Rejection Sensitivity in Adolescence:

Peer-Related Precursors and

Links with Problem Behaviors in Early Adulthood

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Abstract

This study used longitudinal, multi-reporter data in a community sample to examine the peer-related precursors of rejection sensitivity and its link with problem behaviors in late adolescence and early adulthood. First, it was hypothesized that multiple facets of the mid-adolescent peer experience (i.e., sociometric status, observed peer interactions and dyadic reports of friendship quality) would predict the development of rejection sensitivity during late adolescence and early adulthood. Latent growth curve analyses revealed links of popularity, observed peer interactions and dyadic reports of friendship quality to the development of rejection sensitivity. Results suggest that mid-adolescent peer experiences may be a marker of the presence or absence of social skills that become important building blocks for learning to anticipate and cope with rejection in social situations during late adolescence and early adulthood.

Next, it was hypothesized that adolescent rejection sensitivity would moderate the relationship between negative peer experiences in mid-adolescence and later problem behaviors (i.e., soft drug use and externalizing behaviors). In support of this hypothesis, rejection sensitivity was found to predict elevated levels of soft drug use and relative increases in externalizing behaviors among socially-*challenged* teens. However, rejection sensitivity also appeared to function as a protective factor predicting relatively lower levels of soft drug use among socially-*successful* teens. Results provide preliminary evidence that higher levels of rejection sensitivity may have some adaptive qualities in relation to soft drug use among socially-successful teens. The importance of rejection sensitivity in understanding intrapersonal motivations for problem behaviors among late adolescents and early adults is highlighted.

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Throughout an individual's lifetime, experiences of rejection are inevitable. As an adolescent, an individual's peers will likely exclude them from activities. As a young adult, his or her romantic overtures will be denied and partners will initiate break-ups. While rejection is a common part of the human experience, it is also painful and eagerly avoided. As a result, it is understandable that individuals develop sensitivities to potential rejection in social situations in order to protect themselves.

Researchers view rejection sensitivity as the disposition to anxiously expect, readily perceive, and intensely react to social rejection. Specifically, in potentially rejecting situations, people who are high in rejection sensitivity automatically expect rejection and therefore perceive (or misperceive) interactions with others as rejecting and react defensively (Feldman & Downey, 1994). Theoretically, rejection sensitivity draws upon attachment theory and attributional analysis (Feldman & Downey, 1994). From an attachment perspective, expectations of rejection promote a readiness to perceive and overreact to rejection (Downey et al., 2003; Sroufe, 1990). From an attributional analysis perspective, negative attributions result from perceiving that behaviors are motivated by negative or hostile intent (Dodge, 1980). Thus, rejection sensitivity is viewed as a cognitive-affective mechanism through which internal working models of relationships influence expectations, perceptions and reactions in interpersonal situations.

Some degree of rejection sensitivity is socially adaptive for people (Murray, Holmes, & Collins, 2006) but high levels of rejection sensitivity have been linked to a variety of negative outcomes. For example, forming interpersonal relationships, an important developmental task throughout the lifespan, is especially difficult for people high in rejection sensitivity (Ayduk, Downey, Testa, Yen, & Shoda, 1999; Downey,

Lebolt, Rincón, & Freitas, 1998b; Marston, Hare, & Allen, in press). Such interpersonal difficulties can be exacerbated as individuals high in rejection sensitivity display sensitivities and negative expectations that become self-fulfilling prophecies in both romantic and peer relationships (Downey, Freitas, Michaelis, & Khouri, 1998a; Marston, et al., in press). In addition, this cognitive-affective mechanism appears to be a significant factor in the development of internalizing (e.g., depression and anxiety) and externalizing (e.g., substance use, anger and aggression) problems across the life-span (Ayduk, Downey, & Kim, 2001; Ayduk, et al., 1999; Downey & Feldman, 1996; Downey, et al., 1998a; Downey, et al., 1998b; Harper, Dickson, & Welsh, 2006; London, Downey, Bonica, & Paltin, 2007; Marston, et al., in press; Purdie & Downey, 2000; Sandstrom, Cillessen, & Eisenhower, 2003). Despite the growing body of research linking rejection sensitivity with psychosocial problems, there is a paucity of research on the precursors and consequences of rejection sensitivity throughout adolescence and early adulthood.

The current study has two primary goals. First, the etiology of rejection sensitivity is investigated, focusing on whether peer experiences predict the development of rejection sensitivity in late adolescence and early adulthood. Second, this study investigates the possibility that rejection sensitivity moderates the well-established relationship between peer experiences and later problem behaviors, emphasizing the potential roles of peer susceptibility and maladaptive coping responses in adolescence.

Peer Experiences as Predictors of Rejection Sensitivity

Researchers theorize that rejection sensitivity is likely influenced by earlier negative experiences in relationships (Downey & Feldman, 1996; Feldman & Downey, 1994). The assertion that early experiences of rejection might underlie an individual's

disposition to be sensitive to rejection is based on the long tradition of attachment research (Bowlby, 1969/1982). Bowlby proposed that children develop internal models of themselves and of relationships based on the reliability with which primary caretakers were able to meet children's needs. When caretakers respond with rejection, children have been shown to be more likely to develop insecure working models (Allen & Hauser, 1996; Allen, Hauser, Bell, & O'Connor, 1994; Main & Goldwyn, 1984; Main & Weston, 1981).

Higher levels of rejection sensitivity in adulthood have been associated with retrospective reports of childhood adversity within the family context. For example, young adults with insecure attachment styles were more sensitive to rejection than those who were securely attached (Downey & Feldman, 1996; Feldman & Downey, 1994). Rejection sensitivity was also found to mediate the link between retrospective reports of family violence and insecure adult attachment styles (Feldman & Downey, 1994). These findings highlight the importance of rejection sensitivity in the developmental sequelae of familial maltreatment; however, it is equally important to examine the role of peer experiences in the development of rejection sensitivity.

Peer experiences appear to have profound influences on children's cognitive and emotional development. Most notably, rejected children tend to be less competent at interpreting peer cues, regulating their emotions and solving problems in social situations (Eisenberg & Guthrie, 1997; Nelson & Crick, 1999). For example, experiences of peer rejection have been shown to alter children's social information processing (i.e. hypervigilance to hostile or rejection cues and tendency to generate maladaptive responses) (Dodge & Crick, 1990) and predict higher rates of emotional dysregulation

and negative affect (Rubin, Coplan, Fox, & Calkins, 1995; Zahn-Waxler, Cole, Welsh, & Fox, 1995).

In addition, researchers note that it is important to look beyond the mere presence or absence of friendships when predicting developmental outcomes (Hartup, 1996). Aspects of friendship quality (e.g., levels of intimacy, ability to communicate, and peer acceptance) make unique contributions to the prediction of children's and adolescents' socio-emotional adjustment (Ladd, 1990; Ladd, Kochenderfer, & Coleman, 1997; Parker & Asher, 1993). Further, behavioral pathways to poor socio-emotional adjustment implicate a range of behaviors that include subtle forms of rejection (e.g., lower levels of peer acceptance) and a range of deficits (e.g., poor sociability, poor communication with peers and less supportive friendships) (Black & Logan, 1995; Denham & Holt, 1993; East & Rook, 1992; Parker & Asher, 1993; Rubin & Asendorpf, 1993). Taken together, research suggests that both the quantity and quality of peer experiences might play an important role in the development of a cognitive-affective personality disposition such as rejection sensitivity.

Preliminary investigations show that experiences of peer rejection were associated with higher levels of rejection sensitivity in samples of children and early adolescents (Downey, et al., 1998b; London, et al., 2007; Sandstrom, et al., 2003). Specifically, rejected children (i.e., "disliked" by peers) exhibited higher levels of distress in response to rejection experiences (Sandstrom, et al., 2003). Peer rejection predicted increases in early-adolescent boys' levels of angry rejection sensitivity over a 6-month period (London, et al., 2007). On the other hand, positive experiences within the peer context appear to protect children from developing maladaptive levels of rejection sensitivity.

Follow-up analyses by London and colleagues (2007) found that social acceptance (i.e., being "liked" by peers) reduced anxious rejection expectations over time for both boys and girls. Given that the establishment of close, intimate friendships becomes increasingly important to adolescents' developing self-concept (Buhrmester, 1990; Laird, Pettit, Dodge, & Bates, 2005), it is surprising that little research has investigated the peer-related precursors of rejection sensitivity in late adolescence.

Understanding how adolescent relationships might impact the development of rejection sensitivity is especially important because rejection sensitivity is typically conceptualized as a cross-situational cognitive-affective processing disposition (Downey & Feldman, 1996; Feldman & Downey, 1994). Principal-components factor analyses support the use of a single rejection sensitivity factor in both adolescents and young adults (Downey & Feldman, 1996; Feldman & Downey, 1994). Thus adolescent peer experiences would be expected to predict later sensitivity to rejection across multiple domains (e.g., peer, parental, romantic and school/work). Conversely, it is possible that negative mid-adolescent peer experiences elicit higher levels of rejection sensitivity within the context of peer relationships but not in other domains (e.g., parental, romantic and school/work). However, given the strong associations between parental, peer and romantic functioning during adolescence (Connolly & Goldberg, 1999; Sroufe, Egeland, Carlson, & Collins, 2005), it is expected that peer- related precursors will be similarly predictive of rejection sensitivity in all domains.

The current analysis extends existent research by investigating developmental precursors of rejection sensitivity. As adolescents and young adults must learn to navigate complex social and emotional contexts (Harris, 1995; Steinberg, 2001), it is

likely that negative peer experiences (e.g., peer rejection and negative friendship quality) in mid-adolescence will be particularly detrimental for the development of rejection sensitivity in late adolescence and early adulthood. It is hypothesized that multiple facets of mid-adolescent peer relations (e.g., sociometric status, observed peer interactions and dyadic reports of friendship quality) will each independently predict rejection sensitivity throughout late adolescence and early adulthood.

Problem Behaviors in Adolescence

Problem behaviors including substance use, alcohol use, delinquency and aggression steadily increase throughout adolescence (Boyer, 2006; Flory, Lynam, Milich, Leukefeld, & Clayton, 2004; Jessor, 1991; Johnston, O'Malley, & Bachman, 2002; Rai, et al., 2003; Schulenberg, Wadsworth, O'Malley, Bachman, & Johnston, 1996; Tucker, Orlando, & Ellickson, 2003). In a national sample of eighth graders, 25% reportedly tried illicit drugs and 50% tried alcohol (Centers for Disease Control and, 2004). These numbers escalate so that by twelfth grade, 55% reportedly tried illicit drugs and 80% tried alcohol. However, as alcohol use typically continues to increase in young adulthood, rates of delinquency and aggression typically decline as adolescents mature and begin to take on more conventional roles (Elliott, Huizinga, & Menard, 1989; Moffitt, 1993).

More socially accepted problem behaviors (e.g., substance use, alcohol use and minor forms of delinquency) may be part of a normative developmental process in which adolescents strive to assert their autonomy and gain peer acceptance (Allen, Porter, McFarland, Marsh, & McElhaney, 2005; Dishion & Owen, 2002; Jessor, 1987, 1991; Johnston, O'Malley, & Bachman, 2003). Yet, problem behaviors can still be particularly

detrimental for adolescents' physical and mental health. Adolescent problem behaviors are associated with future substance abuse and dependence, increases in psychiatric and health problems (e.g., mood disorders, obesity and high blood pressure) and neurobehavioral deficits (Arnett, 2000; Arnett & Taber, 1994; Brook, Finch, Whiteman, & Brook, 2002; Brook, Richter, & Rubenstone, 2000; Flory, et al., 2004; Nelson, Leibenluft, McClure, & Pine, 2005; Oesterle, et al., 2004; Tucker, et al., 2003).

Peer Experiences as Predictors of Problem Behaviors

The association between peer experiences and negative developmental trajectories is strongest during adolescence (Crosnoe & McNeely, 2008; Giordano, 1995; Hartup, 1996). Thus, in order to understand and prevent adolescent problem behaviors, researchers often start by looking within the peer context. Research has primarily focused on the influence of deviant peer groups on adolescent attitudes and behaviors, through peer influence and peer selection processes (Dishion, McCord, & Poulin, 1999; Dishion, Patterson, Stoolmiller, & Skinner, 1991; Hawkins, Catalano, & Miller, 1992; Patterson, DeBaryshe, & Ramsey, 1989; Simons, Wu, Conger, & Lorenz, 1994). Research supporting peer influence processes show that adolescents who spend more time with antisocial peers are more likely to engage in a number of problem behaviors (Dishion & Owen, 2002; Keenan, Loeber, Zhang, & Stouthamer-Loeber, 1995; Urberg, Degirmencioglu, & Pilgrim, 1997). Behavioral-genetics research has provided increasingly strong evidence for peer selection processes, indicating that a moderate proportion of variance in problem behaviors is due to genetic influences via peer selection processes and biological vulnerabilities (Harden, Hill, Turkheimer, & Emery, 2008; Hill, Emery, Harden, Mendle, & Turkheimer, 2008; Rhee & Waldman, 2002).

Increasingly, adolescent problem behaviors are conceptualized as a joint outcome of peer influence and peer selection processes (Dishion & Owen, 2002; Harden, et al., 2008; Simons-Morton & Chen, 2006; Urberg, Luo, Pilgrim, & Degirmencioglu, 2003). Harden and colleagues (2008) show a gene-environment interaction in which adolescents with genetic predispositions to use substances (and who select more deviant peers) were also more vulnerable to negative peer influences. Further, a longitudinal study of adolescents found that peer rejection and antisocial peer involvement were both independently associated with more delinquent behavior, suggesting the presence of two different but significant pathways to adolescent problem behaviors (Laird, et al., 2005).

Peer rejection has been a particularly salient factor in helping researchers understand peer selection and peer influence processes in the development of adolescent problem behaviors. Critical reviews show a robust association between experiencing peer rejection in childhood and a range of later problem behaviors such as increased aggression, mental health problems, and substance use in adolescence and adulthood (Bagwell, Schmidt, Newcomb, & Bukowski, 2001; Coie, Lochman, Terry, & Hyman, 1992; Deater-Deckard, 2001; Dodge, et al., 2003; Kupersmidt, Coie, & Dodge, 1990; Laird, Jordan, Dodge, Pettit, & Bates, 2001; Ollendick, Weist, Borden, & Greene, 1992; Parker & Asher, 1987; Prinstein & La Greca, 2004; Tarter, 2002). It is hypothesized that rejected children are at increased risk for problem behaviors partially as a result of the emotional reaction that social rejection engenders. Such reactions may lead to negatively biased social cognitions and dysregulated emotional reactions in future peer interactions which in turn leads to increased problem behaviors (Dodge, et al., 2003; Eisenberg & Guthrie, 1997; Nelson & Crick, 1999).

Studies examining the influence of friendship quality on problem behaviors in adolescence have found mixed results. On one hand, problem behaviors may develop as a result of negative peer experiences. Levels of conflict and negative engagement were greater among delinquent youth when compared to non-delinquent youth (Dishion, Andrews, & Crosby, 1995). Further, poor friendship quality amplified the relationship between negative parenting and antisocial behaviors in early-adolescence even after controlling for baseline levels of antisocial behaviors (Lansford, Criss, Pettit, Dodge, & Bates, 2003). Yet, positive friendship quality and social acceptance have also been associated with greater levels of substance use (Allen, et al., 2005; Hussong, 2000; Windle, 1994). In order to fully understand these seemingly contradictory set of findings, longitudinal research should incorporate comprehensive assessments of the peer experience that includes measures of peer rejection as well as negative and positive aspects of friendship quality.

Rejection Sensitivity as Moderator of the Relationship between Peer Experiences and Later Problem Behaviors.

As peer relationships become increasingly important and adolescents are surrounded by substance use (Johnston, 2002), high levels of rejection sensitivity may be particularly harmful for adolescents with histories of negative peer experiences. Adolescents high in rejection sensitivity might have a heightened need to feel accepted by their peers and be more likely to anticipate negative repercussions if they refuse to participate in antisocial activities - leading to higher rates of problem behaviors in late adolescence and early adulthood. In addition, adolescents who anxiously expect, readily perceive and intensely react to rejection may have a particularly difficult time regulating

their emotions and subsequently may engage in risky-behaviors as a maladaptive mechanism for coping with rejection in socially difficult situations.

Susceptibility to Peer Pressure. It is possible that negative peer experiences might be particularly harmful for adolescents high in rejection sensitivity due to an increased susceptibility to peer pressure - an important factor in the development of adolescent problem behaviors (Allen & Antonishak, 2006; Kung & Farrell, 2000; Schulenberg, Maggs, & Dielman, 1999). Susceptibility to peer pressure becomes especially salient during adolescence when a secondary function of problem behaviors may be to enhance social connections and gain acceptance from peers (Allen, et al., 2005; Dishion & Owen, 2002; Maggs, Almeida, & Galambos, 1995). Behavioral genetics research indicates that non-shared environmental influences may be equally as important as shared genetic influences on problem behaviors, potentially due to factors such as vulnerability to peer pressure (Harden, et al., 2008; Rhee & Waldman, 2002). Yet not all adolescents are likely to be equally influenced by their peers (Allen, Porter, & McFarland, 2006; Dishion & Dodge, 2005; Harden, et al., 2008; Urberg, et al., 2003).

Research suggests that adolescents who fear isolation or rejection are the most likely to be influenced in peer groups because the need for acceptance is greater (Boyer, 2006; Dishion & Owen, 2002; Kandel, 1996). Adolescents on the margins of social groups were more likely to conform to behaviors of desired friends in order to seek acceptance (Aloise-Young, Graham, & Hansen, 1994; Ennett & Bauman, 1994). More specifically, adolescents who reported feelings of rejection were at an increased risk for the initiation of alcohol use (Kaplow, Curran, Angold, & Costello, 2001). Early adolescent girls high in rejection sensitivity were more likely to report a willingness to do

something they knew was wrong in order to maintain a romantic relationship (Purdie & Downey, 2000). Given the strong association between negative peer experiences and later problem behaviors previously discussed, adolescents with histories of negative peer experiences and high levels of rejection sensitivity might have a heightened desire to maintain relationships and be particularly motivated to engage in problem behaviors that are perceived to prevent social rejection.

Maladaptive Coping Mechanisms. It is also possible that negative peer experiences might be particularly harmful for adolescents high in rejection sensitivity due to difficulties regulating emotions. Research indicates that emotional dysregulation is linked with social rejection and later antisocial activities including aggression and substance use (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Bates & Labouvie, 1997; Caspi, Moffitt, Lewman, & Silva, 1996). Highly emotional children, who were particularly prone to anger, tended to have less inhibitory control and exhibit more problems (Eisenberg, et al., 2001). In addition, negative affect combined with deficient regulation abilities have been shown to increase the likelihood of engaging in alcohol and drug use (Greeley, Oei, Leonard, & Blane, 1999; Hussong, Hicks, Levy, & Curran, 2001; Loukas, Krull, Chassin, & Carle, 2000).

In line with this research, rejection sensitivity has been associated with higher levels of negative affect in reaction to ambiguously rejecting social situations for children and adults (Ayduk, et al., 1999; Downey & Feldman, 1996; Downey, et al., 1998b). Using data from daily diaries, adult women high in rejection sensitivity showed more impulsive and maladaptive behaviors (i.e., hostile behaviors towards romantic partners) immediately following what they considered to be a rejecting experience (Ayduk, et al.,

1999). Rejection sensitivity was also negatively correlated with self-control and moderated the relationship between a child's ability to delay gratification and higher levels of drug use in adulthood (Ayduk, et al., 2000). Parallel findings in a sample of at-risk early adolescents, indicated high rejection sensitivity was particularly damaging (i.e., higher rates of teacher reported peer rejection and peer aggression) for youth with deficient regulation abilities (Downey, et al., 1998b). Overall, results indicate that in ambiguously rejecting social situations, individuals high in rejection sensitivity become immediately more distressed, which may trigger a cognitive-affective overreaction that impairs self-regulation abilities and lead to hostile behaviors and maladaptive interpersonal reactions (Ayduk, et al., 2001; Ayduk, et al., 1999; Downey & Feldman, 1996; Downey, et al., 1998a).

Study Hypotheses

The current study is designed to enhance our understanding of the etiology and consequences of adolescent rejection sensitivity. The following hypotheses will be addressed with observational and multi-reporter data from a socio-demographically heterogeneous final sample of 184 adolescents and their peers followed across a nine-year span.

Hypothesis I: Negative peer experiences in mid-adolescence will be associated with higher levels of rejection sensitivity and increases in rejection sensitivity during late adolescence and early adulthood.

A. Multiple facets of mid-adolescent peer experiences (i.e., sociometric status, observed peer interaction and dyadic reports of friendship quality)

will each uniquely predict the development of rejection sensitivity during late adolescence and early adulthood.

B. The relationship between rejection sensitivity and mid-adolescent peer experiences will be cross-situational rather than domain specific.

Hypothesis II: Rejection sensitivity will moderate the relationship between negative peer experiences in mid-adolescence and later problem behaviors (i.e., soft drug use and externalizing behaviors).

A. Negative peer experiences in mid-adolescence will be associated with higher levels of problem behaviors and relative increases in problem behaviors during late adolescence and early adulthood.

B. The relationship between negative peer experiences in mid-adolescence and problem behaviors will be stronger for adolescents high in rejection sensitivity when compared to adolescents low in rejection sensitivity.

Method

Participants

Participants included 184 adolescents (52% female: Age: *M* = 13.35, *SD*= .64) and their closest friends (Age: *M* = 13.45, *SD*= .82) followed from ages 13-21. The sample was racially/ethnically and socioeconomically diverse: 58% identified as Caucasian, 29% as African-American and 13% as other and/or mixed minority groups. Target teens' parents reported a median family income in the $40,000-$59,999 range. Sixty-one youths (33%) came from families living at less than 200% of the poverty line.

As part of a 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 adolescents or close peers of target adolescents, 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 adolescent that close friend was then no longer eligible to participate as a target adolescent. 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. All participants provided informed consent once they turned

18 years old. Interviews took place in private offices within a university academic building.

At each wave, target adolescents 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 adolescent, perhaps due to circumstances that have nothing to do with the friendship (e.g., geographic moves). If target adolescents 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. Data from close friends were collected between the ages 13-15 who reported that they had known the target teens for an average of 3.87 years (SD = 2.49) during mid-adolescence.

Procedure

In the initial introduction and throughout each session, 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. University of Virginia IRB approval was obtained for all phases of the investigation.

Attrition Analyses

170 of the original 184 target adolescents (92%) participated at age 16 and 163 of the original late adolescents (89%) participated at age 21. To investigate possible attrition effects we compared 1) adolescents who participated at age 13 but did not participate at age 16; 2) adolescents who participated at age 13 but did not participate at age 21; and 3) adolescents who participated at age 16 but did not participate at age 21. Attrition analyses revealed no significant differences between those target late adolescents from the original sample of 184 who did not participate at ages 16 (8%) from those who did participate. When analyses specifically examined target late adolescents who participated at 13 but not age 21 (11%), findings indicated that they had lower friendship quality scores at age 14, $t(149) = 2.45$, $p < .05$, lower levels of popularity at age 14, $t(182) = 2.85$, $p < .01$, higher externalizing scores at age 17, $t(166) = -2.75$, $p < .01$, and were more likely to be male ($\chi^2(1) = 5.80$, $p < .05$). When analyses specifically examined target adolescents who participated at 16 but not age 21 (11%), findings indicated that they had lower friendship quality scores at age 14, $t(142) = 2.38$, $p < .05$, were less liked at age 14, $t(168) = 3.16$, $p < .01$, and had higher externalizing scores at age 17, $t(158) = -2.73$, $p < .01$.

To best address any potential biases due to attrition in longitudinal analyses, full imputation maximum likelihood (FIML) 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. list-wise 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 the variables of interest, as it was least likely to be biased by missing data. Alternative longitudinal analyses using just those adolescents without missing data (i.e., list-wise 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

Table 1 provides a visual summary of the key constructs and measures in this study. A copy of all measures can be found in Appendix A.

Table 1

Summary of Key Constructs

Construct	Type of Measure: Reporter	Ages*
Peer Experiences		
Dyadic Friendship Quality	Self-Report: Target Teen and Close Friend	13-15
Popularity: Sociometric Ratings	Peer Nomination: Target Teen, Close Friend and Two Peers	13-15
Rejection: Sociometric Ratings	Peer Nomination: Target Teen, Close Friend and Two Peers	13-15
Negative Peer Quality in Supportive Behavior Task with Close Friend	Observational Task: Target Teen and Close Friend	13-15
Communication Quality in Supportive Behavior Task with Close Friend	Observational Task: Target Teen and Close Friend	13-15
Rejection Sensitivity		
Rejection Sensitivity Questionnaire	Self-Report: Target Teen	16-19 & 21
Problem Behaviors		
Soft Drug Use	Self-Report: Target Teen	16-21
Late Adolescent Externalizing (Delinquency & Aggression)	Self-Report: Target Teen	16-17
Early Adult Externalizing (Delinquency & Aggression)	Self-Report: Target Teen	18-21

"Ages" always refer to the age of the target late adolescent at the time of the data collection.

Peer Experience Assessments

For all peer experience variables, data collected between the ages of 13 and 15 was aggregated in order to get a more reliable picture of mid-adolescent negative peer experiences (Target Teen *M* Age = 13.63, *SD* = 4.24**;** Close Friend *M* Age = 12.54, *SD* = 3.44).

Observed Negativity and Communication: Supportive Behavior Task (Target Teens with Close Friend: Ages 13-15). Target teens and their close friends participated in a 6 minute supportive behavior task in which target teens were asked to discuss a problem they were having about which they wanted to get some help. Typical topics included dating, problems with peers or siblings, raising money, or deciding about joining sports teams. Notably, as participants' mature, the nature of the topics selected and the depth of the discussion also matured, allowing this task to function easily as a repeated assessment paradigm. The videotapes were then coded for the degree of dyadic negativity and dyadic ability to communicate. *Dyadic negativity* captures the level and persistence of tension, hostility, or antagonism displayed in the interaction by both the target teen and close friend. *Dyadic ability to communicate* captures the ability of the target teen to clearly and persistently ask their close friend for instrumental support as well as the close friend's ability to provide instrumental support to the target teen.

These interactions were coded using the supportive behavior coding system (Allen, et al., 2001), which was based on several other similar systems (Crowell, et al., 1998; Haynes & Katz, 1993; Julien, et al., 1997). These scales were reliably coded by two trained coders (inter-rater reliabilities ranging from .83 to .91) and have been linked to

qualities of current psychosocial functioning (Allen, McElhaney, Kuperminc, & Jodl, 2004).

Peer Rejection and Popularity*: *Peer Sociometric Ratings (Target Teen and Close Friend: Ages 13-15; Appendix A). Adolescent peer rejection and popularity was assessed using a limited nomination sociometric procedure. Each adolescent, their closest friend and two other target peers named by the adolescent were asked to nominate up to 10 peers in their grade with whom they would "most like to spend time on Saturday night" (i.e., Popularity) and up to 10 peers in their grade with whom they would "least like to spend time on a Saturday night" (i.e., Rejection). This study used grade-based nominations (e.g., students could nominate anyone in their grade at school) rather than classroom based nominations due to the age and classroom structure of the school that all participants attended. As a result, instead of friendship nominations being done by 15 to 30 children in a given classroom, each target teen's nominations were culled from among 72 to 146 mid-adolescents (depending on the target teen's grade level). Unlike the classroom nominations, these nominators comprised approximately 38% of the entire student population in these grades. Nevertheless, the large number of raters for each target teen (in essence, each target teen received a yes/no nomination from each nominator in his/her grade) means that this subsample of nominators is likely to yield fairly reliable estimates of popularity for each target teen. This approach has been previously validated with both children and adolescents (Bukowski, Gauze, Hoza, & Newcomb, 1993), and it has high one-year stability (r=.77), and strong links to relevant social behavior (Allen, et al., 2005).

***Dyadic Friendship Quality*.** Target teens and their close friends completed the Friendship Quality Questionnaire in mid-adolescence: FQQ (Parker & Asher, 1993)(Target Teen and Close Friend: Ages 13-15: Appendix A). The 40-item self-report questionnaire is designed to tap into perceptions of friendship adjustment and peer acceptance in a variety of domains (i.e., validation and caring, conflict resolution, conflict and betrayal, help and guidance, companionship and recreation, and intimate exchange). For each item, target teens and close friends responded on a 5-point scale ranging from 1 *(not at all true)* to 5 *(really true)* to statements about themselves and their peer (e.g., 'She would like me even if others didn't' and 'We always pick each other as partners for things'). An overall friendship quality score was obtained by creating a composite score consisting of all the subscales. Next, a *dyadic friendship quality* score was created by creating a composite score of both target teen and close friend reports of overall friendship quality. The FQQ has demonstrated sound psychometric properties (Parker & Asher, 1993). The internal consistency for this measure was excellent (Cronbach's α for Target Teen at age 13 = .95, .95 at age 14, and .95 at age 15; Cronbach's α for Close Friend at age 13 = .95, .95 at age 14, and .96 at age 15).

Rejection Sensitivity

Rejection Sensitivity. Target teens' level of rejection sensitivity was assessed using the Rejection Sensitivity Questionnaire: RSQ (Downey & Feldman, 1996)(Target Teens: Ages 16-19 and 21; Appendix A). Rejection sensitivity was collected yearly between the ages of 16 and 19. Starting at age 19, rejection sensitivity was measured every other year due to the high degree of reliability seen in adult personality dispositions. 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. Studies have found that the Rejection Sensitivity Questionnaire has sound psychometric properties (Downey, Feldman, & Ayduk, 2000; Downey & Feldman, 1996). Internal consistency for each subscale was very good (Cronbach's α for Total Rejection Sensitivity = .87 at age 16, .88 at age 17, .90 at age 18, .92 at age 19, and .86 at age 21).

Next, four subscales were computed consisting of rejection sensitivity scores separated by domains: Parental rejection sensitivity included four questions; Peer rejection sensitivity included four questions, Romantic rejection sensitivity included seven questions, and School/Work rejection sensitivity included three questions. Internal consistency for each subscales ranged from poor to acceptable. See Table 2.

Table 2

Summary of Cronbach's α for Domain Specific Rejection Sensitivity Scores

	Parental RS	Peer RS	Romantic RS	School/Work RS
Target Teen at 16	.61	.78	.80	.56
Target Teen at 17	.61	.70	.80	.56
Target Teen at 18	.65	.73	.82	.64
Target Teen at 19	.76	.83	.84	.71
Target Teen at 21	.65	.68	.77	.55

Problem Behaviors

Soft Drug Use. Target teens' level of soft drug use was measured using the Alcohol and Drug Use Questionnaire (Johnston, O'Malley, & Bachman, 1987) (Target Teens: Ages 16-21; Appendix A). Target teens reported 1) how often they had drunk alcohol in the past 30 days and 2) how often they had smoked marijuana in the past 30 days with responses ranging from 0 *(none)* to 4 *(10 or more times).* Johnston and colleagues (1987) found high reliability from year to year and consistency between related measures of drug use within the same questionnaire administration. Construct validity was demonstrated as self-reported drug use was related to attitudes, beliefs, and related behaviors. It appeared that under-reporting was minimal and that subjects were not defensive about their drug use. Generally, self-reports of problem behaviors have been found to be reliable and correlate with reports of independent observers (Patterson & Stouthamer-Loeber, 1984). A single *soft drug use* variable was created by calculating the composite score of the two items. Internal consistency was acceptable to good (Cronbach's α = .62 at age 16, .76 at age 17, .68 at age 18, .68 at age 19, .53 at age 20, and .60 at age 21.)

Externalizing Behaviors. Overall level of ***externalizing problems in late adolescence*** was measured using a short-form of the Youth Self-Report: YSR(Achenbach & Edelbrock, 1987)(Target Teen: Ages 16-17; Appendix A). Following the YSR protocol, an overall *externalizing* score was created by calculating the composite score of target teens aggression and delinquency items. For each of the 18-items, target teens decide if the statements are an accurate description of their behaviors in the past 6 months (e.g., 'I get in many fights' and 'I steal from places other than my home') on a 3-point scale ranging from 0 *(not true)* to 2 *(very true or often true)*. The YSR has demonstrated strong evidence of reliability and construct validity (Achenbach & Edelbrock, 1987). Internal consistency for this measure was acceptable (Cronbach's $\alpha = .73$ at age 16, and .79 at age 17).

Early adult externalizing problems were measured using the Adult Self-Report: ASR (Achenbach & McConaughy, 2003)(Target Teen: Ages 18-21, Appendix A). The 126-item measure taps into a range of externalizing behaviors including externalizing behaviors. Following the ASR protocol, an overall externalizing score was created by calculating the composite score of target teens' aggression (e.g., 'I have a hot temper'), rule-breaking (e.g., 'I damage or destroy other people's things') and intrusive behavior items (e.g., 'I am impulsive or act without thinking). Target teens responded to 35-items in the same manner as previously described for the YSR. The Adult Self-Report has demonstrated strong evidence of reliability and construct validity (Achenbach & McConaughy, 2003). Internal consistency for the measure was good (Cronbach's $\alpha = .88$ at age 18, .87 at age 19, .89 at age 20, and .89 at age 21).

Analytic Plan

First, descriptive analyses of the data were conducted in order to gain a broad overview of the nature and limitations of the data. Correlational analyses were conducted to assess basic relationships among the predictor and outcome variables for each hypothesis. Primary analyses utilized latent growth curve analyses (LGCA) - a developmental model that is used to study change in constructs over time (Duncan & Duncan, 2004; McArdle & Epstein, 1987). LGCA uses all data points to determine an intercept (e.g., initial level of each construct), slope (e.g., change in construct over time within individuals), and then allows for an examination of the predictors of differences among individuals in their initial levels and rates of change.

Testing the major hypotheses involved several steps. The first major hypothesis examined the relationship between mid-adolescent peer experiences and later rejection sensitivity. As part of the second major hypothesis (i.e., whether rejection sensitivity moderated the relationship between peer experiences and problem behaviors), I examined the relationship between mid-adolescent negative peer experiences and later problem behaviors (i.e., soft drug use and externalizing behaviors). Initially, three separate unconditional growth curve analyses were estimated to determine the shape of the developmental trajectory of target teens' rejection sensitivity, soft drug use and externalizing behaviors over time. In fitting the unconditional LGC models, a significant variance in intercept reveals significant individual differences in constructs at baseline (e.g., rejection sensitivity). A significant variation in the slope indicates significant individual differences in the rates of change in rejection sensitivity over time. Next, predictors were added into the model to determine the extent to which individual factors

(e.g., adolescent peer experiences) predicted the intercepts and slope components (e.g., changes over time) in target teens' overall levels of rejection sensitivity. Third, multiple group analyses tested potential gender differences and income differences. Income groups were formed on the basis of target teens' whose family income was above 200% of the 1998 poverty line (i.e., High Income) and target teens' whose family income was at or below 200% of the 1998 poverty line (i.e., Low Income). Each examination began with a null hypothesis of no structural differences between groups (e.g., all structural parameters were constrained to be equal across groups). Next, a model was estimated that allowed key structural parameters to vary across the two groups. A significant change in χ^2 suggests that the parameters of interest should be free to vary across groups (e.g., males and females differ in how earlier peer experiences relate to initial levels and/or change in rejection sensitivity over time).

Testing the second hypothesis (i.e., whether rejection sensitivity moderated the relationship between peer experiences and problem behaviors) involved additional steps. First, it was tested whether rejection sensitivity assessments across different years could be combined into an aggregate variable to ascertain the overall level of rejection sensitivity during high school (ages 16-18). Specifically, nested models tested whether or not individuals differed in how they change in high school rejection sensitivity by constraining the variance of the slope to be zero. No significant change in χ^2 was detected ($\Delta\chi^2$ (2) = .27, *ns*), indicating that individuals' high school rejection sensitivity changes in similar ways and rejection sensitivity could therefore be aggregated into one variable during this time period. Second, standardized interaction terms were created between high school rejection sensitivity and each of the peer experience variables.

Third, all predictors were added to the model to determine the extent to which individual factors (i.e., adolescent peer experiences, high school rejection sensitivity and interaction terms) predicted the intercepts and slope components in target teens' overall levels of soft drug use and externalizing behaviors. Fourth, multiple group analyses tested for potential gender and income differences on structurally relevant pathways.

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, several other fit indices were utilized: the comparative fit index (CFI) in which values greater than .90 suggest model acceptance (Hoyle & Panter, 1995); the Tucker-Lewis index (TLI, also called the non-normed fit index) in which values greater than .90 suggest model acceptance; and the root mean error of approximation (RMSEA) in which values less than or equal to .05 indicate close fit, but values less than .10 are still considered a fair fit (Browne & Cudeck, 1993).

Results

Means, standard deviations and ranges for substantive variables are presented in Table 4. Simple correlations for substantive variables are presented later with relevant hypotheses. T-tests were used to examine group differences among male and female adolescents on each of the outcome variables. See Table 3 for means and standard deviations of significantly different variables. Gender differences emerged with females having significantly higher levels of dyadic friendship quality at age 14 than males, $t(149) = -4.94$, $p < .0001$ and lower levels of rejection sensitivity at age 17 than males, $t(161) = 2.40$, $p < .05$. When compared to males, females had significantly lower levels of soft drug use at age 17, $t(165) = 3.31$, $p < .01$; age 18, $t(127) = 2.56$, $p < .05$, age 19, $t(139) = 3.98$, $p < .01$; age 20, $t(157) = 2.35$, $p < .05$; and age 21, $t(163) = 3.40$, $p < .01$. Last when compared to males, females had significantly lower levels of externalizing behaviors at age 17, $t(166) = 2.42$, $p < .05$ and age 20 $t(123) = 2.80$, $p < .01$.

Table 3

Means and Standard Deviations for Males and Females on Statistically Different Variables

	MALES		**FEMALES**	
Variables	***Mean***	***SD***	***Mean***	***SD***
Dyadic Friendship Quality at 14	22.77	2.45	24.75	2.45
Rejection Sensitivity at 17	8.68	3.40	7.43	3.21
Soft Drug Use at 17	2.09	2.69	.94	1.72
Soft Drug Use at 18	2.51	2.70	1.43	2.08
Soft Drug Use at 19	3.62	2.82	1.95	2.16
Soft Drug Use at 20	2.76	2.13	1.99	2.01
Soft Drug Use at 21	3.14	2.18	2.04	1.95
Externalizing Behaviors at 17	6.40	4.53	4.82	3.93
Externalizing Behaviors at 20	11.60	8.91	7.87	7.09

Table 4

Means, Standard Deviations, and Ranges of Substantive Variables

	N	Mean	SD	Min	Max
Rejection Sensitivity (tn)(16)	161	8.44	3.47	1.11	19.00
Rejection Sensitivity (tn)(17)	163	8.03	3.35	1.00	17.06
Rejection Sensitivity (tn)(18)	138	7.49	3.42	1.00	19.17
Rejection Sensitivity (tn)(19)	137	7.61	3.39	1.00	20.00
Rejection Sensitivity (tn)(21)	158	7.74	2.99	1.00	15.11
High School RS (tn)(17)	176	8.08	3.04	1.11	19.08
Dyadic Friendship Quality (tn)(cp)(14)	151	23.80	2.64	16.50	28.99
Popularity (s)(14)	184	2.75	3.43	-2.12	13.14
Rejection (s)(14)	184	1.82	3.33	-2.01	13.79
Dyadic Negativity (int)(14)	171	1.81	1.74	0	8.17
Dyadic Communication (int)(14)	171	6.30	2.14	1.42	11.13
Soft Drug Use (tn)(16)	150	1.21	1.86	0	7.48
Soft Drug Use (tn)(17)	167	1.49	2.30	0	8.00
Soft Drug Use (tn)(18)	129	1.92	2.44	0	8.00
Soft Drug Use (tn)(19)	141	2.70	2.60	0	8.00
Soft Drug Use (tn)(20)	159	2.32	2.09	0	7.00
Soft Drug Use (tn)(21)	165	2.53	2.12	0	7.00
Adolescent Externalizing (tn)(16)	172	5.74	3.98	0	17.37
Adolescent Externalizing (tn)(17)	168	5.56	4.29	0	18.73
Adult Externalizing (tn)(18)	154	8.59	7.22	0	31.03

Note: Age of Assessment is in parentheses; tn = target adolescent report; cp = close-peer report about target teen; s = sociometric status; int = dyadic interaction.

Hypothesis I: Negative peer experiences in mid-adolescence will be associated with higher levels of rejection sensitivity and increases in rejection sensitivity during late adolescence and early adulthood.

A. Multiple facets of mid-adolescent peer experiences (i.e., sociometric status, observed peer interaction and dyadic reports of friendship quality) will each uniquely predict the development of rejection sensitivity during late adolescence and early adulthood.
B. The relationship between rejection sensitivity and mid-adolescent peer experiences will be cross-situational rather than domain specific.

Descriptive Statistics

Table 5 provides simple correlations of the predictor and outcome variables. Analyses indicate simple correlations between dyadic friendship quality at age 14 and rejection sensitivity at ages 16-21 and between popularity at age 14 and rejection sensitivity at ages 19 and 21. A moderate relationship was detected between popularity and dyadic friendship quality at age 14, and a weak relationship was detected between popularity and rejection at age 14. No other relationships were detected between peer experience variables at age 14.

Table 5

Simple Correlations for Peer Experience and Rejection Sensitivity Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Gender	--	-.11	.38***	-.05	.01	.07	-.11	-.17*	-.19*	-.12	-.09	-.12
2. Income		--	.20*	.37***	.33***	-.07	.04	.06	.09	-.05	-.10	-.04
3. Dyadic Friendship Quality (tn)(cp)(14)			--	.39***	.01	-.12	-.02	-.29***	-.24**	-.17	-.38***	-.26**
4. Popularity (s)(14)				--	.22**	-.12	.10	-.02	.02	-.08	-.22*	-.16*
5. Rejection (s)(14)					--	.05	.10	-.05	.01	-.07	.00	-.05
6. Dyadic Negativity (int)(14)						--	-.06	-.18*	-.17*	-.02	.26**	.00
7. Dyadic Communication (int)(14)							--	.14	.15	.07	-.07	-.08
8. Rejection Sensitivity (tn)(16)								--	.64***	.65***	.53***	.42***
9. Rejection Sensitivity (tn)(17)									--	.63***	.44***	.52***
10. Rejection Sensitivity (tn)(18)										--	.65***	.57***
11. Rejection Sensitivity (tn)(19)											--	.58***
12. Rejection Sensitivity (tn)(21)												--

Note: Age of Assessment is in parentheses; tn = target adolescent report; cp = close-peer report about target teen; s = sociometric status; int = dyadic interaction.
*** p < .001. ** p < .01. * p < .05.

Hypothesis I: Negative peer experiences in mid-adolescence will be associated with higher levels of rejection sensitivity and increases in rejection sensitivity during late adolescence and early adulthood.

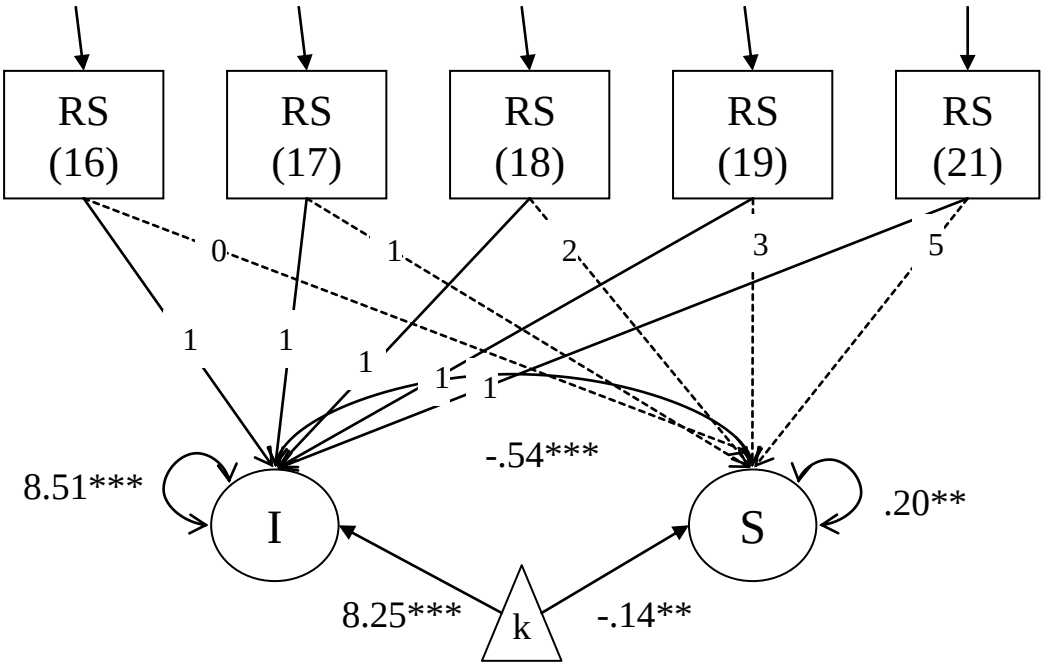
A. Multiple facets of mid-adolescent peer experiences (i.e., sociometric status, observed peer interaction and dyadic reports of friendship quality) will each uniquely predict the development of rejection sensitivity during late adolescence and early adulthood.

Unconditional Latent Growth Curve Analyses: Rejection Sensitivity

An unconditional LGCA was first conducted to determine the shape of the developmental trajectory of target teens' rejection sensitivity (See Figure 1). The LGCA consisted of five repeated measures of target teens' rejection sensitivity and resulted in good fit indices (χ^2 (10) = 13.22; CFI = .99; TLI = .99; RMSEA = .042). A significant negative mean for the slope factor (μ = -.14) indicated that the overall group reported decreases in rejection sensitivity over time. A significant variance component in both the intercept (ψ = 8.51) and the slope (ψ = .20) factors indicated that there were significant individual differences in both initial levels and growth in target teens' rejection sensitivity over time. Finally, a significant negative correlation between the intercept and slope factors (r = -.54, p<.001) indicated that there was an inverse relation between initial status and change over time (i.e., individuals who report higher levels of rejection sensitivity at age 16 tended to report steeper decreases in rejection sensitivity over time).

Figure 1

Latent Growth Curve Model of Rejection Sensitivity.



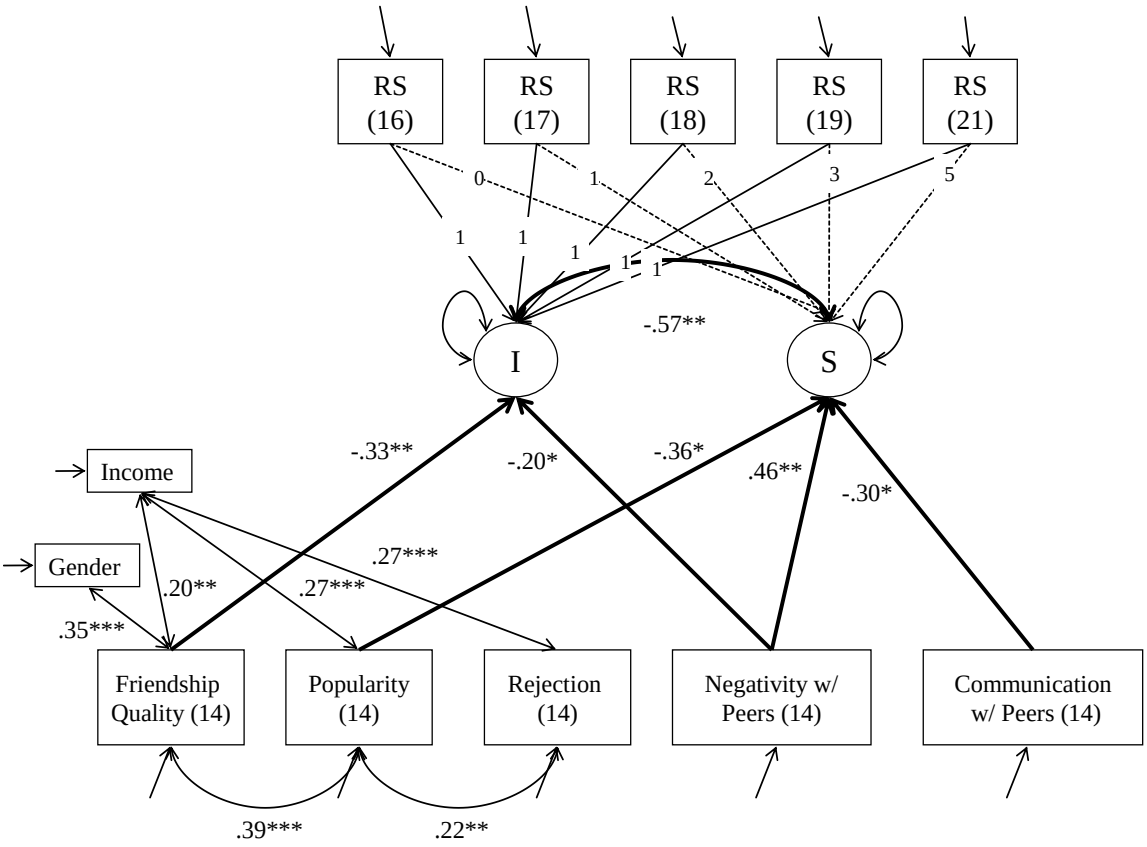
Conditional Latent Growth Curve Model: Peer Experiences Predicting Rejection Sensitivity.

Given that rejection sensitivity varied at baseline levels and in rate of change over time, we were interested in determining whether adolescent peer experiences were associated with individual differences in rejection sensitivity at age 16 and whether they predicted progression in rejection sensitivity through late adolescence and early adulthood.

The conditional LGC model for rejection sensitivity is presented in Figure 2. The model fit the data adequately (χ^2 (35) = 61.42; CFI = .93; TLI = .90; RMSEA = .064).

Figure 2

Conditional Latent Growth Curve Model of Mid-Adolescent Peer Experiences and Rejection Sensitivity. All parameter values are standardized. All parameters shown are p<.05.



Target teens' with higher levels of dyadic friendship quality at age 14 reported significantly lower initial levels of rejection sensitivity but dyadic friendship quality was not associated with change over time in rejection sensitivity. Target teens' with higher levels of dyadic negative peer quality at age 14 also reported significantly lower initial levels of rejection sensitivity. Dyadic negative peer quality at age 14 was positively associated with later change in rejection sensitivity, indicating that although the entire

group was decreasing in rejection sensitivity over time, adolescents who demonstrated higher levels of dyadic negative peer quality at age 14 tended to decrease at a slower rate in levels of rejection sensitivity, compared to adolescents who demonstrated lower dyadic negative peer quality at age 14. It is important to note that the positive relationship between dyadic negative peer quality at age 14 and later change in rejection sensitivity does not mean that the group experienced an increase in rejection sensitivity over time. Rather, the findings indicate that higher levels of dyadic negative peer quality at 14 predicted *relative increases* in rejection sensitivity over time when compared to the overall pattern of change found in the general group (e.g., overall decline in rejection sensitivity). Lower levels of dyadic negative peer quality at 14 were therefore associated with *relative decreases* in rejection sensitivity over time. All further descriptions of change findings will be described in terms of change *relative to the overall group pattern.*

High levels of popularity at age 14 were negatively associated with later change in rejection sensitivity. Thus, adolescents who were *more* popular at age 14 tended to report relative *decreases* in levels of rejection sensitivity, and adolescents who were *less* popular at age 14 tended to report relative *increases* in levels of rejection sensitivity. Additionally, dyadic communication quality with peers was negatively associated with later change in rejection sensitivity. Thus, adolescents who demonstrated *lower* dyadic communication quality with peers at age 14 tended to report relative *increases* in levels of rejection sensitivity, compared to adolescents who demonstrated greater dyadic communication quality with peers at age 14. No significant associations were detected

between gender, income and peer rejection with initial levels of rejection sensitivity or with changes in rejection sensitivity over time.

Gender Differences. Multiple group analyses of this model tested potential gender differences in the time-specific relations between each form of peer experience and rejection sensitivity (Male *n* = 86; Female *n* =98). Freeing constraints placed on structural coefficients representing relations between peer experiences and rejection sensitivity did not result in a significant model improvement, failing to find evidence of the presence of gender differences in this model ($\Delta\chi^2$ (10) = 17.29, *ns*).

Income Differences. Using the same procedure described above for potential income differences (High SES *n* = 122; Low SES *n* = 61), a multiple group analysis did not result in a significant model improvement, failing to find evidence of the presence of income differences in this model ($\Delta\chi^2$ (8) = 5.90, *ns*).

Post Hoc Analyses. In order to look more closely at the relationships between relevant mid-adolescent peer experiences and the development of rejection sensitivity, post hoc analyses were conducted. First, the overall rejection sensitivity score was divided into two subscales for each of the 5 waves of data: 1) an average level of concern about potential rejection score; and 2) an average likelihood of being rejected score. The internal consistency for *level of concern* and *likelihood of rejection* scores were both excellent (Cronbach's α for Level of Concern ranged from .93 to .96; Cronbach's α for Likelihood of Rejection ranged from .88 to .92).

Next, correlational analyses were conducted to investigate more closely the relationship between mid-adolescent peer experiences and rejection sensitivity (See Table 6). Analyses indicate small to moderate relationships between *levels of concern* over

potential rejection and dyadic friendship quality, dyadic negative peer quality and dyadic communication quality. Further, analyses also indicate small to moderate relationships between *likelihood of rejection* and dyadic friendship quality, popularity, dyadic negative peer quality and dyadic communication quality. No other significant relationships were detected.

Table 6

Correlations between Peer Experiences and Rejection Sensitivity Subscales: Level of Concern and Likelihood of Rejection Scores

Level of Concern	***r***	**Peer Variable**	***R***	**Likelihood**
(16)	-.17*		-.30***	**(16)**
(17)	-.06		-.22**	**(17)**
(18)	-.10	**Dyadic Friendship**	-.16	**(18)**
(19)	-.20*	**Quality**	-.34***	**(19)**
(21)	-.03		-.30***	**(21)**
Level of Concern				**Likelihood**
(16)	-.11		-.05	**(16)**
(17)	.04		-.05	**(17)**
(18)	-.07	**Popularity**	-.17*	**(18)**
(19)	-.13		-.22**	**(19)**
(21)	-.07		-.24**	**(21)**
Level of Concern				**Likelihood**
(16)	-.14		.01	**(16)**
(17)	-.02		.01	**(17)**
(18)	-.12	**Rejection**	-.05	**(18)**
(19)	-.02		.03	**(19)**
(21)	-.06		-.09	**(21)**
Level of Concern				**Likelihood**
(16)	-.26**		-.03	**(16)**
(17)	-.25**		-.06	**(17)**
(18)	-.03	**Dyadic Negativity**	.08	**(18)**
(19)	.06		.26**	**(19)**
(21)	-.08		.11	**(21)**
Level of Concern				**Likelihood**
(16)	.04		.17*	**(16)**
(17)	.16*		.01	**(17)**
(18)	.05	**Dyadic**	-.05	**(18)**
(19)	.09	**Communication**	-.19*	**(19)**
(21)	.08		-.16*	**(21)**

Note: Age of Assessment is in parentheses; *** $p < .001$. ** $p < .01$. * $p < .05$.

Hypothesis IB: The relationship between rejection sensitivity and mid-adolescent peer experiences will be cross-situational rather than domain specific.

Correlation analyses were conducted to investigate whether there is evidence that domain specific rejection sensitivity subscales should be treated independently, as opposed to combined as they are currently. Notably, rejection sensitivity in the Work/School domain lacked internal consistency and thus did not appear to represent a cohesive factor (Cronbach's α ranged from .55 to .64 except α = .71 at age 19). As a result, correlation analyses focused on rejection sensitivity in the Romantic, Peer and Parental domains. It was expected that if domain specific subscales represented unique aspects of rejection sensitivity in relationship to adolescent peer experiences, the strength of associations would differ between peer experiences and overall rejection sensitivity scores when compared to associations between peer experiences and domain specific rejection sensitivity scores. Table 7 indicates that at each time point (e.g., ages 16-21) the association between peer experiences and overall rejection sensitivity is not substantially different from the association between peer experiences and the domain specific subscales of rejection sensitivity. This is demonstrated in the similar direction and the strength of associations. As a result, the overall rejection sensitivity score in subsequent analyses was maintained.

Table 7

Correlations between Peer Experiences, Overall Rejection Sensitivity and Domain Specific Rejection Sensitivity

Age	Rejection Sensitivity	Dyadic Friendship Quality (14)	Popularity (14)	Rejection (14)	Dyadic Negativity (14)	Dyadic Communication (14)
16	**Overall RS**	**-.29*** **	**-.02**	**-.05**	**-.18***	**.14**
	Romantic RS	*-.25***	*.11*	*-.02*	*-.19**	*.20**
	Peer RS	*-.30***	*-.10*	*-.06*	*-.07*	*.01*
	Parental RS	*-.20***	*-.11*	*-.06*	*-.14*	*.07*
17	**Overall RS**	**-.24****	**.02**	**.01**	**-.17***	**.15*t***
	Romantic RS	*-.21**	*.06*	*-.01*	*-.14*	*.12*
	Peer RS	*-.22***	*-.01*	*-.00*	*-.13*	*.18**
	Parental RS	*-.21**	*-.05*	*.10*	*-.09*	*.07*
18	**Overall RS**	**-.17t**	**-.08**	**-.07**	**-.02**	**.07**
	Romantic RS	*-.07*	*.02*	*-.01*	*-.02*	*.13*
	Peer RS	*-.20**	*-.11*	*-.10*	*-.04*	*-.02*
	Parental RS	*-.21**	*-.17**	*-.04*	*-.05*	*-.02*
19	**Overall RS**	**-.38*****	**-.22***	**.00**	**.26****	**-.06**
	Romantic RS	*-.27***	*-.09*	*.00*	*.19**	*-.04*
	Peer RS	*-.31***	*-.23***	*-.01*	*.33****	*-.14*
	Parental RS	*-.36****	*-.26***	*.00*	*.21**	*-.11*
21	**Overall RS**	**-.26****	**-.16***	**-.05**	**.00**	**-.08**
	Romantic RS	*-.24***	*-.05*	*.06*	*-.04*	*.02*
	Peer RS	*-.17**	*-.23***	*-.08*	*.04*	*-.10*
	Parental RS	*-.24***	*-.16**	*-.15t*	*-.02*	*-.11*

Note: Age of Assessment is in parentheses; *** p < .001. **p<.01. * p<.05.

Summary for Hypotheses IA & IB

When looking at the developmental trajectory of rejection sensitivity, it was found that teens' rejection sensitivity was decreasing throughout late adolescence and early adulthood. In support of the main hypothesis, multiple facets of mid-adolescent peer experiences (i.e., sociometric status, observed peer interactions and dyadic reports of friendship quality) uniquely predicted the development of rejection sensitivity. Specifically, negative peer experiences (i.e., poor friendship quality) in mid-adolescence were related to higher initial levels of rejection sensitivity in late adolescence. In addition, negative peer experiences (i.e., negative peer quality and poor communication quality) predicted relative increases in levels of rejection sensitivity. In contrast to the hypothesis, adolescents with higher levels of negative peer quality at age 14 reported lower initial levels of rejection sensitivity at age 16. Adolescents who were more popular at age 14 (i.e., sociometric status) reported relative decreases in levels of rejection sensitivity, compared to adolescents who were less popular at age 14. In support of Hypothesis IB, the relationship between rejection sensitivity and peer experiences appears to be cross-situational rather than domain specific.

Hypothesis II: Rejection sensitivity will moderate the relationship between negative peer experiences in mid-adolescence and later problem behaviors (i.e., soft drug use and externalizing behaviors).

A. Negative peer experiences in mid-adolescence will be associated with higher levels of problem behaviors and relative increases in problem behaviors during late adolescence and early adulthood.

Descriptive Statistics

Soft Drug Use. Table 8 provides simple correlations of the predictor and soft drug use variables. Analyses indicate simple correlations between target teens' popularity at age 14, rejection at age 14 and soft drug use at ages 16 and 21.

Externalizing Behaviors. Table 9 provides simple correlations of the predictor and externalizing variables. Analyses indicate simple correlations between target teens' popularity at age 14 and externalizing behaviors at age 19. No other relationships were detected between target teens' peer experiences at age 14 and externalizing behaviors between ages 16 - 21.

***Soft Drug Use and Externalizing Behaviors*.** Table 10 provides simple correlations of outcome variables. Across domains of functioning assessed, results show small to moderate relationships between target teens' soft drug use and externalizing behaviors between ages 16 and 21.

Table 8

Simple Correlations for Peer Experience and Soft Drug Use Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13
1. Gender	--	-.11	.38***	-.05	.01	.07	-.11	-.14	-.25**	-.22*	-.32***	-.18*	-.26***
2. Income		--	.20*	.37***	.34***	-.07	.04	.20*	.20*	.24**	.26**	.30***	.31***
3. Dyadic Friendship Quality (tn)(cp)(14)			--	.40***	.01	-.12	-.02	.05	.00	.07	-.03	.05	-.07
4. Popularity (s)(14)				--	.22**	-.12	.10	.31***	.16*	.25**	.23**	.32***	.21**
5. Rejection (s)(14)					--	.05	.10	.29**	.21**	.29**	.32***	.38***	.24**
6. Dyadic Negativity (int)(14)						--	-.06	-.09	-.03	-.06	-.09	-.16*	-.05
7. Dyadic Communication (int)(14)							--	-.04	-.11	-.03	-.11	-.11	-.13
8. Soft Drug Use (tn)(16)								--	.72***	.68***	.53***	.50***	.42***
9. Soft Drug Use (tn)(17)									--	.64***	.53***	.46***	.43***
10. Soft Drug Use (tn)(18)										--	.77***	.62***	.59***
11. Soft Drug Use (tn)(19)											--	.73***	.66***
12. Soft Drug Use (tn)(20)												--	.77***
13. Soft Drug Use (tn)(21)													--

Note: Age of Assessment is in parentheses; tn = target teen report; cp = close-peer report about target teen; s = sociometric status; int = dyadic interaction.
*** p < .001. ** p < .01. * p < .05.

Table 9

Simple Correlations for Peer Experience and Externalizing Behavior Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Gender	--	-.11	.38***	-.05	.01	.07	-.11	-.05	-.18*	-.15	-.15	-.23**	-.13
2. Income		--	.20*	.37***	.34***	-.07	.04	-.06	.00	.09	.08	.12	.10
3. Dyadic Friendship Quality (tn)(cp)(14)			--	.40***	.01	-.12	-.02	-.09	-.08	-.11	-.02	-.14	-.12
4. Popularity (s)(14)				--	.22**	-.12	.10	-.14	-.15*	-.02	.03	-.05	-.04
5. Rejection (s)(14)					--	.05	.10	-.01	-.00	.14	.07	.07	.12
6. Dyadic Negativity (int)(14)						--	-.06	-.01	.08	.04	.04	-.02	-.02
7. Dyadic Communication (int)(14)							--	-.02	-.13	-.04	.02	-.01	-.10
8. Adolescent Externalizing (tn)(16)								--	.62***	.48***	.55***	.43***	.49***
9. Adolescent Externalizing (tn)(17)									--	.54***	.60***	.51***	.49***
10. Adult Externalizing (tn)(18)										--	.70***	.66***	.68***
11. Adult Externalizing (tn)(19)											--	.61***	.62***
12. Adult Externalizing (tn)(20)												--	.70***
13. Adult Externalizing (tn)(21)													--

Note: Age of Assessment is in parentheses; tn = target teen report; cp = close-peer report about target teen; s = sociometric status; int =dyadic interaction.
*** p < .001. ** p < .01. * p < .05

Table 10

Simple Correlations between Soft Drug Use and Externalizing Behaviors

	Soft Drug Use					
	(16)	**(17)**	**(18)**	**(19)**	**(20)**	**(21)**
Externalizing (16)	.11	.20**	.13	.16	.15	.06
Externalizing (17)	.19*	.41***	.30***	.34***	.24**	.24**
Externalizing (18)	.07	.29**	.21**	.27**	.27**	.25**
Externalizing (19)	.15	.21**	.20*	.38***	.29***	.23**
Externalizing (20)	.11	.22**	.18*	.38***	.35***	.36***
Externalizing (21)	.27**	.31***	.33***	.34***	.38***	.33***

Note: Age of Assessment is in parentheses; Measures utilize target teen report.
*** p < .001. ** p < .01. * p < .05.

Unconditional Latent Growth Curve Analyses: Soft Drug Use

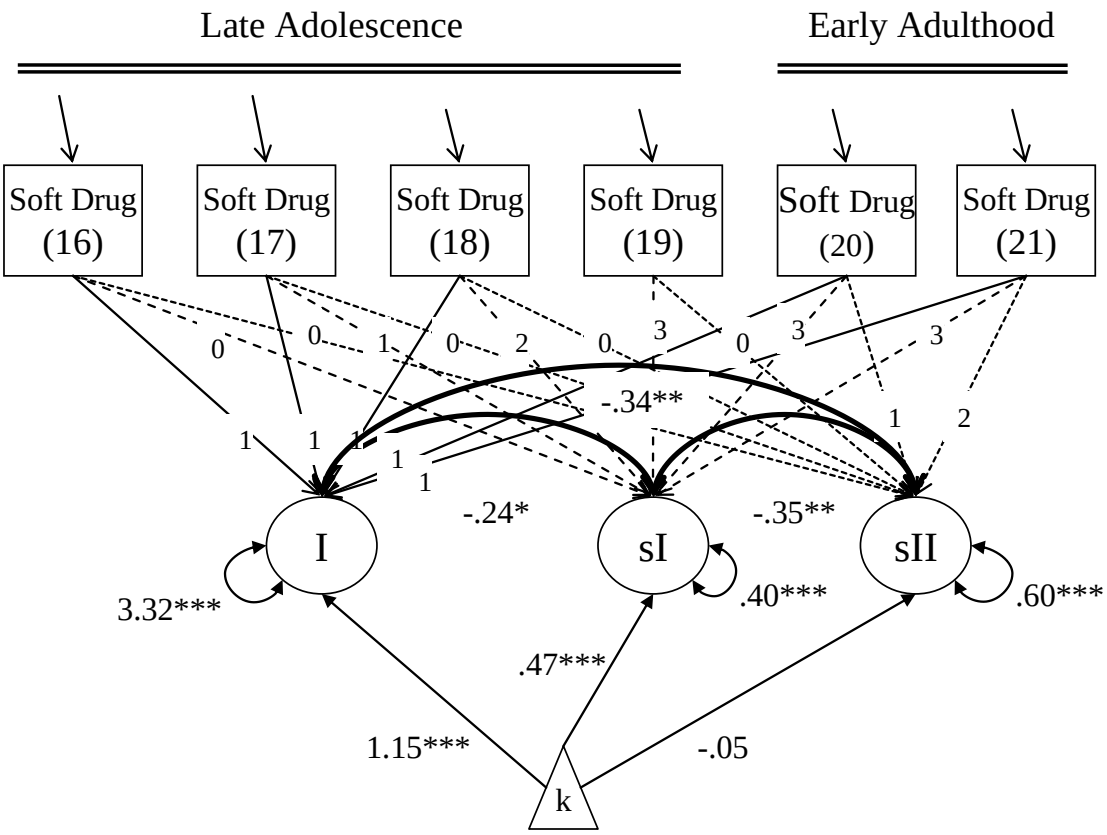
An unconditional LGCA was first conducted to determine the shape of the developmental trajectory of target teens' soft drug use. Unconditional linear and quadratic LGCA with six repeated measures of target teens' soft drug use did not result in acceptable fit indices (Linear χ^2 (16) = 84.21; CFI = .87; TLI = .88; RMSEA =.15; Quadratic χ^2 (12) = 41.32; CFI = .95; TLI = .93; RMSEA =.12). A review of the means for soft drug use indicated that changes in slopes may differ in different time periods (e.g., the transition from adolescence to adulthood). As such, Duncan and Duncan (2004) recommend the use of a piecewise model which tests if change in one segment of the overall growth period differs substantially from those in a different period. In the current

study a model investigated whether change in soft drug use differed in late adolescence (ages 16-19) when compared to change in soft drug use in early adulthood (ages 20-21).

Based on the data, a model included one intercept growth factor (intercept at age 16) and two slope-growth factors that reflected 1) soft drug use in late adolescence (Linear Slope I = linear trend from ages 16-19) and 2) soft drug use in early adulthood (e.g., Linear Slope II = linear trend from ages 20-21). This model investigated whether change in soft drug use in late adolescence (ages 16-19) differed from change in soft drug use in early adulthood (ages 20-21). The model was constructed by setting the loadings of the intercept factor to 1 on the observed variables at six time points; Linear Slope I loadings were set to 0,1,2,3,3,3; and Linear Slope II loadings were set to 0,0,0,0,1,2. The change in chi-square was significantly different from the quadratic LGCA ($\Delta\chi^2$ (1) = 19.48, $p<.0001$) and the resulting model fit was acceptable (χ^2 (12) = 25.74; CFI = .98; TLI = .97; RMSEA = .08). See Figure 3.

Figure 3

Latent Growth Curve Model of Soft Drug Use



A significant positive mean for the slope factor I ($\mu = .47$) indicated that the overall group reported increases in soft drug use between the ages of 16-19. The non-significant mean for the early adulthood slope factor ($\mu = -.05$) indicated that as a group, soft drug use did not appear to change significantly in either a positive or negative direction between the ages of 20 and 21. A significant variance component in the intercept ($\psi = 3.32$), slope I ($\psi = .40$) and slope II ($\psi = .60$) factors indicated that there were significant individual differences in overall levels of soft drug use, growth in late adolescence soft drug use and growth in early adult soft drug use. A significant negative

correlation between the intercept and slope I factors (r = -.24, p<.05) indicated that there was an inverse relation between initial status and change over time in late adolescence. Target teens who reported higher levels of soft drug use at age 16 tended to report decreases in soft drug use during late adolescence. A significant negative correlation between the intercept and slope II factors (r = -.34, p<.01) indicated that there was an inverse relation between initial status and change over time in early adulthood. Target teens who reported higher levels of soft drug use at age 16 tended to report decreases in soft drug use during early adulthood. Lastly, the significant negative correlation between the slope I and slope II factors (r = -.35, p<.01) indicated that there was an inverse relation between change over time in late adolescence and change over time in early adulthood. Target teens who tended to report sharper increases in soft drug use during late adolescence also tended to report decreases in soft drug use during early adulthood. Target teens who tended to report more shallow increases in soft drug use during late adolescence tended to report increases in soft drug use during early adulthood.

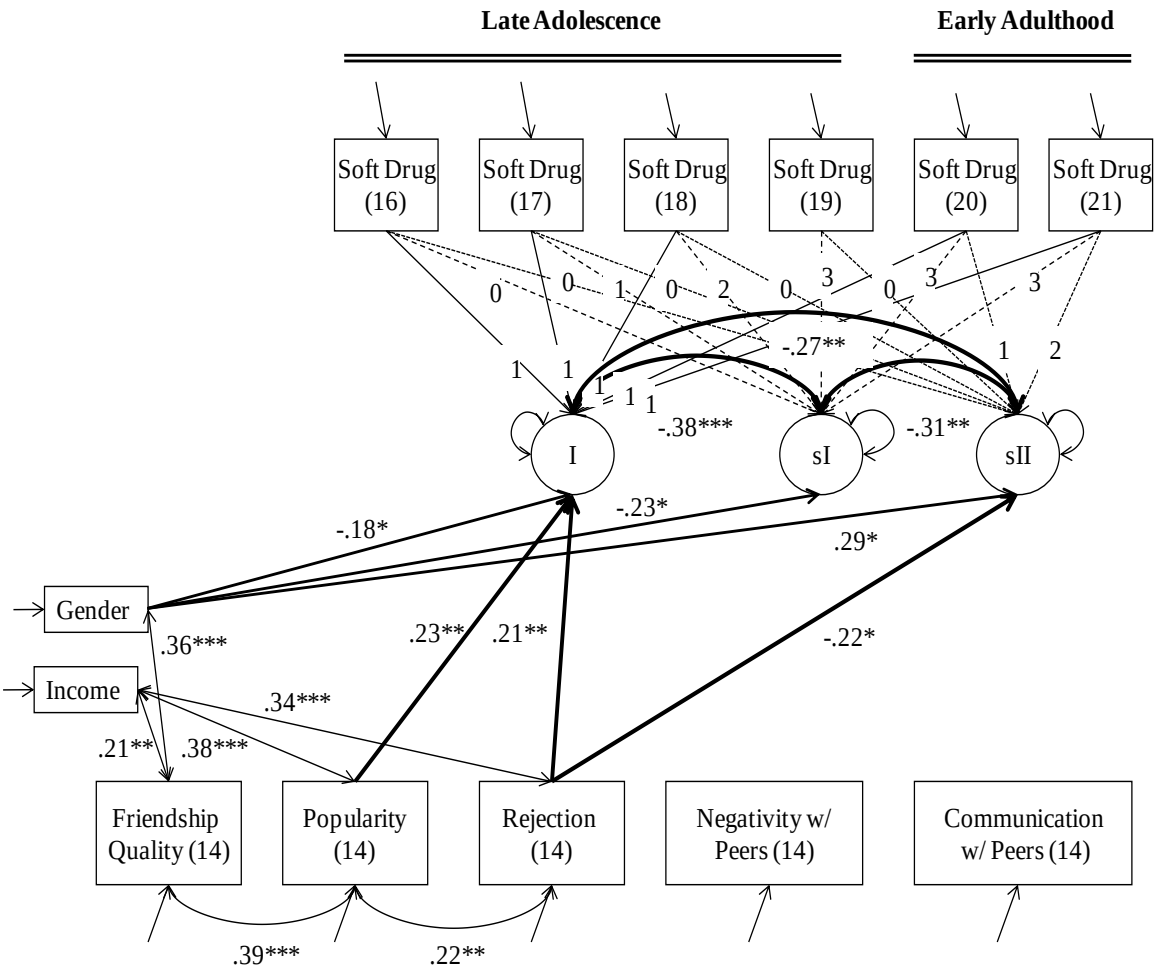
Conditional Latent Growth Curve Model: Peer Experiences Predicting Soft Drug Use

Given that soft drug use varied at baseline and in rate of progression over time, the following questions were investigated: whether mid-adolescent peer experiences were associated with individual differences in soft drug use at age 16; and whether they predicted progression in soft drug use in late adolescence (slope I) and early adulthood (slope II)?

The conditional LGC model for soft drug use is presented in Figure 4. The model fit the data well (χ^2 (34) = 47.45; CFI = .98; TLI = .96; RMSEA =.046).

Figure 4

Conditional Latent Growth Curve Model of Mid-Adolescent Peer Experiences and Soft Drug Use. All parameter values are standardized. All parameters shown are p<.05.



Target teens' with higher levels of popularity at age 14 reported significantly higher initial levels of soft drug use at age 16 but popularity was not associated with change over time in soft drug use during late adolescence or early adulthood. In addition, target teens' with higher levels of peer rejection at age 14 reported significantly higher initial levels of soft drug use at age 16. Peer rejection at age 14 was not associated with

change over time in soft drug use during late adolescence but peer rejection at age 14 was associated with decreases in soft drug use during early adulthood. Females reported lower initial levels of soft drug use and relative decreases in soft drug use during late adolescence. In early adulthood, females tended to report increases in soft drug use. No significant associations were detected between dyadic friendship quality, dyadic negativity in peer interactions and dyadic communication quality with initial levels of soft drug use or with changes in soft drug use during late adolescence or early adulthood.

Gender differences. Multiple group analyses of this model tested potential gender differences in the time-specific relations between each form of peer experience and soft drug use (Male n = 86; Female n =98). Given the gender main effects found in the single group model, estimates were freed on the intercept and slopes of soft drug use (e.g., means, variance and correlations) and resulted in significant model improvement ($\Delta\chi^2$ (7) = 37.89, p<.001), supporting the previous finding that initial levels and change trajectories of soft drug use were different for boys compared to girls. However, the main test of gender differences focused moderation effects of gender on the key structural paths between mid-adolescent peer experiences and soft drug use. Freeing key structural paths across gender did not result in a significant change in the model fit after allowing the intercept and slope parameters to be free ($\Delta\chi^2$ (15) = 10.29, *ns*), suggesting that the relationship between mid-adolescent peer experiences and soft drug use is comparable between boys and girls. Thus, results were interpreted using the single group conditional latent growth curve model which includes gender as a covariate. See Table 11 for a comparison of model fit statistics.

Table 11

Comparisons of Model Fits for Multigroup Latent Growth Curve Models: Gender

Model Label	χ^2	*df*	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf	*p*
1. Constrained Model	198.84	109	.84	.85	.095			
2. Free Intercept & Slope	160.95	102	.90	.90	.079	7	37.89	<.001
3. Free Regressions	150.66	87	.89	.87	.093	15	10.29	*ns*

Income Differences. Next, multiple group analyses tested potential income differences in the time-specific relations between peer experiences and soft drug use (High SES $n = 122$; Low SES $n = 61$). In this model, because the residual variance in the observed soft drug use variable at age 16 or age 21 was not significant, these residual variances were fixed to zero in the final model in order to create a model that could be computationally rendered using MPlus. Freeing constraints placed on structural coefficients representing relations between peer experiences and soft drug use did not result in a significant model improvement, failing to find evidence of the presence of income differences in this model ($\Delta\chi^2$ (13) = 7.43, *ns*).

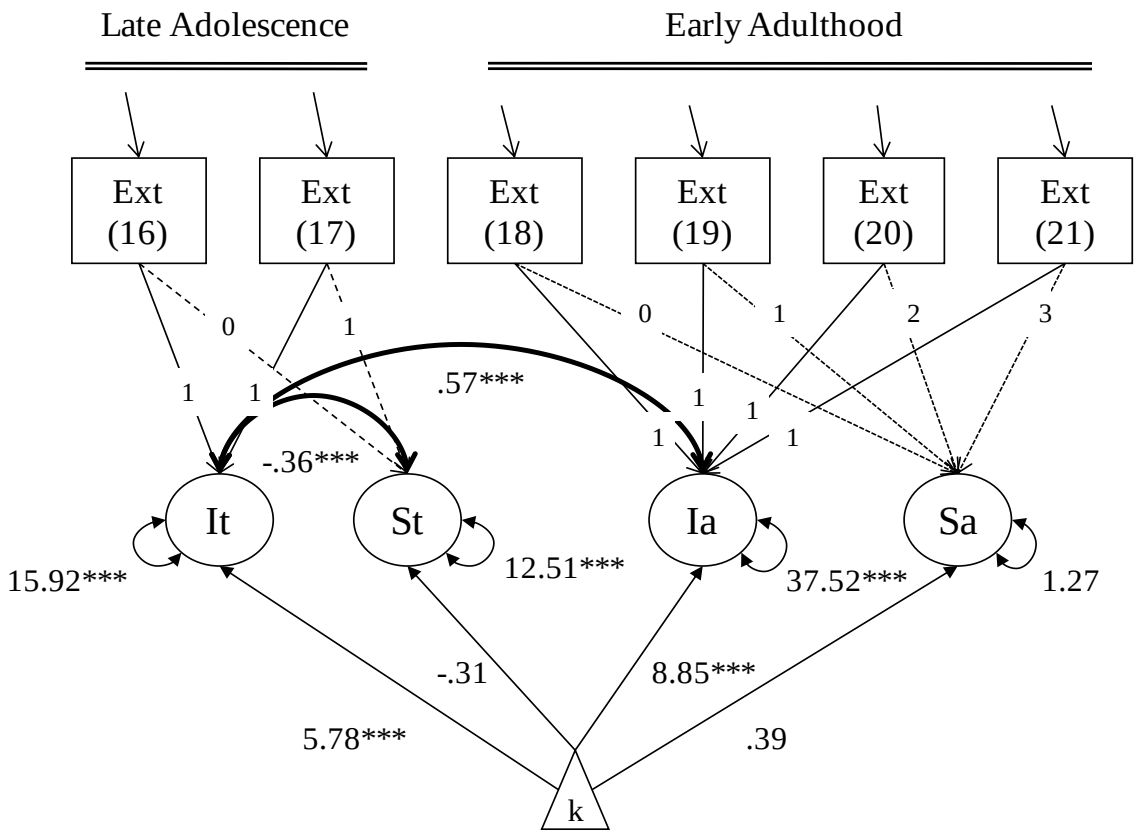
Unconditional Latent Growth Curve Analyses: Externalizing Behaviors

Given the change in assessment measures used for late adolescent externalizing behaviors (i.e., YSR short-form at ages 16 and 17) and early adult externalizing behaviors (i.e., ASR at ages 18-21), a model was fit for independent latent growth curve models which included: two linear intercept factors (Intercept Teen at age 16; Intercept Adult at age 18) and two slope factors that reflected change in late adolescent externalizing

behaviors (i.e., Linear Slope Teenage = change in scores between ages 16 and 17) and overall change in early adult externalizing behaviors over time (i.e., Linear Slope Adult = linear change between ages 18-21). For late adolescent externalizing behaviors, a simple two-factor LG model was constructed by setting the loadings of the intercept factor to 1 on the observed variables at two time points and the Linear Slope T loadings were set to 0 and 1. In simple two-factor LG models there are inevitably not enough degrees of freedom to estimate error variance in the data, thus the means and error variances for the manifest variables are set to zero (Duncan & Duncan, 2004). The mean of the late adolescent intercept factor represents the average externalizing behaviors reported at age 16 and the mean of the late adolescent slope factor represents the change in terms of differences between externalizing behaviors at age 17 and externalizing behaviors at age 16 . An unconditional linear model with four repeated measures of early adult externalizing behaviors was also fit. The full LGC model resulted in acceptable fit indices (χ^2 (9) = 14.67; CFI = .99; TLI = .98; RMSEA =.059)(See Figure 5).

Figure 5

Latent Growth Curve Model of Externalizing Behaviors.



The non-significant mean for the late adolescent slope factor (μ = -.31) indicated that as a group, externalizing behaviors did not appear to significantly change in either a positive or negative direction between the ages of 16 and 17. A significant positive mean for the early adult slope factor (μ = .39) indicated that the overall group reported increases in externalizing behaviors between the ages of 18 and 21. A significant variance component in the late adolescent intercept (ψ = 15.92), late adolescent slope (ψ = 12.51) and early adult intercept (ψ = 37.52) factors indicated that there were significant individual differences in initial late adolescent levels of externalizing behaviors, change in target teens' externalizing behaviors between ages 16 and 17 and initial early adult

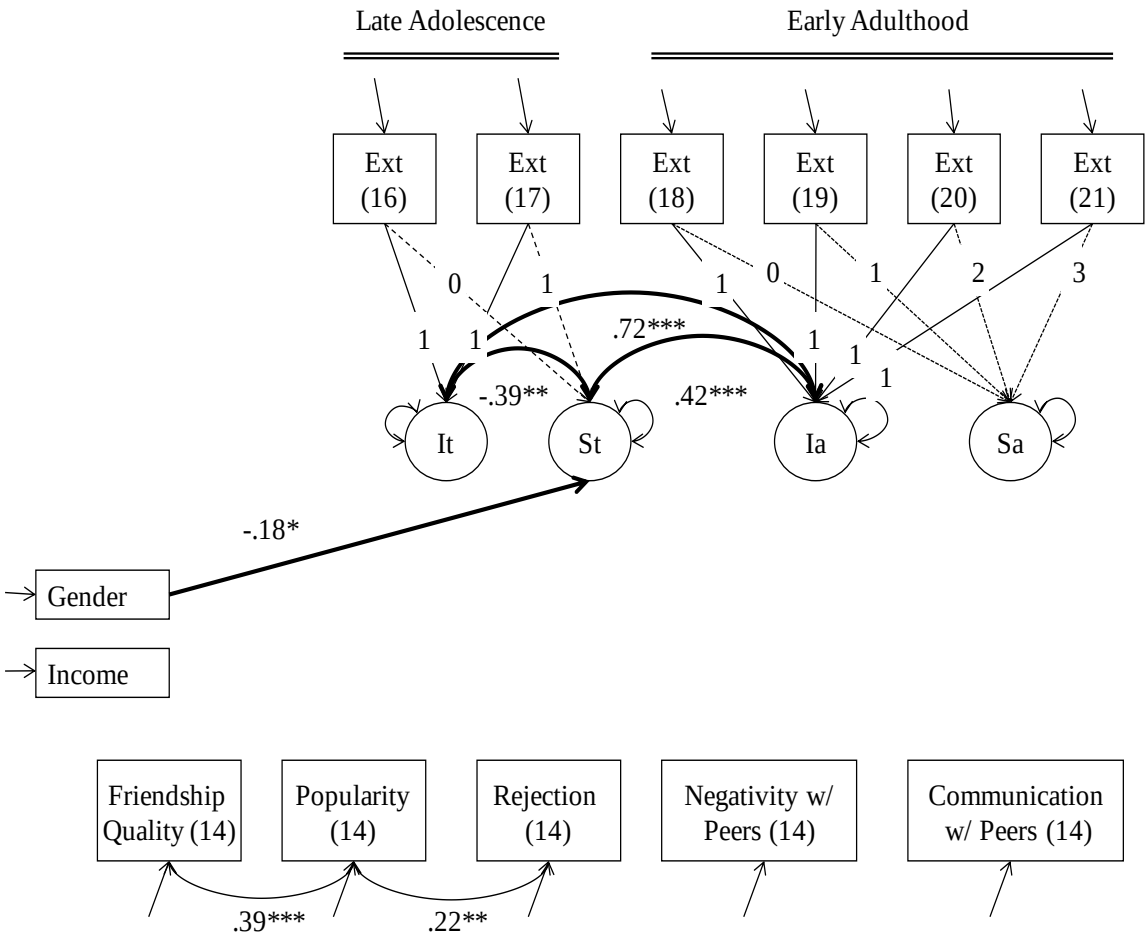
levels of externalizing behaviors that warranted further examination. No significant individual differences were detected in the early adult slope factor ($\psi = 1.27$) suggesting that early adults externalizing behaviors changed similarly over time for the group as a whole. Finally, a significant negative correlation between the late adolescent intercept and late adolescent slope factors ($r = -.36$, $p<.001$) indicated that there was an inverse relation between initial status and difference scores. Specifically, target teens' who reported higher levels of initial externalizing behaviors at age 16 tended to report a decrease in externalizing behaviors between ages 16 and 17. In comparison, target teens' who reported a lower level of initial externalizing behaviors at age 16 tended to report an increase in externalizing behaviors between ages 16 and 17. Additionally, a significant positive correlation between the late adolescent intercept and early adult intercept ($r = .57$, $p<.001$) indicated that there was a positive relationship between initial status at both time points. Specifically, target teens' who reported higher levels of initial externalizing behaviors at age 16 also tended to report higher levels of initial externalizing behaviors at age 18. No significant correlation was detected between the early adult intercept and slope factors.

Conditional Latent Growth Curve Model: Peer Experiences Predicting Externalizing Behaviors

The conditional LGC model for externalizing behaviors is presented in Figure 6. The model fit the data well (χ^2 (23) = 32.84; CFI = .98; TLI = .95; RMSEA =.048).

Figure 6

Conditional Latent Growth Curve Model of Mid-Adolescent Peer Experiences and Externalizing Behaviors. All parameter values are standardized. All parameters shown are p<.05.



Males reported increasing levels of externalizing behaviors between ages 16 and 17 but gender was not associated with initial levels of externalizing behaviors at ages 16 or 18. No significant association was found between gender and change in externalizing behaviors in early adulthood. No significant associations were detected between peer experience variables at age 14 and initial levels of externalizing behaviors at ages 16 or

18, changes in externalizing behaviors between ages 16 and 17, or changes in early adult externalizing behaviors.

Gender Differences. Multiple group analyses of this model tested potential gender differences in the time-specific relations between each form of peer experience and externalizing behaviors (Male n = 86; Female n =98). Freeing constraints placed on structural coefficients representing relations between peer experiences and externalizing behaviors did not result in a significant model improvement, failing to find evidence of the presence of gender differences in this model ($\Delta\chi^2$ (20) = 28.49, *ns*).

Income Differences. Next, multiple group analyses tested potential income differences in the time-specific relations between peer experiences and externalizing behaviors (High SES n = 122; Low SES n = 61). Freeing constraints placed on structural coefficients representing relations between peer experiences and externalizing behaviors did not result in a significant model improvement, failing to find evidence of the presence of income differences in this model ($\Delta\chi^2$ (20) = 22.98, *ns*).

Summary of Hypothesis IIA.

Soft Drug Use. When looking at the developmental trajectory of soft drug use, it was found that the progression of soft drug use differs in late adolescence when compared to the progression in early adulthood. Overall, target teens reported increases in soft drug use during late adolescence. However, in early adulthood soft drug use did not appear to significantly change in either a positive or negative direction for target teens. Females reported lower levels of soft drug use at age 16 and relative decreases in soft drug use during late adolescence. In early adulthood, females tended to report

increases in soft drug use. In support of the main hypothesis, negative peer experience (i.e., peer rejection) was associated with higher levels of soft drug use at age 16. Contrary to the hypothesis, positive peer experience (i.e., popularity) was also associated with higher levels of soft drug use at age 16.

Externalizing Behaviors. When looking at the developmental trajectory of externalizing behaviors, males reported increasing levels of externalizing behaviors and females reported decreasing levels of externalizing behaviors between the ages of 16 and 17. During early adulthood (ages 18-21), target teens levels of externalizing behaviors tended to increase over time for both males and females. Contrary to the hypothesis, no significant associations were detected between mid-adolescent peer experiences and later externalizing behaviors.

Hypothesis II: Rejection sensitivity will moderate the relationship between negative peer experiences in mid-adolescence and later problem behaviors (i.e, soft drug use and externalizing behaviors).

B. The relationship between negative peer experiences in mid-adolescence and problem behaviors will be stronger for adolescents high in rejection sensitivity when compared to adolescents low in rejection sensitivity.

Descriptive Statistics

Peer Variables and High School Rejection Sensitivity

In Table 12, analyses reveal simple correlations between gender, dyadic friendship quality at age 14 and high school rejection sensitivity at age 17. Target teens with high quality dyadic friendship at age 14 tend to report lower levels of high school

rejection sensitivity. No other significant correlations were detected between peer experience variables and high school rejection sensitivity.

Soft Drug Use and High School Rejection Sensitivity

No significant correlations were detected between soft drug use and high school rejection sensitivity. See Table 13.

Externalizing Behaviors and High School Rejection Sensitivity.

No significant correlations were detected between externalizing behaviors and high school rejection sensitivity. See Table 14.

Table 12

Simple Correlations for Peer Experience and High School Rejection Sensitivity

	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender	--	-.11	.38***	-.05	.01	.07	-.11	-.15*
2. Income		--	.20*	.37***	.34***	-.07	.04	.04
3. Dyadic Friendship Quality (tn)(cp)(14)			--	.40***	.01	-.12	-.02	-.26**
4. Popularity (s)(14)				--	.22**	-.12	.10	-.03
5. Rejection (s)(14)					--	.05	.10	-.01
6. Dyadic Negativity (int)(14)						--	-.06	-.14
7. Dyadic Communication (int)(14)							--	.15
8. High School RS (17)								--

Note: Age of Assessment is in parentheses; tn = target teen report; cp = close-peer report about target teen; s = sociometric status; int =dyadic interaction. *** $p < .001$. ** $p < .01$. * $p < .05$

Table 13

Simple Correlations for Soft Drug Use and High School Rejection Sensitivity

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Gender	--	-.11	-.14	-.25**	-.22*	-.32***	-.18*	-.26***	-.15*
2. Income		--	.20*	.20*	.24**	.27**	.30***	.31***	.04
3. Soft Drug Use (16)			--	.72***	.67***	.54***	.49***	.42***	-.01
4. Soft Drug Use (17)				--	.64***	.53***	.46***	.43***	-.02
5. Soft Drug Use (18)					--	.77***	.62***	.59***	.01
6. Soft Drug Use (19)						--	.73***	.66***	.05
7. Soft Drug Use (20)							--	.77***	.03
8. Soft Drug Use (21)								--	.08
9. High School RS(17)									--

Note: Age of Assessment is in parentheses; *** p < .001. ** p < .01. * p < .05

Table 14

Simple Correlations for Externalizing Behaviors and High School Rejection Sensitivity

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Gender	--	-.11	-.05	-.18*	-.15*	-.15*	-.23**	-.13	-.15*
2. Income		--	-.06	.00	.09	.08	.12	.10	.04
3. Externalizing (16)			--	.63***	.48***	.55***	.43***	.49***	.12
4. Externalizing (17)				--	.54***	.60***	.51***	.49***	.13
5. Externalizing (18)					--	.70***	.66***	.68***	.08
6. Externalizing (19)						--	.61***	.62***	.12
7. Externalizing (20)							--	.70***	.08.
8. Externalizing (21)								--	.09
9. High School RS(17)									--

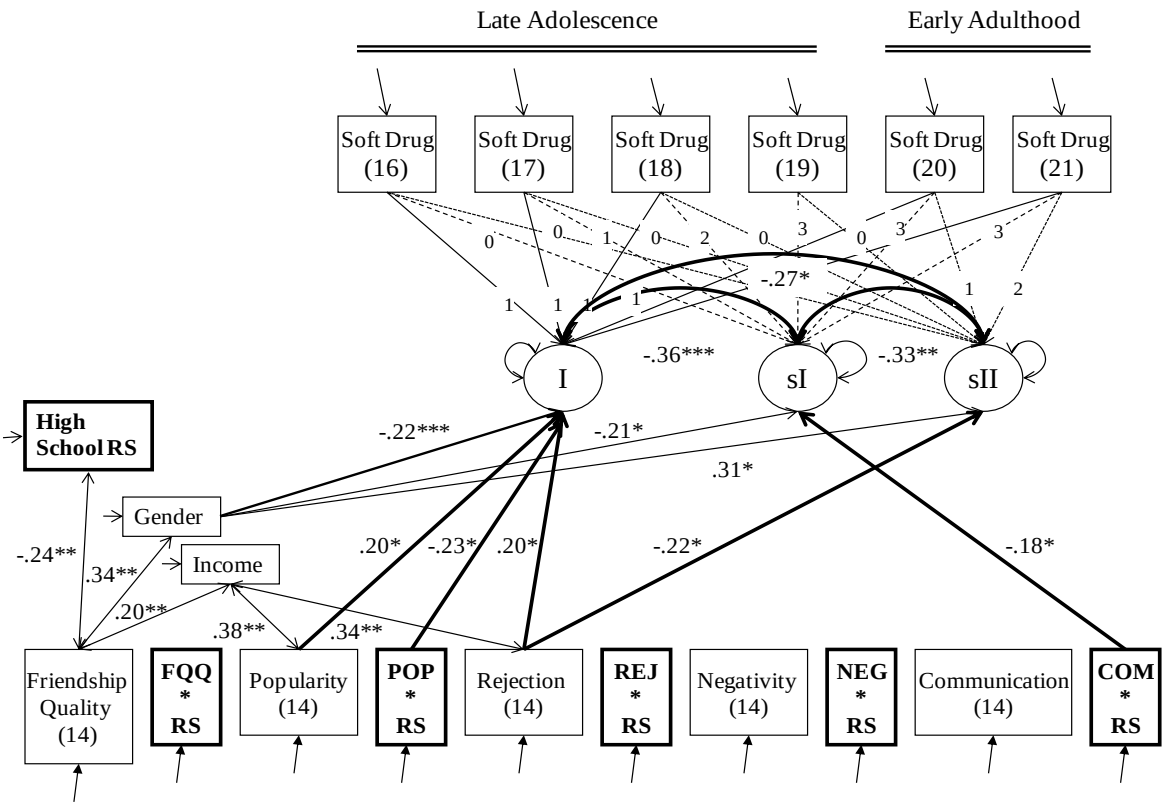
Note: Age of Assessment is in parentheses;. *** p < .001. ** p < .01. * p < .05

Conditional Latent Growth Curve Analysis: Rejection Sensitivity Moderating Relationship between Peer Experiences and Soft Drug Use

Next, we were interested in determining whether the relationship between adolescent peer experiences and individual differences in soft drug use at age 16 is moderated by levels of rejection sensitivity, and whether the progression in soft drug use over time differed for individuals high and low in rejection sensitivity. The conditional LGC moderation model for soft drug use is presented in Figure 7. The model fit the data well (χ^2 (57) = 88.80; CFI = .95; TLI = .91; RMSEA =.055).

Figure 7.

Conditional Latent Growth Curve Model of High School Rejection Sensitivity Moderating Relationship between Peer Experiences and Soft Drug Use. All parameter values are standardized. All parameters shown are p<.05.



Target teens' with higher levels of popularity at age 14 reported significantly higher initial levels of soft drug use at age 16. Target teens' with higher levels of peer rejection at age 14 reported significantly higher initial levels of soft drug use at age 16 but a relative decrease in soft drug use in early adulthood. No associations were detected between high school rejection sensitivity and initial levels of soft drug use at age 16 or at age 18, or with rates of change in soft drug use over time. A significant interaction was detected between high school rejection sensitivity and mid-adolescent popularity on initial levels of late adolescent soft drug use ($\beta = -.23$, $p<.05$)(See Figure 8). A significant interaction was also detected between high school rejection sensitivity and mid-adolescent dyadic communication ability with close peers on the progression of soft drug use in late adolescence ($\beta = -.18$, $p<.05$)(See Figure 9).

Females reported lower initial levels of soft drug and relative decreases in soft drug use during late adolescence. In early adulthood, females tended to report increases in soft drug use. No other significant associations were detected between dyadic friendship quality, dyadic negative peer quality, dyadic communication quality with peers and their associated interaction terms, with initial levels of soft drug use and changes in soft drug use during late adolescence and early adulthood.

Figure 8

Interaction of High School Rejection Sensitivity and Popularity at 14 Predicting Initial Levels of Soft Drug Use at 16. Axes are in standardized terms.

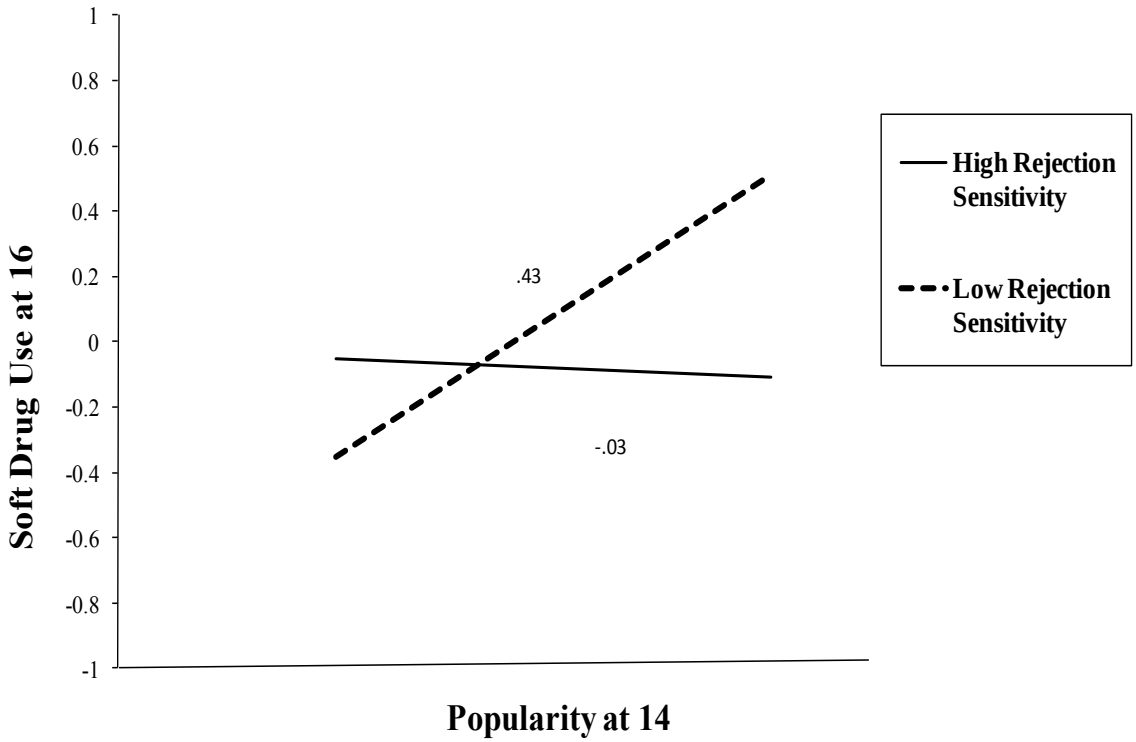


Figure 8 shows that the relationship between popularity at age 14 and initial levels of soft drug use at age 16 is more positive for adolescents with low levels of high school rejection sensitivity compared to adolescents with high levels of high school rejection sensitivity. Specifically, more popular target teens at age 14 who reported *low* levels of high school rejection sensitivity tended to have *higher* overall levels of soft drug use, compared to more popular target late adolescents with high levels of rejection sensitivity.

Figure 9

Interaction of High School Rejection Sensitivity and Dyadic Communication Ability at 14 Predicting Progression of Late Adolescent Soft Drug Use. Axes are in standardized terms.

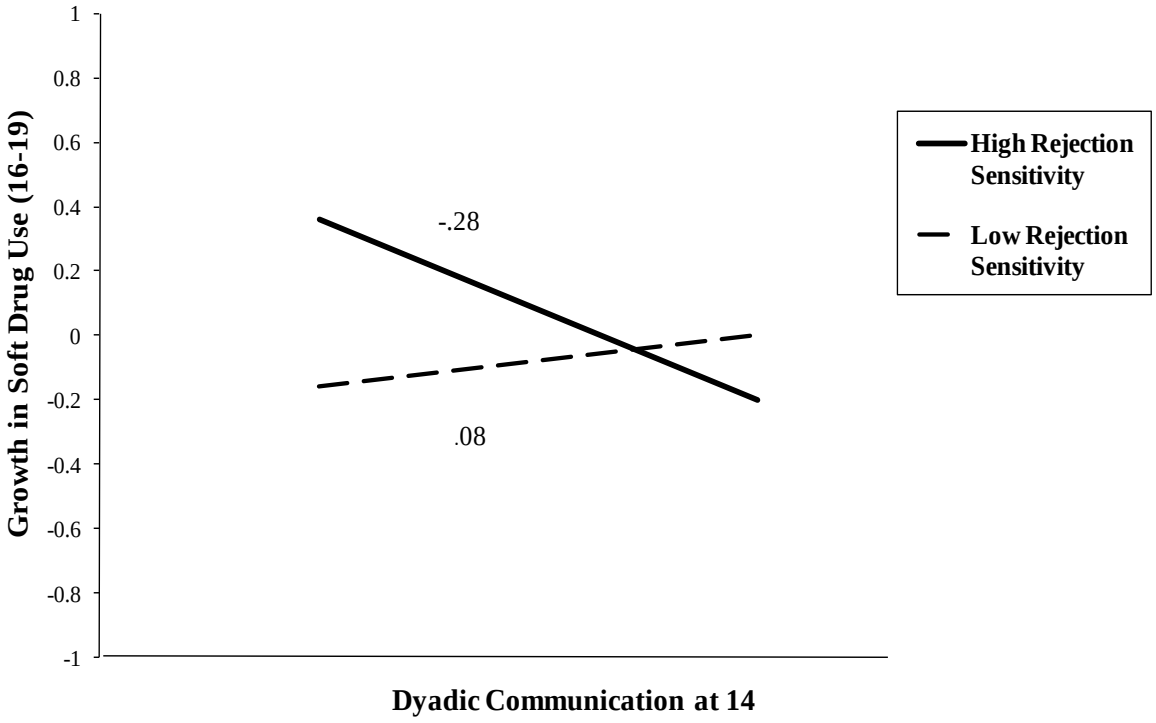


Figure 9 shows that the relationship between dyadic communication quality with peers at age 14 and change in soft drug use in late adolescence is more negative for adolescents high in rejection sensitivity compared to adolescents low in rejection sensitivity. Specifically, target teens who demonstrated poor dyadic communication quality at age 14 and reported high levels of high school rejection sensitivity tended to report greater relative increases in late adolescent soft drug use, compared to target teens who reported low levels of high school rejection sensitivity.

Gender Differences. Multiple group analyses of this model tested potential gender differences in the time-specific relations between relevant forms of peer experience, interaction terms and soft drug use (Male *n* = 86; Female *n* =98). First, estimates were freed on the intercept and slopes of soft drug use (e.g., means, variance and correlations) and resulted in significant model improvement ($\Delta\chi^2$ (10) = 40.80, $p<.001$), supporting the previous finding that initial levels and change trajectories of soft drug use were different between boys and girls. However, when key structural paths were freed between peer experiences, interaction terms and soft drug use the model did not converge. In order to test whether gender moderated the relationship between peer experiences and soft drug use, paths were freed from only significant peer experience variables (e.g., popularity, peer rejection and communication) and soft drug use. The model did not result in a significant change in the model fit after allowing the intercept and slope parameters to be free after allowing the intercept and slope parameters to be free ($\Delta\chi^2$ (8) = 6.66, *ns*), suggesting that the relationship between mid-adolescent peer experiences and soft drug use is not significantly different between boys and girls. Next, whether gender moderated the relationship for relevant interaction terms was tested (e.g., Peer * RS). The model did not result in a significant change in the model fit after allowing the intercept and slope parameters to be free ($\Delta\chi^2$ (7) = 4.93, *ns*). Thus, results were interpreted using the single group conditional latent growth curve model which includes gender as a covariate. See Table 15 for a comparison of model fit statistics.

Table 15

Comparisons of Model Fits for Multigroup Latent Growth Curve Models: Gender

Model Label	χ^2	*df*	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf	*p*
1. Constrained Model	424.41	228	.67	.75	.097			
2. Free Intercept & Slope	383.61	218	.73	.78	.090	10	40.80	<.001
3. Free Peer Regressions	373.95	210	.72	.77	.093	8	6.66	*ns*
4. Free Interaction Regressions	388.54	211	.71	.76	.096	7	+4.93	*ns*

Income Differences. Next, multiple group analyses tested potential incomes differences in the time-specific relations between peer experiences, interaction terms and soft drug use (High SES $n = 122$; Low SES $n = 61$). Freeing constraints placed on structural coefficients representing relations between significant peer experiences (i.e., popularity, peer rejection and communication) and soft drug use did not result in a significant model improvement, failing to find evidence of the presence of income differences in this model ($\Delta\chi^2$ (18) = 21.33, *ns*).

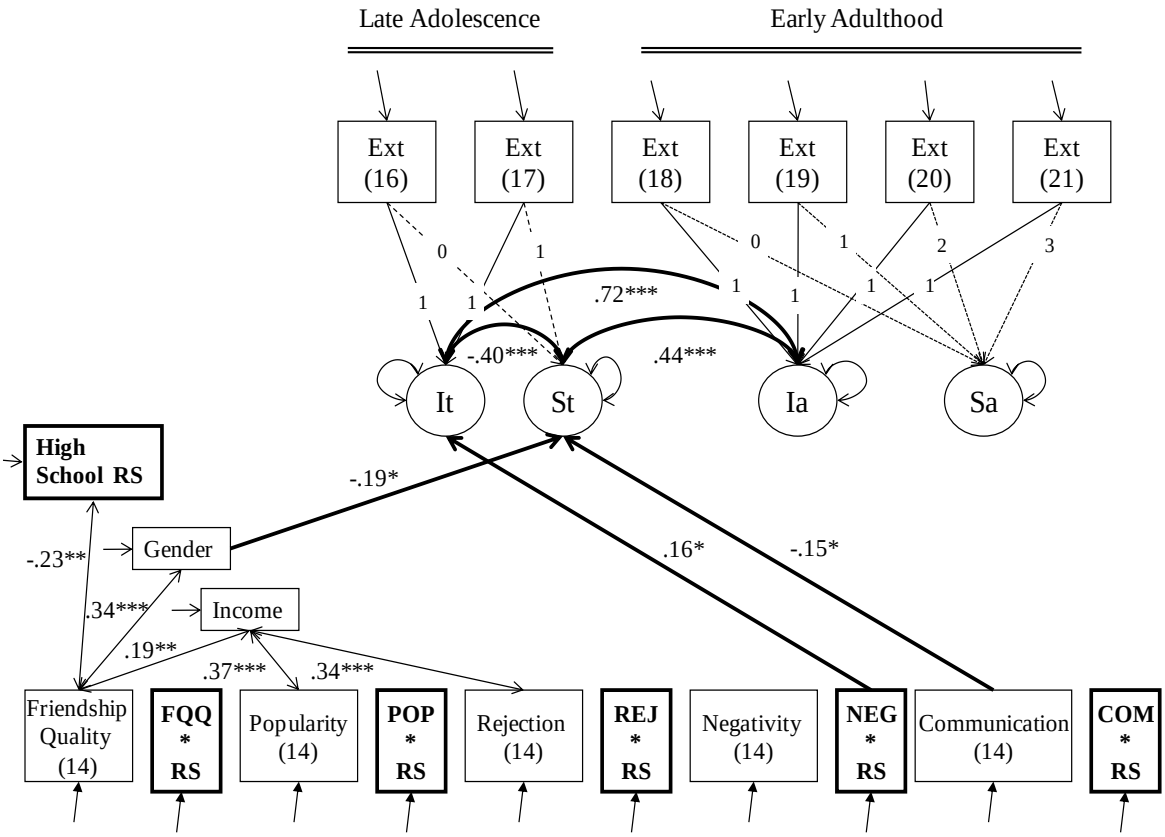
Conditional Latent Growth Curve Analysis: Rejection Sensitivity Moderating Relationship between Peer Experiences and Externalizing Behaviors

Next, we were interested in determining whether the relationship between mid-adolescent peer experiences and individual differences in externalizing behaviors at ages 16 and 18, between peer experiences and changes in externalizing behaviors between ages 16 and 17, and between peer experiences and the progression in early adult externalizing behaviors over time differed for individuals high and low in rejection sensitivity.

The conditional LGC moderation model for externalizing behaviors is presented in Figure 10. The model fit the data well (χ^2 (35) = 46.43; CFI = .98; TLI = .94; RMSEA = .042).

Figure10

Conditional Latent Growth Curve Model of High School Rejection Sensitivity Moderating Relationship between Peer Experiences and Externalizing Behaviors. All parameter values are standardized. All parameters shown are p<.05.



Greater dyadic communication quality with peers at age 14 was negatively associated with change in externalizing behaviors between ages 16 and 17, indicating better dyadic communication quality at age 14 was predictive of a decrease in externalizing behaviors between the ages 16 and 17. No associations were detected

between the dyadic communication quality with peers at age 14 and initial levels of externalizing behaviors at ages 16 or initial levels at age 18. Females were more likely to report decreases in externalizing behaviors between ages 16 and 17 but gender was not associated with initial levels of externalizing behaviors at ages 16 or 18. A significant interaction was detected between high school rejection sensitivity and mid-adolescent dyadic negative peer quality on the change in externalizing behaviors between ages 16 and 17 ($\beta = .16$, $p<.05$) See Figure 11.

Figure 11

Interaction of High School Rejection Sensitivity and Dyadic Negative Peer Quality at 14 Predicting Change in Externalizing Behaviors between 16 and 17. Axes are in standardized terms.

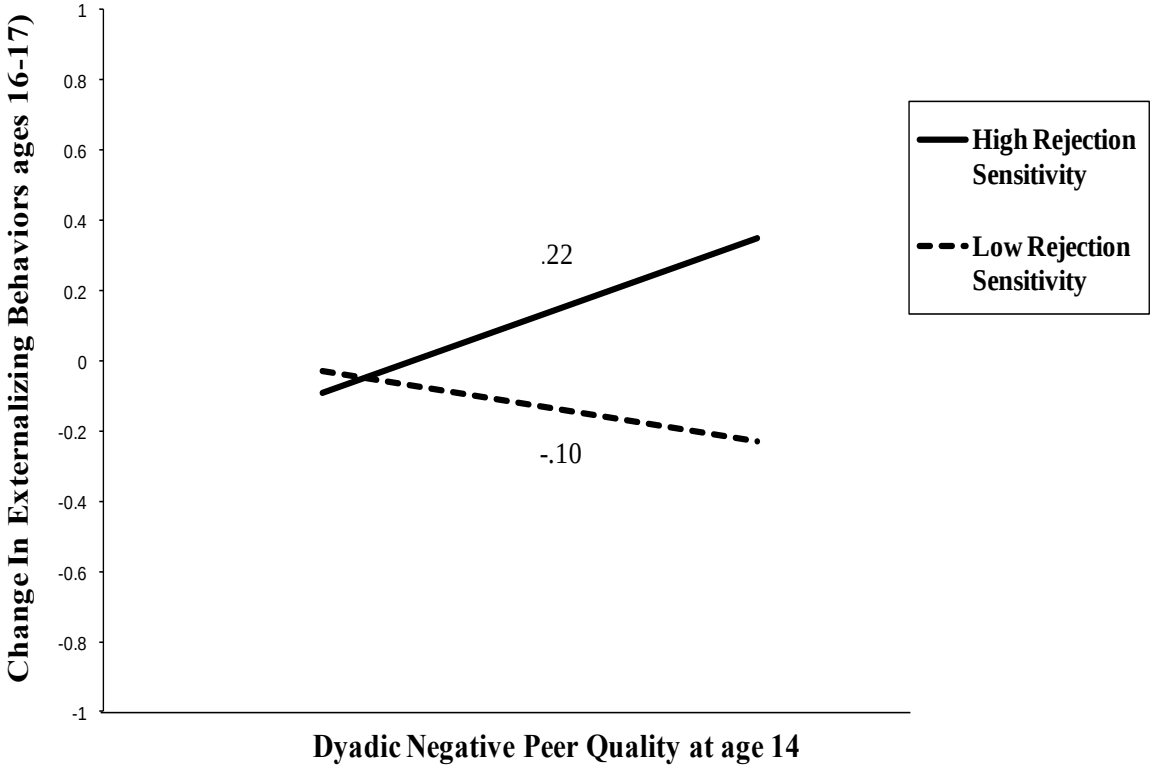


Figure 11 shows that target teens who demonstrated greater dyadic negative peer quality at age 14 and reported *high* levels of high school rejection sensitivity tended to report increases in externalizing behaviors between the ages of 16 and 17, compared to target teens who demonstrated greater dyadic negative peer quality at age 14 and reported *low* levels of high school rejection sensitivity. No other significant associations were detected between peer experiences and their associated interaction terms with initial levels of externalizing behaviors at ages 16 and 18, changes in externalizing behaviors between ages 16 and 17, and changes in early adult externalizing behaviors.

Gender Differences. Multiple group analyses of this model tested potential gender differences in the time-specific relations between relevant peer experience, interaction terms and externalizing behaviors (Male n = 86; Female n =98). Freeing constraints placed on relevant structural coefficients representing relations between peer experiences (i.e., peer rejection and communication) and externalizing behaviors did not result in a significant model improvement, failing to find evidence of the presence of gender differences in this model ($\Delta\chi^2$ (20) = 26.31, *ns*).

Income Differences. Next, multiple group analyses tested potential income differences in the time-specific relations between peer experiences, interaction terms and externalizing behaviors (High SES n = 122; Low SES n = 61). Freeing constraints placed on structural coefficients representing significant relations between peer experiences (i.e., peer rejection and communication) and externalizing behaviors did not result in a significant model improvement, failing to find evidence of the presence of income differences in this model ($\Delta\chi^2$ (16) =10.81, *ns*).

Summary of Hypothesis IIB

In support of the main hypothesis, high school rejection sensitivity appeared to moderate the relationship between negative peer experiences in mid-adolescence and later problem behaviors (i.e., soft drug use and externalizing behaviors).

Soft Drug Use. Specifically, the relationship between poor dyadic communication at 14 and increases in soft drug use during late adolescence was stronger for target teens' high in rejection sensitivity compared to target teens' low in rejection sensitivity. Thus, rejection sensitivity appears to be a risk factor for socially-challenged adolescents (i.e., those who demonstrated poor dyadic communication with peers at age 14.) Interestingly, high school rejection sensitivity also appeared to be a protective factor for socially-successful adolescents (i.e., higher levels of popularity at age 14.) Specifically, the relationship between popularity at 14 and higher initial levels of soft drug use at 16 was weaker for target teens with *high* levels of rejection sensitivity compared to target teens' *low* in rejection sensitivity.

Externalizing Behaviors. When looking at externalizing behaviors, high school rejection sensitivity also appeared to be a risk factor for socially-challenged adolescents (i.e., those who demonstrated more dyadic negativity with peers at age 14.) Specifically, the relationship between dyadic negativity with peers at 14 and externalizing behaviors between ages 16 and 17 was positive for target teens' high in rejection sensitivity and negative for target teens' low in rejection sensitivity.

Discussion

This dissertation used a multi-method, multi-reporter, longitudinal design to examine two major questions: 1) What are the peer-related precursors of rejection sensitivity?; and 2) What role does rejection sensitivity play in the relationship between early peer experiences and later problem behaviors? Results support the hypothesis that peer experiences in mid-adolescence relate to the development of rejection sensitivity in late adolescence and early adulthood. As expected, levels of rejection sensitivity appeared to moderate the relationship between peer experiences and later problem behaviors. The relationship between rejection sensitivity and later problem behaviors differed for socially-successful versus socially-challenged adolescents.

Peer-Related Precursors of Rejection Sensitivity

The Developmental Trajectory of Rejection Sensitivity. Rejection sensitivity decreased throughout late adolescence and early adulthood, suggesting that adolescents are successfully facing the challenges of becoming an adult in this regard. The transition to adulthood is often characterized as a time of pervasive contextual and social role changes (Arnett, 2000; Schulenberg, Bryant, & O'Malley, 2004). During this period, teens are likely to experience a number of ambiguously (and not so ambiguously) rejecting situations as they initiate new roles, develop new friendship networks and leave home to either start a job or enter college. Higher levels of rejection sensitivity might be expected, yet this is also a period of increasing cognitive and emotional capacities (e.g., perspective taking and emotional regulation) which allow for more reflective and deliberative behaviors in social situations (Roberts, Caspi, & Moffitt, 2001). Further,

research shows that overall psychological well-being improves during the transition to adulthood (Galambos, Barker, & Krahn, 2006). In support, results suggest that as a group, teens are gaining confidence in their ability to feel socially accepted and to manage their emotional reactions in potentially difficult social situations.

Our findings replicate previous research on the stability of rejection sensitivity in adolescence and adulthood (Downey, et al., 1998b; London, et al., 2007; Marston, et al., in press), suggesting that rejection sensitivity appears to be a personality disposition with trait-like qualities. Previous research has viewed 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. Results indicate that an individual's rejection sensitivity profile remains relatively stable overtime when compared to others (i.e., stability in rank order levels), consistent with the notion that the transition to adulthood is a period during which personality dispositions are likely to become entrenched as enduring patterns (Roberts, et al., 2001). However, individual levels of rejection sensitivity were also decreasing for the sample as a whole. Findings suggest that for individuals who are able to successfully navigate role transitions, it may also be a period of opportunity to improve interpersonal patterns such as rejection sensitivity (Masten, et al., 2004; Roisman, Aguilar, & Egeland, 2004).

Peer Experiences as Predictors of Rejection Sensitivity. Results support the hypothesis that multiple facets of mid-adolescent peer experiences (i.e., dyadic reports of friendship quality, popularity, dyadic negative peer interactions and dyadic ability to communicate with peers) are related to the development of rejection sensitivity in late adolescence and

early adulthood. Further, both negative and positive aspects of friendship quality made unique contributions to the initial levels of and changes in rejection sensitivity over time. The results also support the continued use of the overall rejection sensitivity score, finding that peer experiences were similarly related to the development of rejection sensitivity across domains (i.e., peer, romantic, parental, work/school).

Peer Rejection. No link between peer rejection and the development of rejection sensitivity in late adolescence and early adulthood was detected. Findings are in contrast to previous research in which rejection by the broader peer group was associated with relative increases in rejection sensitivity for children and early adolescents (London, et al., 2007; Sandstrom, et al., 2003). For early adolescents, relative increases in rejection sensitivity were reported by rejected boys but not rejected girls (London et al., 2007), suggesting that gender might moderate the relationship between peer rejection and the development of rejection sensitivity in late adolescence and early adulthood. However, in the current study, no significant gender differences were detected in the relationship between peer experience (including peer rejection) and the development of rejection sensitivity.

If rejection by the broader peer group does not directly predict the long-term development of rejection sensitivity, then what does? Youth have a heightened need to gain acceptance from the broader peer group during childhood and early adolescence (Harris, 1995) - yet the ability to establish close, intimate friendships becomes increasingly important throughout adolescence (Buhrmester, 1990). It is possible that during late adolescence, the ability to form close friendships might have a more salient role than peer rejection in the development of rejection sensitivity.

Positive Markers of Friendship Quality. Results suggest that positive characteristics of adolescent peer interactions may be markers of social skills that play an important role in the development of an individual's cognitive-affective expectations in later social situations. Specifically, higher levels of friendship quality in mid-adolescence related to teens' overall levels of rejection sensitivity in late adolescence and early adulthood. Teens with higher levels of dyadic friendship quality at 14 reported lower initial levels of rejection sensitivity at age 16. In addition, when examining peer factors related to *change* in rejection sensitivity over time, how well a teen was doing with a *close friend* (i.e., dyadic communication quality with a close friend) and how well a teen was doing *within a group* (i.e., popularity) in mid-adolescence related to relative decreases in rejection sensitivity over time. In other words, teens with more positive markers of friendship quality reported relatively lower levels of rejection sensitivity and relative decreases in rejection sensitivity during late adolescence and early adulthood when compared to teens with fewer positive markers of friendship quality. These findings answer researchers' calls to look beyond the mere absence of friendship and investigate multiple aspects of friendship quality (Hartup, 1996). Additionally, results build upon previous research showing the link between social acceptance and relative decreases in rejection sensitivity for early-adolescents (London, et al., 2007).

Mid-adolescents with higher friendship quality might consistently be experiencing less rejection in social situations (Ladd, 1999). As a result, it would be reasonable to expect that these mid-adolescents would report lower initial levels of rejection sensitivity compared to mid-adolescents with lower friendship quality. Another possibility is that mid-adolescents with higher friendship quality might possess important skill sets that

enable them to *learn* how to expect and therefore experience greater levels of social acceptance in potentially rejecting situations. From an attachment perspective, social skills that are developed within close friendships might foster internalized scripts of acceptance (rather than rejection) in future relationships. Thus, when socially-skilled adolescents step outside of their interpersonal comfort zone during the transition to adulthood, they may subsequently anticipate and experience less rejection than more socially-challenged adolescents.

In order to look at these questions, post hoc analyses investigated the relationship between peer experience variables and two rejection sensitivity subscales: the reported level of concern over potential rejection and the reported likelihood of being rejected. Results indicated that teens with more positive markers of friendship quality (i.e., better dyadic friendship quality, better dyadic communication and higher levels of popularity) were not necessarily less concerned about potential rejection in late adolescence – rather they developed into young adults who were less likely to anticipate rejection in potentially rejecting social situations. Findings suggest that experiencing positive aspects of friendships in mid-adolescence (both within close friendships and within peer groups) may foster the development of healthy social skills that help teens successfully face the social transitions common during emerging adulthood. Future research should utilize latent growth curve modeling techniques to investigate the link between mid-adolescent peer experiences and the development of an adolescents' levels of concern about rejection compared to the degree to which they anticipate being rejected. Such findings might further our understanding of the mechanisms by which positive markers of friendship quality relate to later rejection sensitivity.

Negative Markers of Friendship Quality: Brittle Bravado. On the other end of the spectrum, results point to the presence of a "brittle bravado" social interaction style for teens who demonstrated higher levels of negativity in close peer interactions. Dyadic negativity with a close friend at age 14 (e.g., tension, hostility, or antagonism) was related to lower initial levels of rejection sensitivity at 16. Thus, teens in more acrimonious close friendships at age 14 reported lower initial levels of rejection sensitivity at age 16. But, dyadic negativity at age 14 was also related to relative increases in rejection sensitivity during late adolescence and early adulthood (ages 16-21). Together, findings suggest that expressions of dyadic negativity in close peer interactions may be somewhat adaptive at first, but appear to become corrosive to an adolescents' developing social identity over time.

Teens with a "brittle bravado" may appear to have an "I don't care" persona in social situations, leading to lower initial levels of rejection sensitivity. Therefore, teens with a "brittle bravado" might be more likely to initially report a lack of *concern* regarding potential rejection in social situations. In support, post hoc correlations indicated that mid-adolescents with higher levels of dyadic negativity in close peer interactions reported *lower* levels of concern over potential rejection in late adolescence. However, no associations were detected between negativity and levels of concern after age 18. Interestingly, by age 19 a positive relationship emerges between higher levels of dyadic negativity and reports of the *likelihood* of being rejected. In other words, adolescents with a "brittle bravado" may initially report feeling less concerned about potential rejection but by age 19 they report increasing fears of actually being rejected. These preliminary findings provide cursory support for the hypothesis that mid-

adolescent peer experiences foster the development of a foundation of social skills (or lack thereof) which help adolescents learn how to anticipate, cope and subsequently experience less rejection in future social situations. If adolescents lack the social skills to develop a positive relationship with their close friend, it is unlikely they will feel confident when entering new social networks and developing new friendships as young adults.

In summary, results suggest that aspects of friendship quality rather than overt peer rejection contributed to the development of rejection sensitivity in late adolescence and early adulthood. Specifically, the ability to develop high quality friendships and achieve social acceptance in mid-adolescence was linked with relative decreases in rejection sensitivity during late adolescence and early adulthood. On the other hand, the apparent inability to develop high quality friendships was associated with a "brittle bravado" interaction style that was linked with relative increases in rejection sensitivity over time. Findings demonstrate circumstantial evidence that peer experiences may be a marker of the presence (or absence) of social skills which are important building blocks for how teens' learn to anticipate and cope with rejection in social situations during late adolescence and early adulthood.

Rejection Sensitivity as Moderator of the Relationship between Peer Experiences and Later Soft Drug Use

The Developmental Trajectory of Soft Drug Use. Consistent with findings from prior research (Johnston, et al., 2002; Rai, et al., 2003), teens reported increasing rates of soft drug use during late adolescence (ages 16-19). In early adulthood, findings indicated that

teens' soft drug use was no longer uniformly changing: rather, while some teens' soft drug use started to decrease, other teens' reported stable or increasing rates of soft drug use. Reports of soft drug use peaked at age 19 for teens - the year following high school when most adolescents move out of their parents' household. This is consistent with previous findings of increased substance use during times of diminished social control (Kypri, McCarthy, Coe, & Brown, 2004; White, et al., 2006).

During late adolescence, males had higher initial levels of soft drug use and steeper increases in soft drug use compared to females. In early adulthood, males were more likely to report decreasing soft drug use while females were more likely to report increasing soft drug use. In other words, soft drug use among males appears to start leveling off by age 20 while soft drug use among females continues to increase although at a lower level and a slower pace.

Peer Experiences as Predictors of Soft Drug Use. Findings indicated that mid-adolescent peer experiences appear to be related to levels of soft drug use in late adolescence and early adulthood. Specifically, higher levels of peer rejection and higher levels of popularity in mid-adolescence were both associated with elevated levels of soft drug use in late adolescence. Results support the presence of two pathways to soft drug use– one via peer rejection and another via peer acceptance. These are important findings because they start to bring together two lines of research on the development of adolescent substance use. Critical reviews have indicated that rejection by one's peer group is associated with later problem behaviors including increased substance use (Kupersmidt, et al., 1990; Ollendick, et al., 1992; Parker & Asher, 1987). However, recent research indicates that popular teens were also more likely to engage in socially

accepted problem behaviors such as soft drug use and minor forms of delinquency (Allen, et al., 2005; Engels, Scholte, van Lieshout, de Kemp, & Overbeek, 2006). No gender differences emerged in the relationship between mid-adolescent peer experiences and later soft drug use, a finding consistent with research indicating that males and females share similar risk factors for antisocial behaviors (including substance use)(Moffitt, Caspi, Rutter, & Silva, 2001).

Similar socialization processes might occur for both socially-successful and socially-challenged adolescents. We know that a common factor leading to all forms of adolescent substance use is involvement with substance using peers (Dishion & Owen, 2002). Teens in both popular and rejected peer groups might be surrounded by substance using peers which then normalizes and reinforces increasing rates of substance use (Dishion, Capaldi, Spracklen, & Li, 1995; Kandel, 1996). Soft drug use among peers was not included in our analyses; therefore, it is unknown whether target teens' sociometric status (i.e., popular or rejected) was actually associated with their peers' soft drug use. It is possible that levels of soft drug use might be similar in both socially-successful and socially-challenged peer groups. Future research should compare the levels of soft drug use in peer groups of popular and rejected adolescents and investigate whether both groups share similar soft drug use trajectories throughout late adolescence and early adulthood.

Although not measured, important differences between popular and rejected teens might emerge when considering individual motivations to use soft drugs. Gaining peer acceptance and enhancing social status is one of the positive functions of adolescent substance use (Jessor, 1987; Maggs, et al., 1995), but this may be a more prominent

motivation among popular teens when compared to rejected teens. Socially-successful teens might be motivated to use soft drugs because it is socially adaptive and considered to be "cool." Socially-challenged teens, on the other hand, may be more likely to use soft drugs as a means of coping with negative emotions. Future research should evaluate whether distinct motivations and socialization processes exist for soft drug use across peer group types (i.e., popular and rejected).

Curiously, results indicated that higher levels of mid-adolescent peer rejection were associated with decreases in soft drug use during early adulthood. This is a somewhat unexpected result, although past research has revealed mixed findings regarding the relationship between adolescent risk factors (e.g., deviant peers, positive expectations, and early onset of substance use) and adult antisocial behaviors. On the one hand, adolescent risk factors have been found to set the stage for later substance use problems (Guo, Hawkins, Hill, & Abbott, 2001; Maggs & Schulenberg, 2004). On the other hand, well-documented risk factors did not exhibit direct effects on substance use after controlling for initial levels at age 18 (Bates & Labouvie, 1997; Woodward & Fergusson, 1999). Having controlled for initial levels of soft drug use starting at age 16, no significant relationship between mid-adolescent peer rejection and later soft drug use would be expected. However, peer rejection was associated with higher levels of soft drug use in late adolescence and decreases in soft drug use during early adulthood.

One possible explanation is that rejected teens may develop into young adults who are left out of peer groups, leading to fewer opportunities to use soft drugs. Exposure to peer stress in early adolescence has been shown to contribute to increases in social disengagement (Caldwell, Rudolph, Troop-Gordon, & Kim, 2004). If social

disengagement continues into young adulthood, teens might experience less peer pressure to use soft drugs (e.g., overt offers of alcohol, modeling and social norms) – a factor commonly implicated in the excessive drinking of college students (Borsari & Carey, 2001).

Overall, results regarding this hypothesis suggest that being rejected or being accepted by peers are two distinct pathways to higher levels of soft drug use in late adolescence. Interestingly, results provide circumstantial support that peer risk factors for later soft drug use (i.e., peer rejection) may be mutable during the transition to adulthood. Longitudinal research is needed to investigate the long-term stability of adolescent peer risk factors in relation to later soft drug use, specifically looking at discontinuities in what constitutes risk in adolescence versus adulthood.

Rejection Sensitivity as Moderator of the Relationship between Peer Experiences and Soft Drug Use. Results support the hypothesis that rejection sensitivity moderates the relationship between mid-adolescent peer experiences and later soft drug use. Rejection sensitivity seems to function as a *risk* factor for socially-challenged teens and as a *protective* factor for socially-successful teens. Investigating levels of rejection sensitivity might help us understand the different motivations for soft drug use of socially-challenged compared to socially-successful adolescents.

In the full moderation model, peer rejection remained a main effects predictor of later soft drug use: however, no moderating effect of rejection sensitivity was observed. One possibility is that rejected mid-adolescents may develop dismissive attitudes towards relationships in order to protect themselves. In the romantic relationship literature, negative social experiences activate self-protective goals (e.g., devaluation of

relationships) for individuals who tend to feel less positively regarded. For people who feel more positively regarded, specific rejection experiences activate relationship promotion goals (e.g., draw closer to partner)(Murray, et al., 2006). Thus, as enduring interpersonal patterns are starting to develop during late adolescence, rejection sensitivity may be especially salient for teens who value rather than devalue relationships.

Rejection Sensitivity as Risk Factor: Socially-Challenged Adolescents. As predicted, rejection sensitivity appeared to function as a risk factor for socially-challenged teens. Specifically, for teens who demonstrated poor dyadic communication quality with their peers at age 14, higher levels of rejection sensitivity were associated with relative increases in soft drug use during late adolescence compared to teens with low levels of rejection sensitivity. In other words, socially-challenged teens who were concerned about being rejected showed relatively higher increases in their soft drug use through late adolescence than those who were not.

For socially-challenged youth, a general concern over potentially experiencing rejection might translate into either an enhanced need for acceptance or a greater need to cope with negative emotions. When considering these hypothetical intrapersonal motivations, it is useful to look at Cox and Klinger's (1988) typology that characterized reasons for drinking alcohol along two dimensions: 1) positive and negative motivations and 2) extrinsic and intrinsic motivations. Their typology defined drinking motives based on the goals of positive mood enhancement (positive-intrinsic), social affiliation (positive-extrinsic), coping with negative emotions (negative-intrinsic) and avoiding social consequences (negative-extrinsic).

It is possible that socially-challenged youth (i.e., poor dyadic communication with peers) who report high levels of rejection sensitivity might be motivated to use soft drugs in order to avoid negative social consequences. Researchers posit that one reason adolescents engage in problem behaviors, such as soft drug use, is to maintain or gain acceptance with their peers (Boyer, 2006; Dishion & Owen, 2002). Not surprisingly, fear of isolation (Kandel, 1996) and lack of positive friendship quality (Hussong & Hicks, 2003) have been associated with greater substance use in adolescence. When adolescents are also experiencing high levels of rejection sensitivity, it is likely that friendship quality deteriorates and the need for acceptance becomes even more heightened. Rejection sensitivity has been linked with relative decreases in friendship quality and characterized as a self-fulfilling prophecy (Downey & Feldman, 1996; Downey, et al., 1998a; Downey, et al., 1998b; Marston, et al., in press). Adolescents who report high levels of rejection sensitivity are likely to behave in ways that confirm their expectations and elicit rejection from peers. The current findings suggest that interpersonal difficulties (i.e., poor dyadic communication with peers) in combination with a higher level of anticipation and concern over potentially losing friends (i.e., rejection sensitivity) could lead an adolescent to fear the end of the friendship and thus use substances to attempt to gain peer acceptance.

Another possibility is that socially-challenged adolescents high in rejection sensitivity might feel more upset and anxious in social situations and use soft drugs as a maladaptive coping mechanism. Research suggests that experiences of peer stress in adolescent relationships reciprocally predicts increasingly negative self-views and social disengagement (Caldwell, et al., 2004). A relationship has been found between negative

affect and elevated levels of alcohol use (Hussong & Hicks, 2003; Hussong, et al., 2001). Given that rejection sensitivity has been linked with higher levels of negative affect for children and adults (Ayduk, et al., 1999; Downey, et al., 1998b), socially-challenged mid-adolescents might develop into increasingly distressed and isolated young adults who use soft drugs to cope with the anxiety of anticipated rejection and the negative feelings elicited by perceived rejection.

Rejection Sensitivity as Protective Factor: Socially-Successful Adolescents. In the case of socially-successful teens, rejection sensitivity appears to function as a protective mechanism. Mid-adolescent popularity was positively related to higher overall levels of soft drug use throughout late adolescence and early adulthood. However, more popular teens who reported *high* levels of rejection sensitivity in high school, tended to use *lower* levels of soft drugs in late adolescence and early adulthood compared to more popular teens who reported *low* levels of rejection sensitivity. This finding raises the question of why rejection sensitivity would be a protective mechanism for socially-successful youth when it is typically associated with maladaptive outcomes.

It is possible that for socially-successful adolescents, a general concern over potentially experiencing rejection might be a marker of heightened social awareness and recognition of the consequences of personal actions. Continuing with Cox and Klinger's (1988) typology, the heightened sense of consequences potentially associated with high levels of rejection sensitivity might dampen socially-successful teens' positive motivations for using soft drugs (e.g., positive mood enhancement and social affiliation). In other words, they might become the "Class President" – worried about what others think of them and unlikely to take risks. The "class president" might moderate their use

of soft drugs because they are worried about potential consequences to their relationships and to their future. On the other hand, a general *lack* of concern over potentially experiencing social rejection might translate into a cavalier attitude, placing socially-successful teens at risk for elevated levels of soft drug use during late adolescence and early adulthood. These youth may later become the "Party Animal" - socially confident and filled with a sense of invincibility. The "party animal" might not perceive any harm in using soft drugs if it brings them closer to their peers and enhances their mood. Among socially-successful adolescents, rejection sensitivity might be a marker of adolescents' developing psychosocial maturity that helps restrain soft drug use.

In summary, rejection sensitivity appears to function differently for socially-successful and socially-challenged adolescents. While rejection sensitivity is a protective mechanism for socially-successful teens, it appears to be a risk factor for socially-challenged teens. Findings suggest that rejection sensitivity might help us understand different motivations for soft drug use among late adolescents and early adults who value friendships. Future research should incorporate measures of motivations, to test directly whether rejection sensitivity is associated with adolescents' reasons to use soft drugs and whether distinct motivations exist for different peer groups. In addition, it would be important to investigate whether socially-successful teens high in rejection sensitivity have peers who report less soft drug use compared with socially-successful teens low in rejection sensitivity. Lastly, future investigations into whether rejection sensitivity functions as a protective factor in the development of other adolescent problem behaviors would be useful.

Rejection Sensitivity as Moderator of the Relationship between Peer Experiences and Later Externalizing Behaviors

The Developmental Trajectory of Externalizing Behaviors. Results showed that for the sample as a whole, levels of externalizing behaviors during late adolescence (ages 16-17) did not change uniformly. Rather, externalizing behaviors decreased for some adolescents and increased for others during this time period. Externalizing behaviors appeared to increase for the sample as a whole during early adulthood (ages 18-21). We did not measure serious forms of aggression or violence: teens' externalizing behaviors consisted of moderate levels of aggression (e.g., getting into fights) and delinquency (e.g., lying and stealing). Consistent with our findings , the longitudinal Dunedin study found that antisocial behaviors such as stealing, lying and fighting appeared to increase or remain relatively high between the ages of 13 and 26 (Odgers, et al., 2008).

Peer Experiences as Predictors of Externalizing Behaviors. Findings suggest that mid-adolescent peer experiences no longer directly predict levels of externalizing behaviors or changes in externalizing behaviors during late adolescence and early adulthood. These findings were somewhat unexpected given the robust amount of research into the link between early peer experiences and later externalizing problems in childhood and adolescence (Dodge, et al., 2003; Laird, et al., 2001; Miller-Johnson, Coie, Maumary-Gremaud, Lochman, & Terry, 1999). However, these findings are consistent with research showing that by age 18, early peer problems in childhood were no longer predictive of later adjustment (e.g., criminal offending and substance use) after early conduct problems were taken into account (Woodward & Fergusson, 1999).

Gender appeared to have a main effect upon the change in externalizing behaviors between the ages 16 and 17, with males reporting increasing levels of externalizing behaviors and females reporting decreasing levels. Results are somewhat in contrast to research suggesting that while males have higher base rates of externalizing problems, males and females share similar trajectories for increasing externalizing behaviors in adolescence (Broidy, et al., 2003). Given the brief period of time used to assess change (i.e., between ages 16 and 17), it remains unclear whether this finding is indicative of an enduring trend. Notably, no gender differences were detected in the development of externalizing behaviors after age 18.

Rejection Sensitivity as Moderator of the Relationship between Peer Experiences and Externalizing Behaviors. Results indicated that high levels of rejection sensitivity were a risk factor for socially-challenged adolescents in regards to externalizing behaviors during late adolescence. Specifically, for teens who demonstrated greater dyadic negative peer quality at age 14, high levels of rejection sensitivity were associated with relative increases in externalizing behaviors between the ages of 16 and 17, compared to teens who reported low levels of rejection sensitivity. Findings extend research demonstrating a link between rejection sensitivity and externalizing behaviors among children and early adolescents (London, et al., 2007; Sandstrom, et al., 2003) into late adolescence.

Rejection sensitivity may be a cognitive-affective bias that is relevant in the development of externalizing behaviors, such as aggression and delinquency. Such a bias would be consistent with research showing that reactive aggression is associated with higher levels of hostile attributional biases (Dodge & Coie, 1987). By extension,

for teens high in rejection sensitivity, externalizing problems (including forms of aggression) might occur as a function of the attributional biases and intention-cue deficits related to their anticipation of rejection and their over-reaction to perceived rejection in social situations. Socially-challenged teens (i.e., greater dyadic negativity with peers) low in rejection sensitivity did not report increasing levels of externalizing behaviors in late adolescence. Thus, adolescents' with the ability to anticipate and cope in potentially rejecting social situations may be less likely to react aggressively. Future studies may want to study separately rejection sensitivities' relationship with aggression compared to delinquency, in order to investigate whether rejection sensitivity is specifically related to reactive forms of aggression compared to potentially proactive forms of delinquency.

Rejection sensitivity did not appear to moderate the relationship between peer acceptance and later externalizing behaviors. These findings are is in contrast to results for soft drug use, where rejection sensitivity appeared to function as a protective factor for socially-successful youth. One explanation is that socially-successful (i.e., popular) adolescents are more likely to engage in soft drug use than they are to demonstrate externalizing behaviors. Indeed, prior longitudinal research has indicated that popular adolescents showed relative increases in socially accepted problem behaviors (e.g., minor levels of drug use) and relative decreases in behaviors deemed socially unacceptable (e.g., hostility and aggression) (Allen, et al., 2005).

In summary, rejection sensitivity appears to moderate the relationship between mid-adolescent peer experiences and later problematic behaviors (i.e., soft drug use and externalizing behaviors). For socially-challenged adolescents, rejection sensitivity appears to function as a risk factor. Specifically, mid-adolescents who demonstrated poor

dyadic communication quality with a close friend were particularly vulnerable to high levels of rejection sensitivity when predicting later soft drug use. In regards to externalizing behaviors, mid-adolescents who demonstrated greater dyadic negativity with a close friend were particularly vulnerable to high levels of rejection sensitivity. For socially-successful adolescents, rejection sensitivity appears to function as a protective factor. Specifically, high levels of rejection sensitivity helped temper the positive relationship between social success and later soft drug use.

Limitations and Conclusions

Several limitations should be kept in mind when interpreting the findings. First, although self-report has been shown to be a reliable way to obtain information on adolescents' soft drug use and externalizing behaviors (Allen, Leadbeater, & Aber, 1990; Farrington, 1973), teens may have exhibited a social desirability bias in reporting lower frequency of soft drug use and externalizing behaviors. Similarly, although the rejection sensitivity questionnaire has been validated using experimental procedures (Downey & Feldman, 1996; Downey, et al., 1998b), teens may have exhibited a social desirability bias in reporting less concern and less likelihood of experiencing potential rejection. Future research should incorporate peer reports of problem behaviors and rejection sensitivity in order to detect whether social desirability biases may have operated to inflate the observed relations between these constructs.

Second, data were collected from a normative sample of adolescents and young adults. Thus, this study was unable to assess disordered levels of substance use or externalizing behaviors. Further, while latent curve analyses were able to control for problem behaviors starting at age 16, exact predictions between peer experiences and

later problem behaviors cannot be made. It is possible that teens who exhibit problem behaviors in early adolescence (ages 10-13) may subsequently have negative peer experiences because of some underlying disposition (e.g., impulsivity) that is both harmful for relationships and related to increased problem behaviors. However, obtaining meaningful baseline data on problem behaviors is difficult in a normative sample. Future research should investigate whether the relationships observed between peer experiences, rejection sensitivity and later problem behaviors are also observed in high-risk populations.

Finally, it is important to note that, even in the context of a longitudinal design, the data are correlational in nature. Although latent growth curve analyses may reveal correlated change over time, and highlight predictors of the individual levels and trajectories of rejection sensitivity or problem behaviors, causal mechanisms cannot be inferred between peer experiences, rejection sensitivity and problem behaviors.

Despite its limitations, this study advances current research on rejection sensitivity by longitudinally investigating its peer-related precursors and its link with later problem behaviors. Our findings shed light on the importance of friendship quality in the development of rejection sensitivity: knowing how to have high-quality friendships in mid-adolescence appears to be more salient in the development of later rejection sensitivity than whether or not an adolescent was rejected by the broader peer group. Further, results suggest that rejection sensitivity may help us understand the different motivations for soft drug use between socially-challenged adolescents and socially-successful adolescents. Finally, this study provides preliminary evidence that higher

levels of rejection sensitivity may have some adaptive qualities in relation to soft drug use in late adolescence and early adulthood.

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Appendix A: Measures

Sociometric Ratings

CIRCLE ONE:
I am in the **7th** **8th** **9th** _____(**other**) grade.

I go to _____ School.

List the names of up to 10 students in your grade that you would **MOST** like to spend time with on a Saturday night.

FIRST NAME LAST NAME

1)
2)
3)
4)
5)
6)
7)
8)
9)
10)

List the names of up to 10 students in your grade that you would **LEAST** like to spend time with on a Saturday night.

FIRST NAME LAST NAME

1)
2)
3)
4)
5)
6)
7)
8)
9)
10)

Friendship Quality Questionnaire

Directions: For each item, decide how true the statement is for your relationship with _____. Circle your choice.

	Not At All True	**A Little True**	**Somewhat True**	**Pretty True**	**Really True**
1. We always spend free time at school together.	1	2	3	4	5
2. We get mad at each other a lot.	1	2	3	4	5
3. She tells me I am good at things.	1	2	3	4	5
4. She sticks up for me if others talk behind my back.	1	2	3	4	5
5. We make each other feel important and special.	1	2	3	4	5
6. We always pick each other as partners for things.	1	2	3	4	5
7. She says AI=m sorry@ if she hurts my feelings.	1	2	3	4	5
8. She sometimes says mean things about me to other kids.	1	2	3	4	5
9. She has good ideas about things to do.	1	2	3	4	5
10. We talk about how to get over being mad at each other.	1	2	3	4	5
11. She would like me even if others didn=t.	1	2	3	4	5
12. She tells me I am pretty smart.	1	2	3	4	5
13. We always tell each other our problems.	1	2	3	4	5
14. She makes me feel good about my ideas.	1	2	3	4	5
15. I talk to her when I=m mad about something that happened to me.	1	2	3	4	5
16. We help each other with chores a lot.	1	2	3	4	5

	Not At All True	A Little True	Somewhat True	Pretty True	Really True
17. We do special favors for each other.	1	2	3	4	5
18. We do fun things together a lot.	1	2	3	4	5
19. We argue a lot.	1	2	3	4	5
20. We can count on each other to keep promises.	1	2	3	4	5
21. We go to each others= houses.	1	2	3	4	5
22. We always play together or hang out together.	1	2	3	4	5
23. She gives me advice with figuring things out.	1	2	3	4	5
24. We talk about the things that make us sad.	1	2	3	4	5
25. We make up easily when we have a fight.	1	2	3	4	5
26. We fight a lot.	1	2	3	4	5
28. We share things with each other.	1	2	3	4	5
29. She does not tell others my secrets.	1	2	3	4	5
30. We bug each other a lot.	1	2	3	4	5
31. We come up with good ideas on ways to do things.	1	2	3	4	5
32. We loan each other things all the time.	1	2	3	4	5
33. She helps me so I can get done quicker.	1	2	3	4	5
34. We get over our arguments really quickly.	1	2	3	4	5
35. We count on each other for good ideas on how to get things done.	1	2	3	4	5
36. She doesn=t listen to me.	1	2	3	4	5
37. We tell each other private things.	1	2	3	4	5

	Not At All True	A Little True	Somewhat True	Pretty True	Really True
38. We help each other with schoolwork a lot.	1	2	3	4	5
39. We tell each other secrets.	1	2	3	4	5
40. She cares about my feelings.	1	2	3	4	5

Rejection Sensitivity

Directions: Each item below describes things teens sometimes ask of other people. Please imagine that you are in each situation. You will be asked to answer the following questions:

1) How concerned or anxious would you be about how the other person would respond?
2) How do you think the other person would be likely to respond?

		Very Unconcerned **Very Concerned**		**Very Unlikely** **Very Likely**
1. You ask someone in class if you can borrow his/her notes.	**a.) How concerned or anxious would you be over whether or not the person would want to lend you his/her notes?**	O O O O O O	**b.) I would expect that the person would willingly give me his/her notes**	O O O O O O
2. You ask your boyfriend/girlfriend to spend a weekend away together.	**a.) How concerned or anxious would you be over whether or not he/she also would want to spend a weekend away together?**	O O O O O O	**b.) I would expect that he/she would want to spend a weekend away together.**	O O O O O O
3. You ask your parents for help in deciding what you should do after you finish high school.	**a.) How concerned or anxious would you be over whether or not your parents would want to help you?**	O O O O O O	**b.) I would expect that they would want to help me.**	O O O O O O

		Very Unconcerned Very Concerned		Very Unlikely Very Likely
4. You ask someone you don't know well out on a date.	**a.) How concerned or anxious would you be over whether or not the person would want to go out with you?**	O O O O O O	**b.) I would expect that the person would want to go out on a date with me.**	O O O O O O
5. Your boyfriend/girlfriend has plans to go out with friends tonight, but you really want to spend the evening with him/her, and you tell him/her so.	**a.) How concerned or anxious would you be over whether or not your boyfriend/girlfriend would decide to stay in?**	O O O O O O	**b.) I would expect that he/she would willingly choose to stay in with me.**	O O O O O O
6. You ask your parents for extra spending money.	**a.) How concerned or anxious would you be over whether or not your parents would help you out?**	O O O O O O	**b.) I would expect that my parents would not mind helping me out.**	O O O O O O
7. After class, you tell your teacher that you have been having some trouble with some of the material in the class and ask if he/she can give you some help outside of class.	**a.) How concerned or anxious would you be over whether or not your professor would want to help you out?**	O O O O O O	**b.) I would expect that the professor would want to help me out.**	O O O O O O

		Very Unconcerned Very Concerned		Very Unlikely Very Likely
8. You approach a close friend to talk after doing or saying something that seriously upset him/her.	**a.) How concerned or anxious would you be over whether or not your friend would want to talk with you?**	O O O O O O	**b.) I would expect that he/she would want to talk with me to try to work things out.**	O O O O O O
9. You ask someone in one of your classes to sit with you at lunch.	**a.) How concerned or anxious would you be over whether or not the person would want to sit with you at lunch?**	O O O O O O	**b.) I would expect that he/she would want to sit with me at lunch.**	O O O O O O
10. After graduation, you ask your parents if you can live at home for a while.	**a.) How concerned or anxious would you be over whether or not your parents would want you to live at home?**	O O O O O O	**b.) I would expect that I would be welcome at home.**	O O O O O O
11. You ask your friend to go on vacation with you over Spring Break.	**a.) How concerned or anxious would you be over whether or not your friend would want to go with you**	O O O O O O	**b.) I would expect that he/she would want to go with me.**	O O O O O O
12. You call your boyfriend/girlfriend after a bitter argument and tell him/her you want to see him/her.	**a.) How concerned or anxious would you be over whether or not your boyfriend/girlfriend would want to see you?**	O O O O O O	**b.) I would expect that he/she would want to see me.**	O O O O O O

		Very Unconcerned Very Concerned		Very Unlikely Very Likely
13. You ask a friend if you can borrow something of his/hers.	**a.) How concerned or anxious would you be over whether or not your friend would want to loan it or not?**	O O O O O O	**b.) I would expect that he/she would willingly loan me it.**	O O O O O O
14. You ask your parents to come to an occasion important to you.	**a.) How concerned or anxious would you be over whether or not your parents would want to come?**	O O O O O O	**b.) I would expect that they would want to come.**	O O O O O O
15. You ask a friend to do you a big favor.	**a.) How concerned or anxious would you be over whether or not your friend would want to help you out?**	O O O O O O	**b.) I would expect that he/she would willingly agree to help me out.**	O O O O O O
16. You ask your boyfriend/girlfriend if he/she really loves you.	**a.) How concerned or anxious would you be over whether or not your boyfriend/girlfriend would say yes?**	O O O O O O	**b.) I would expect that he/she would answer yes sincerely.**	O O O O O O
17. You go to a party and notice someone on the other side of the room, and then you ask them to dance.	**a.) How concerned or anxious would you be over whether or not the person would want to dance with you?**	O O O O O O	**b.) I would expect that he/she would want to dance with me.**	O O O O O O

		Very Unconcerned Very Concerned		Very Unlikely Very Likely
18. You ask your boyfriend/girlfriend to come home to meet your parents.	**a.) How concerned or anxious would you be about whether or not your boyfriend/girlfriend would want to meet your parents?**	O O O O O O	**b.) I would expect that he/she would want to meet my parents.**	O O O O O O

Alcohol, Tobacco and Drug Use

Please answer the following questions. Remember that all of your answers are confidential. Please skip any questions you can't answer truthfully.

In the questions that follow, a "drink" is defined as a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. Those times when you had only a sip or two from a drink are not considered consumption.

1. Have you ever tried alcohol (beer, wine, wine coolers, and liquor)? This does not include when you have a sip of alcohol, or on a special occasion at home.
   A. No (If NO skip to #2)
   B. Yes

   1a. During the past 30 days, on how many days did you drink one or more drinks of an alcoholic beverage?
   a. 0 times
   b. 1 or 2 times
   c. 3 to 9 times
   d. 10 or more times

4. Have you ever used marijuana? Marijuana is also called pot, dope, grass, weed, hash, hashish, and hash oil.

   A. No (If NO skip to #5)
   B. Yes

   4a. In the last 30 days, how many times have you used marijuana?

   None 1-2 3-5 6-9 10 or more

Youth Self-Report: Externalizing Behaviors

Directions: Below is a list of items that describe teens. For each item decide if the statement describes you **now or within the past 6 months**. Circle **2** if the item is *Very True or Often True* of you. Circle **1** if the item is *Somewhat or Sometimes True* for you. If the item is *Not True* of you, circle **0**.

	Not True	**Somewhat or Sometimes True**	**Very True or Often True**
1) I act too young for my age	0	1	2
2) I have trouble concentrating or paying attention.	0	1	2
3) I have trouble sitting still.	0	1	2
4) I cry a lot.	0	1	2
5) I like animals.	0	1	2
6) I am mean to others.	0	1	2
7) I try to get a lot of attention.	0	1	2
8) I destroy things belonging to others.	0	1	2
9) I disobey at school.	0	1	2
10) I don=t get along with other kids.	0	1	2
11) I feel others are out to get me.	0	1	2
12) I feel worthless or inferior.	0	1	2
13) I get in many fights.	0	1	2
14) I hang around with kids who get in trouble.	0	1	2
15) I act without stopping to think.	0	1	2
16) I lie or cheat.	0	1	2
17) I am not liked by other kids.	0	1	2
18) My school work is poor.	0	1	2

	Not True	Somewhat or Sometimes True	Very True or Often True
19) I would rather be with younger kids than with kids my own age.	0	1	2
20) I scream a lot.	0	1	2
21) I steal from places other than home.	0	1	2
22) I am stubborn.	0	1	2
23) My moods or feelings change suddenly.	0	1	2
24) I have a hot temper.	0	1	2
25) I threaten to hurt people.	0	1	2
26) I whine a lot.	0	1	2

Adult Self-Report: Externalizing Behaviors

Directions: Below is a list of items that describe people. For each item, please select 0, 1, or 2 to describe yourself *over the past six months.* Please answer all items as well as you can, even if some do not seem to apply to you. Some items will ask you to describe your responses. Please give an explanation for those items in the space provided.

	Not True **0**	**Somewhat or Sometimes True** **1**	**Very True or Often True** **2**
3. I argue a lot.	O	O	O
5. I blame others for my problems.	O	O	O
6. I use drugs (other than alcohol and nicotine) for non-medical purposes	O	O	O
7. I brag.	O	O	O
16. I am mean to others.	O	O	O
19. I try to get a lot of attention.	O	O	O
20. I damage or destroy my things.	O	O	O
23. I break rules at work or elsewhere.	O	O	O
26. I don't feel guilty after doing something I shouldn't.	O	O	O
28. I get along badly with my family.	O	O	O
37. I get in many fights.	O	O	O
39. I hang around people who get in trouble.	O	O	O
41. I am impulsive or act without thinking.	O	O	O
43. I lie or cheat.	O	O	O
55. My mood swings between elation and depression	O	O	O
57. I physically attack people.	O	O	O
68. I scream or yell a lot.	O	O	O
74. I show off or clown.	O	O	O
76. My behavior is irresponsible.	O	O	O

	Not True **0**	**Somewhat or Sometimes True** **1**	**Very True or Often True** **2**
81. My behavior is very changeable.	O	O	O
82. I steal.	O	O	O
83. I am easily bored.	O	O	O
86. I am stubborn, sullen, or irritable.	O	O	O
87. My moods or feelings change suddenly.	O	O	O
90. I drink too much alcohol or get drunk.	O	O	O
92. I do things that may cause me trouble with the law.	O	O	O
93. I talk too much.	O	O	O
94. I tease others a lot.	O	O	O
95. I have a hot temper.	O	O	O
97. I threaten to hurt people.	O	O	O
104. I am louder than others.	O	O	O
114. I fail to pay my debts or meet other financial responsibilities.	O	O	O
116. I get upset too easily.	O	O	O
117. I have trouble managing money or credit cards.	O	O	O
118. I am too impatient.	O	O	O