- 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.
- Raykov, T. (2005). Analysis of longitudinal studies with missing data using covariance structure modeling with full-information maximum likelihood. *Structural Equation Modeling: A Multidisciplinary Journal, 12*, 493–505.
- Roberts, B. W., Caspi, A., & Moffitt, T. E. (2001). The kids are alright: Growth and stability in personality development from adolescence to adulthood. *Journal of Personality and Social Psychology, 81*, 670–683.
- Roisman, G. I., Aguilar, B., & Egeland, B. (2004). Antisocial behavior in the transition to adulthood: The independent and interactive roles of developmental history and emerging developmental tasks. *Development and Psychopathology, 16*, 857–871.
- Ruble, D. N., & Seidman, E. (1996). Social transitions: Windows into social psychological processes. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 830–856). New York, NY: Guilford Press.
- Rutter, M. (1996). Transitions and turning points in developmental psychopathology: As applied to the age span between childhood and mid-adulthood. *International Journal of Behavioral Development, 19*, 603–626.
- Salmivalli, C., & Isaacs, J. (2005). Prospective relations among victimization, rejection, friendlessness, and children's self- and peer-perceptions. *Child Development, 76*, 1161–1171.
- 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.
- Sandstrom, M. J., Cillessen, A. H. N., & Eisenhower, A. (2003). Children's appraisal of peer rejection experiences: Impact on social and emotional adjustment. *Social Development, 12*, 530–550.
- Schulenberg, J. E., Bryant, A. L., & O'Malley, P. M. (2004). Taking hold of some kind of life: How developmental tasks relate to trajectories of well-being during the transition to adulthood. *Development and Psychopathology, 16*, 1119–1140.
- Segrin, C. (2000). Social skills deficits associated with depression. *Clinical Psychology Review, 20*, 379–403.
- Shahar, G., Blatt, S. J., Zuroff, D. C., Kuperminc, G. P., & Leadbeater, B. J. (2004). Reciprocal relations between depressive symptoms and self-criticism but not dependency among early adolescent girls but not boys. *Cognitive Therapy and Research, 28*, 85–103.

- Sharabany, R., Gershoni, R., & Hofman, J. E. (1981). Girlfriend, boyfriend: Age and sex differences in intimate friendship. *Developmental Psychology, 17*, 800–808.
- Sheeber, L., Hops, H., Alpert, A., Davis, B., & Andrews, J. (1997). Family support and conflict: Prospective relations to adolescent depression. *Journal of Abnormal Child Psychology, 25*, 333–344.
- Smucker, M. R., Craighead, W. E., Craighead, L. W., & Green, B. J. (1986). Normative and reliability data for the Children's Depression Inventory. *Journal of Abnormal Child Psychology, 14*, 25–39.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press, Inc.
- Wight, R. G., Sepúlveda, J. E., & Aneshensel, C. S. (2004). Depressive symptoms: How do adolescents compare with adults? *Journal of Adolescent Health, 34*, 314–323.
- Zimmer-Gembeck, M. J., Siebenbruner, J., & Collins, W. A. (2001). Diverse aspects of dating: Associations with psychosocial functioning from early to middle adolescence. *Journal of Adolescence, 24*, 313–336.