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Friendship Jealousy in Young Adolescents: Individual Differences and Links to Sex, Self-Esteem, Aggression, and Social Adjustment

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Children's vulnerability to jealousy surrounding their best friends was explored in 2 studies. Study 1 involved 94 adolescents who reported on their friendship jealousy on a newly created measure. Results indicated that the jealousy measure had sound psychometric properties and produced individual differences that were robust over time and free from socially desirable responding. As expected, girls and adolescents with low self-worth reported the greatest friendship jealousy. Study 2 involved 399 young adolescents and extended the measurement of self-report jealousy to a broader age range. In addition, Study 2 included assessments of jealousy provided by friends and other peers. Self- and peer-reported jealousy were only modestly associated and had somewhat distinct correlates. Structural modeling revealed that young adolescents' reputation for friendship jealousy was linked to behaving aggressively and to broader peer adjustment difficulties. Both self- and peer-reported jealousy contributed to loneliness.

Because they are normally embedded in larger groups and networks of peer relationships, friendships in early adolescence are routinely subject to outside forces. At times, this influence is presumably positive. For example, when third parties recognize and respond to pairs of young adolescents as friends, they can cement the partners' identification with and commitment to one another (Klein & Milardo, 1993). Outsiders can also positively influence what happens within friendships in more direct ways. For example, third parties can act as mediators to resolve disputes between friends (e.g., Simmons, 2002). However, outsiders are not invariably welcomed in friendships and can also be significant sources of tension and conflict between friends (Asher, Parker, & Walker, 1996; Kless, 1992). For example, young adolescents with multiple friends can become caught in competing friendship loyalties and demands. These binds can lead to perceptions of inequities, betrayal, and violations of expectations within specific relationships (Selman, 1980). Even when such dilemmas can be avoided, the time involved and the emotional commitments that partners make to outside peers may still create problems for friends. In particular, if young adolescents perceive outsiders as threatening the quality, uniqueness, or survival of their friendships, feelings of jealousy can arise and pose challenges to the partner,

the perceived interloper, and perhaps the encompassing peer group.

Although research on children's and young adolescents' friendships has increased dramatically in the past decade, little is known about the forces exerted on friendship dyads as a result of their position in a broader network of relationships because researchers have generally studied individual friendships in isolation from other relationships and individuals (Lansford & Parker, 1999). A better understanding of the issues that surface in children's friendships around third parties is important for at least two reasons. First, it would further understanding of why these relationships take the forms they do by accounting for influences that are not strictly dyadic or individual (Duck, 1993). Second, third parties present young adolescents with significant challenges to their ability to manage their relationships. As such, they introduce a potentially important source of variability in the friendship experiences of individuals. An increased understanding of which individuals handle these challenges effectively would highlight potential targets of interventions aimed at increasing the quality or stability of children's friendship participation.

The purpose of the present research was to explore one implication of the social context of friendship, namely, potential individual variability in young adolescents' dispositions to react with jealousy to their close friends' relationships with other peers. To date, virtually no empirical data exist on young adolescents' jealousy over friends. However, a beginning understanding of this issue can be built on the rich theoretical and empirical literature that exists on jealousy in adults. With adults, jealousy is commonly conceptualized as a negative cognitive, emotional, and behavioral reaction triggered by a valued partner's actual or anticipated interest in or relationship with another person who is regarded as an interloper (e.g., Guerrero & Andersen, 1998; Hupka, 1981;

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Salovey & Rodin, 1989; Sharpsteen & Kirkpatrick, 1997). Generally, jealousy results when individuals feel that a partner's relationship with someone else threatens their own, existing relationship with the partner. Individuals who are jealous may feel they are in danger of being replaced in the relationship by the interloper, thereby losing the relationship entirely. However, even when they understand that their own relationship with the partner can continue, jealous individuals may be distressed at the expected diminution of the quality of the relationship, which they perceive as arising from the need to share the relationship rewards or privileged access to the partner with others (Mathes, Adams, & Davies, 1985).

Adults experiencing jealousy typically report strong, but blended, emotions, mostly involving anger, sadness, and some anxiety and embarrassment (e.g., Bringle & Buunk, 1985; Pfeiffer & Wong, 1989; Salovey & Rodin, 1989; Sharpsteen, 1993). Further, evidence suggests that because jealous individuals are in a state of high uncertainty regarding their partner's relational commitment, their cognitive assessments of others may be distorted and they may report preoccupying and ruminative thought (Afifi & Reichert, 1996; Carson & Cupach, 2000; Guerrero, Andersen, Jorgensen, Spitzberg, & Eloy, 1995). Finally, both theoretical arguments (e.g., Salovey & Rodin, 1988; White, 1981; White & Mullen, 1989) and empirical data (e.g., Bers & Rodin, 1984; DeSteno & Salovey, 1997; Mathes et al., 1985; Salovey & Rodin, 1984; Sharpsteen, 1995), support the assertion that what jealous individuals find particularly distressing is not only the interloper's infringement on the relationship but also the implied unfavorable social comparison of themselves with the interloper and the inferred rejection by the partner. As Guerrero et al. (1995, p. 274) aptly noted, "Jealous individuals believe that their partners have compared them to the rival and that they have somehow failed to 'measure up.'" Thus, jealous circumstances are especially threatening to self-esteem, and individuals with low self-esteem are especially vulnerable to jealousy (see Salovey & Rodin, 1989).

Although the experience and expression of jealousy depend to some extent on situational factors, robust individual differences in the vulnerability to jealousy also exist among adults. Individual differences in vulnerability to jealousy have proven relatively stable with time and across specific contexts (Bringle, Renner, Terry, & Davis, 1983) and bear a relation to individuals' behavior in contrived, analog settings involving relationship threat (Mathes, Phillips, Skowran, & Dick, 1982). More important, jealousy is a major contributor to relationship dissatisfaction (Andersen, Eloy, Guerrero, & Spitzberg, 1995; Bringle, Roach, Andier, & Evenbeck, 1979) and, in some instances, to relationship conflict and violence (Hansen, 1991; Stets & Pirog-Good, 1987). In addition, highly jealous adults have also been found to be self-deprecating, unhappy, anxious, externally controlled, and dogmatic (see Bringle, 1981) and fearful, suspicious, and insecure (Carson & Cupach, 2000; Guerrero & Andersen, 1998; Sharpsteen & Kirkpatrick, 1997). Finally, and consistent with arguments that negative social comparison plays an important role in jealousy, consistent, albeit moderate, negative relationships between self-esteem and dispositions to jealousy have been reported (see Bringle & Buunk, 1985).

Jealousy can occur at any age and in the context of any valued relationship characterized by a degree of intimacy, commitment, and dependence, including parent-child relationships (e.g., Ellestad & Stets, 1998; Masciuch & Kienapple, 1993) and friendships

(e.g., Aune & Comstock, 1991; Clanton & Kosin, 1991; Guerrero & Andersen, 1998; Parrott, 1991). Nonetheless, almost all research on jealousy has been conducted with adults and predictably has centered on feelings of threat surrounding romantic partners. An exception is research by Selman (e.g., Selman, 1980; Selman & Schultz, 1990), who noted the salience of jealousy in children's and young adolescents' narratives about friendship and speculated on its developmental basis. According to Selman, individuals rarely express jealousy over friends' activities with others before early adolescence unless this extradyadic involvement has obvious and immediate negative effects on their own welfare. This is because these young children do not readily understand how specific activities between individuals contribute to broader feelings of affection and commitment and thus do not normally appreciate the implications of their friends' activities with others for their own relationship. With further development, this understanding grows, and suspicion and jealousy become more common in friendships. Older children, too, are more likely to make social comparisons with the third party and thus more likely to react more negatively to third parties because a friend's interest in someone else implies a personal failure on the part of oneself. In Selman's view, jealousy over friends remains a problem for most individuals until early or middle adolescence and then abates as subsequent social-cognitive advances help older children take a more balanced view in which they recognize that no single relationship, no matter its quality, can meet all the interpersonal needs of an individual.

In sum, little is confidently known about the influence of outsiders on relations between friends, including young adolescents' vulnerability to jealousy surrounding friends. This is true despite a rich conceptual and empirical literature on jealousy in adults. Accordingly, our overarching goal in the present work was to conceptualize and assess individual differences in friendship jealousy and to provide a beginning understanding of their correlates and significance. Two studies are presented. Study 1 introduces a self-report measure for assessing young adolescents' vulnerability to jealousy over their friends and provides initial evidence of the reliability and validity of assessments with this measure in a sample of adolescent youth, including the link between jealousy and children's perceptions of self-worth. Potential sex differences in jealous dispositions are also examined in Study 1. Study 2 extends the appraisal of the psychometric properties of the newly developed measure of friendship jealousy to a new sample with a broader age range and continues the exploration of sex differences. It is important to note that Study 2 also explores the broader social significance of friendship jealousy by exploring young adolescents' reputations for friendship jealousy with their friends and other peers and how these relate to self-reported jealousy, a specific form of aggressive behavior, and individuals' broader social adjustment.

Study 1

Little attention has been focused on the important question of whether individual young adolescents display stable differences in their tendencies to react with jealousy to their friends' activities with others. With adults, a number of effective self-report scales have been developed to identify individuals who grow jealous more readily than others (see Bringle & Buunk, 1985; Pfeiffer & Wong, 1989). In these assessments, respondents are asked to

imagine their partners in a variety of semi-intimate social circumstances with other potential partners (e.g., a business trip, a luncheon, at work) and indicate the extent to which the situation makes them feel jealous. The circumstances in these vignettes allow for benign interpretation of the behavior of the partner and others in the setting, but individuals disposed to jealousy perceive relationship threat and report greater jealousy and subjective distress than do typical individuals.

The primary objective of Study 1 was to introduce and evaluate a measure of vulnerability to friendship jealousy for young adolescents, the Friendship Jealousy Questionnaire, modeled after the self-report measurement approach used effectively with adults. Drawing parallels to the literature on adults in romantic relationships, we anticipated that children would vary systematically in their thresholds for jealousy over friends. To tap these differences, the Friendship Jealousy Questionnaire assesses individuals' readiness to report being upset and made jealous by commonplace, but potentially mildly provoking, contacts between their closest best friend and other peers.

The Friendship Jealousy Questionnaire was developed in three steps. First, to ensure content validity, we conducted pilot interviews with individuals in the targeted age range to identify a larger pool of developmentally salient social situations in which jealousy over a best friend was common. Situations were culled that did not meet the conceptual requirements for inclusion (e.g., situations with blatant rejection or best friend betrayal, peripheral interloper involvement). Next, we drafted a short, hypothetical vignette for each situation by stripping peripheral details while retaining the crux of the interpersonal threat, namely, that in all instances, events unfolded in such a way that the actions or presence of the other same-sex individual or individuals posed a threat to the exclusivity of the established best friendship. The behavior of the best friend in all vignettes was ambiguous. That is, although there was no overt rejection of the target by the best friend, it was possible for the respondent to interpret events as rejection by the friend or at least to view the friend as receptive to the interloper's advances. Finally, these refined vignettes were then administered to additional pilot subjects, who were asked to indicate how jealousy provoking the vignettes would be. Vignettes that were confusing or that showed little variability in responses were eliminated, which resulted in a final pool of 15 primary items. A first goal of Study 1 was to examine the internal consistency of young adolescents' reports of jealousy across these items and to assess the test–retest stability of jealousy scores computed from these items.

In ordinary usage, especially with adults, feelings of jealousy may carry stigma, and individuals can be motivated to minimize this experience or present themselves in the most favorable light (White & Mullen, 1989). Accordingly, we took two further steps to partially address the issue of the influence of socially desirable responding. First, young adolescents' reports of their characteristic jealousy were examined in relation to a standardized assessment of tendencies toward socially desirable responding for a subset of participants. We anticipated a modest and nonsignificant positive association between these assessments. Second, an alternative version of the measure was constructed for this study and administered to a random subset of participants. In this version, the phrase "I would feel jealous" in primary items was replaced by the phrase "I would be upset." Pilot interviews suggested that young adoles-

cents often used these terms interchangeably, yet some felt more comfortable with the latter phrase. Hence, we sought to evaluate whether individuals who received the "upset" version of the measure would admit to greater jealousy than those who were asked explicitly about feeling "jealous" and whether this change would affect boys and girls differentially.

In addition, Study 1 provides a beginning understanding of one putative source of such differences, namely, differences in perceptions of self-worth. We hypothesized that children with low self-worth would be more likely than children with high self-worth to draw strong negative social comparisons between themselves and others (Harter, 1999) and to expect and perceive signs of flagging interest in their friends and to overreact to outsiders with feelings of jealousy.

Finally, in Study 1 we also explored potential sex differences in the disposition toward friendship jealousy. We anticipated sex differences in jealousy partly on the basis of recent research indicating that, unlike boys, girls report that the interference of third parties is a significant source of tension between friends and a primary basis for the breakup of friendships (Ludlow et al., 1999). Moreover, past research suggests that girls have deeper, more intimate friendships than do boys (Maccoby, 1990). Given the greater degree of investment by girls than by boys in specific friendships, we hypothesized that the loss of friends to interlopers might be more threatening, and hence, more potentially upsetting to girls than to boys.

Method

Participants and Procedure

Participants included 135 (68 girls, 67 boys) young adolescents in ninth grade. The racial and socioeconomic composition of the sample was overwhelmingly Caucasian and low to middle class in socioeconomic status, reflecting the makeup of the surrounding rural, northeastern communities from which the sample was drawn. The data for 94 participants (48 girls, 46 boys) were collected in the spring and early summer in conjunction with a multiyear, longitudinal study of family relationships and communication during adolescence (Darling, Dowdy, Van Horn, & Caldwell, 1999). Specifically, project records were used to locate all families who had participated in earlier annual waves of data collection. One hundred forty-three families were located and sent letters inviting them to continue involvement by participating in a third wave of data collection that included the measures of interest in this study. Families that consented were mailed packets of questionnaires to complete. Measures for the young adolescents that were relevant to this project included one of several alternative versions of the jealousy questionnaire and a self-worth questionnaire. Instructions emphasized that the young adolescent should complete the questionnaires privately, and independently, in his or her home. Completed questionnaires were retrieved approximately 1 week later by research assistants who arrived at the participants' homes to conduct interviews with the young adolescents in conjunction with unrelated aspects of the longitudinal project.

Because their participation in the broader, longitudinal project precluded these initial participants from participating in the planned evaluation of the test–retest stability of the jealousy questionnaire, an additional 41 participants were recruited along with, but outside of, the recruitment for the broader project. We began recruiting of these participants by reviewing newspaper birth announcement archives to locate individuals in the targeted age range who still resided in the approximate geographic area in which the balance of the participants resided. On the basis of this search, we initially sent approximately 60 families a brief letter describing the

study and inviting their participation, and then we telephoned them later to ascertain their willingness to participate. Families that indicated such willingness were scheduled for a home interview and mailed a further, detailed consent form. During the approximately 30-min home interview, participants completed the primary jealousy questionnaire and a self-worth questionnaire and were scheduled for a retest phone interview approximately 2 weeks later. During the phone interview, participants were readministered the jealousy measure (only) by a trained assistant who recorded their responses. Analyses did not reveal any differences on any measure between these 41 individuals and the balance of the participants. Thus, except for the analysis of test–retest stability that necessarily focused only on these participants, all other analyses were based on the combined samples.

Measures

Friendship Jealousy Questionnaire (FJQ). The FJQ consists of 27 short vignettes in which respondents are presented with hypothetical social situations involving a specific best friend and are asked to imagine and report their emotional reactions. As noted, 15 items are primary items, which also feature one or more hypothetical potential interlopers who are described as peer acquaintances. For each of the primary vignettes, respondents are asked to indicate the level of jealousy they would feel, using a 5-point scale ranging from *not at all true of me* (0) to *really true of me* (4). Jealousy scores are computed by averaging responses across primary items.

The remaining 12 vignettes do not portray the involvement of a third child. These items were included to discourage acquiescent or contrarian response sets. Like the primary items, the distractor items involve social situations (i.e., an interdependence of the target with their best friend). However, the events portrayed in the distractor items are otherwise quite diverse and were chosen to evoke a variety of specific emotions other than jealousy (e.g., sadness, happiness, and anger). Each of these items is also worded as a declarative statement. The respondent is asked to indicate how likely it is that he or she would feel the emotion presented in the scenario on a 5-point scale ranging from *not at all true of me* (0) to *really true of me* (4).

To examine the impact of phrasing on children's willingness to admit distress over their friend's relationships with others, we also constructed for this study an alternative version of the FJQ in which the phrase "feel jealous" in primary items was replaced by a phrase with putatively less negative connotations ("feel upset"). This version was administered to a random subset of 47 (21 boys and 26 girls) of the participants in the larger study.

Socially desirable responding. Estimates of tendencies toward socially desirable responding were available from archival data for a subsample of participants in the larger project. Specifically, 49 (27 girls, 22 boys) participants completed items from the Children's Social Desirability Scale (CSD; Crandall, Crandall, & Katkovsky, 1965) as part of a questionnaire 1 year prior to the current assessments. Items on this scale appear as true–false statements about the self and are designed to tap children's socially desirable responding motivated by a fear of disapproval. In its original form, the full CSD scale contains 48 items. However, for brevity, only the first 20 items of the measure were included in the assessment. Internal consistency was high ($\alpha = .90$).

Perceptions of self-worth. Participants' perceptions of self-worth were assessed using the 5-item Global Self-Worth subscale of the Self Perception Profile for Adolescents (SPPA; Harter, 1988). However, the format of the SPPA was altered slightly to make the response scale consistent with the response scales used on the remaining questionnaires in the battery. Specifically, in the original format, respondents are presented with items consisting of contrasting statements representing positive versus negative self-assessments and are asked to decide which of these broad alternatives is most like themselves. In the present study, however, items were presented as declarative statements, and respondents were asked to indicate how well each statement fit them on a scale from *not at all like me* (1) to

really like me (4). Internal consistency among items was adequate ($\alpha = .79$).

Results

Psychometric Properties of the FJQ

Item properties and distribution. All 15 primary items demonstrated excellent properties and distributions. For the primary version with actual *jealous* language, item means ranged from 2.07 to 2.74, and all items displayed excellent statistics for kurtosis and skew. For the alternative version featuring the word *upset*, item means ranged from 1.95 to 2.82, and all items again displayed excellent statistics for kurtosis and skew. Likewise, nonparametric testing revealed that the distributions of the summary scores for the jealous ($M = 2.39$, $SD = 0.92$) and upset ($M = 2.23$, $SD = 0.80$) versions were both approximately normal (Kolmogorov-Smirnov Zs = .70 and .69, respectively; asymptotic exact ps = .72).

Internal consistency. Internal consistency across the 15 items was high and identical for both versions of the jealousy scale ($\alpha = .93$). For both versions, every primary item correlated highly with the corrected item total, and internal consistency could not be improved by deleting any items. In addition, internal consistency did not differ by sex for either version, with no estimate for any group dropping below $\alpha = .92$.

Test–retest stability. Analysis of the available test–retest data for the primary version using actual jealous language (only) indicated high short-term stability in scores, $r(39) = .94$, $p < .01$. Test–retest correlations calculated separately for boys and girls indicated that reliability did not differ by sex: $r(19) = .96$ for girls versus $r(20) = .92$ for boys.

Socially Desirable Responding

Jealousy was unrelated to tendencies toward socially desirable responding when items asked about jealousy directly, $r(23) = .03$, *ns*. However, when items referred instead to being upset, a modest but significant negative correlation was observed, $r(26) = -.29$, $p < .05$.

Influence of Wording and Sex

A 2 (sex) × 2 (item wording) between-groups analysis of variance indicated that young adolescents' reports of jealousy did not increase as a result of substituting the term *upset* ($M = 2.23$, $SD = 0.80$) for the potentially pejorative term *jealous* ($M = 2.39$, $SD = 0.91$) in items, $F(1, 110) = 1.48$, *ns*. There was also no interaction of wording with sex, $F(1, 110) = 1.33$, *ns*. By contrast, a significant main effect of sex was present, $F(1, 110) = 4.19$, $p < .02$. Girls ($M = 2.49$, $SD = 0.85$) reported significantly greater jealousy than did boys ($M = 2.15$, $SD = 0.87$).

Jealousy and Self-Worth

Hierarchical multiple regression was used to evaluate whether self-worth predicted jealousy and whether this hypothesized relation generalized across sex and alternate versions of the questionnaire. Specifically, dummy codes for sex and version were created and regressed on jealousy scores along with self-worth scores and all two- and three-way interactions among these predictors. These

analyses reproduced the analysis of variance results indicating a sex difference in jealousy favoring girls ($\beta = .18$, $p < .05$) and the absence of an overall association between jealousy and version ($\beta = .07$, ns) or a Sex $\times$ Version interaction ($\beta = .12$, ns). However, and more important, self-worth was a significant, negative predictor of jealousy ($\beta = -.19$, $p < .05$) even after we controlled for sex and version. After these lower order predictors were controlled for, no significant higher order interactions involving self-worth with sex ($\beta = -.03$, ns), version ($\beta = .08$, ns), or both sex and version ($\beta = .12$, ns) were present. The final, reduced model including only the significant sex and self-worth predictors was significant, $F(2, 111) = 3.69$, $p < .01$, but yielded a modest R^2 of .08.

Discussion

Results indicate that the effort to construct a reliable, stable, and conceptually clear measure of friendship jealousy was successful. The items displayed good psychometric properties, and the overall scores were well distributed, with high internal consistency for both sexes. Furthermore, jealousy scores appeared stable over short stretches of time at least. Indeed, the test–retest stability of jealousy scores compares favorably with those reported for other measures that assess relationship dispositions (e.g., Downey & Feldman, 1996; Parker & Asher, 1993). The stability of these assessments is important, as it suggests that the measure taps young adolescents' generalized dispositions toward jealousy rather than the more fleeting, situation-dependent feelings of jealousy that all young adolescents occasionally experience.

Individuals who are habitually concerned about making a socially desirable impression on others did not report less jealousy when they were asked directly about this emotional experience. Although we had surmised that admitting to being generally upset would be less potentially stigmatizing than admitting specifically to jealousy in the same circumstances, the opposite was true. A modest negative association between jealousy and concern with social desirability was evident for the "upset" version. Taken together, these findings appear to suggest that young adolescents are not quite as advanced as we surmised in their developing understanding of prevailing cultural attitudes toward the term *jealousy*; however, like adults, they recognize that this emotional experience is generally frowned upon when it is described in terms that are more colloquial, such as *being upset*. It should be noted that because our assessment of social desirability was collected in a separate context and a full year earlier than our assessment of jealousy, we likely underestimated this association to some extent. Even so, the influence of a socially desirable set on responding appears no greater for this assessment of jealousy than for other self-assessments at this age. Likewise, the appraisal of the effect of substituting the word *upset* for the word *jealous* suggested that reports were not altered importantly by changing the language of the items to avoid using the word *jealous* explicitly. However, substituting the word *upset* does introduce interpretation ambiguities, as individuals who report being made upset by their friend's activities with others need not necessarily be expressing concern over the future of the relationship. Therefore *upset* and *jealous* are not interchangeable, and we recommend that researchers who use this measure in the future retain the original, *jealous* wording. Nonetheless, our findings are reassuring in that they suggest that

researchers who use this measure in the future need not be greatly worried that their respondents' reports of jealousy are strongly colored by their fears of social stigmatization.

Although the FJQ has sound psychometric properties for both boys and girls, girls in general reported higher levels of jealousy surrounding friends. An initial concern is that this difference emerged because boys, in particular, attached stigma to jealousy and underreported their vulnerability to this feeling. This interpretation is not consistent with our analysis of the effects of substituting *upset* for *jealous* in the items. Although admitting to being upset with a friend carries less stigma than admitting to jealousy specifically, substituting this term did not bring boys' responses closer to the levels reported by girls. However, if boys are more reluctant than girls to express emotions of any type surrounding friends, it would not be surprising for boys to report lower upset as well as lower jealousy in the circumstances we tapped. Thus, the possibility that this sex difference represents a reporting artifact cannot be completely dismissed.

Nonetheless, our findings are consistent with findings on jealousy in studies with adults (Guerrero, Eloy, Jorgensen, & Andersen, 1993) and with mounting other evidence that young adolescent girls are especially vigilant and vulnerable to circumstances that interfere with the quality of their experiences with friends (e.g., Brown, Way, & Duff, 1999; Crick & Grotpeter, 1995; Leaper, 1994; Way, 1998). Thus, if future research confirms that this sex difference is specific to jealousy and not a simple reporting artifact, its basis warrants careful study. In part, cultural norms may set the stage for greater jealousy among girls by dictating greater expectations of exclusivity in these relationships. Indeed, despite only mixed empirical support, even many scholarly accounts of children's friendships repeat the popular stereotype that girls have fewer friends than do boys (see Lansford & Parker, 1999; Way, 1998; Underwood, 2003). As a group, then, girls may be expressing greater jealousy around friends because they have internalized broader norms that stress nonreceptivity to outsiders as a hallmark of girls' relationships.

It is also likely that actual differences in the nature of boys' and girls' friendships contribute to some extent to jealousy. Consistent data support the conclusion that, beginning in preadolescence, girls have more open and self-disclosing relationships with their friends than do boys and rely more heavily on their friends for emotional support than do boys (see Beal, 1994). Compared with boys, girls engage in more thinking about their friends when separated from them (Richards, Crowe, Larson, & Swarr, 1998) and expect and receive more kindness, loyalty, commitment, and empathy from friends (Sharabany, Gershoni, & Hofman, 1981). In view of what is at stake, it may be understandable that girls also experience greater jealousy around these relationships than do boys. In the future, researchers should directly assess how jealousy varies with the nature of friendships and young adolescents' dependence on them, and whether such factors account for the link between sex and jealousy.

Young adolescents of both sexes with lower self-worth reported greater vulnerability to jealousy surrounding friends. This pattern was predicted and is consistent with findings produced by research on adults in romantic contexts (Mathes et al., 1985). As noted, it is likely that chronically poor self-esteem contributes to habitual jealousy, because individuals with negative self-appraisals place less trust in their friends' commitment to them and interpret even

the most pedestrian activities that friends do with others as fulfilling their expectations of friendship betrayal and defection. By comparison, individuals with higher self-regard may feel little competition with their friends' other friends or may, in the absence of evidence to the contrary, offer benign interpretations of their friends' activities with others. Because our findings are correlational, we cannot verify this interpretation directly. Moreover, young adolescents no doubt feel badly about themselves when they interpret their partner's friendships with others as a rejection of themselves or when their friends' activities with others signal their own shortcomings by pointing to how much more skilled, attractive, personable, and so on a peer is by comparison (e.g., White, 1981). Thus, the direction of effects is likely reciprocal. Reciprocal relations would be in keeping with theoretical formulations of self-construction that stress the close and self-perpetuating ties among social exclusion or rejection, social comparison processes, and self-evaluation (e.g., Harter, 1999; Leary, 1990) and would suggest that it would be of benefit to incorporate experimental and longitudinal research designs into future investigations.

Interestingly, although consistent with expectations, the magnitude of the association between jealousy and self-worth was low. The modest size of this association is puzzling and merits further investigation. It is significant that our assessment tapped children's global self-worth rather than domain-specific evaluations. Recent research suggests that it is important to distinguish between self-evaluations that represent global characteristics of the individual's sense of adequacy and those that reflect the individual's sense of adequacy in particular domains, such as the individual's scholastic competence, physical appearance, or social relationships (Harter, 1999). In many instances, global measures may fail to yield results as robust as those tapping self-views in appropriate narrower domains. In the present instance, stronger relations may have emerged had we narrowed assessments to the peer context, and it may also have been productive to evaluate more specifically whether some domains are more predictive of jealousy than others. For example, young adolescents' views of their physical appearance have proven especially potent in other contexts (see Harter, 1999) and could be equally important to jealousy as well.

Relatedly, a potentially important final issue is whether, along with low self-esteem, some forms of high self-esteem may also leave one vulnerable to jealousy. Baumeister (1998), in particular, suggested that individuals with inflated self-esteem may be especially vulnerable to social threats. According to Baumeister, inflated self-esteem associated with narcissism and self-serving attributions is especially fragile, unstable, and readily threatened. Unlike individuals with more moderate or realistically anchored high self-views, individuals with high but fragile self-esteem are prone to perceive others' ambiguous behavior in ego-threatening ways and to respond to perceived personal slights aggressively (e.g., Heatherton & Vols, 2000). Because in our study, the group of young adolescents with high self-esteem is likely to have included both individuals with unrealistic and defensive appraisals of self-worth as well as individuals with more secure and stable forms, it may not be surprising that a modest overall relation emerged between jealousy and self-worth. Developing better ways to distinguish these distinct forms of high self-esteem in assessments and creating a better understanding of their differential implications for jealousy seems a potentially productive direction for future research.

Study 2

Friendship jealousy stems from interpersonal threat, creates uncertainty, and involves a blended array of strong emotions. Often, but not invariably, the experience of jealousy is also accompanied by behavioral expressions. Jealous behavior involves goal-directed attempts to influence the self, the partner, or the situation in order to preserve the relationship, reduce uncertainty, or restore self-esteem (Buunk & Bringle, 1987; Guerrero & Afifi, 1999; Guerrero et al., 1995). Depending on their nature and the skill with which they are executed, these efforts may or may not contribute to relationship satisfaction and children's broader social success and adjustment. On the one hand, research with adults indicates that many individuals respond positively to experiences of jealousy with enhanced communication, compensatory interest and outreach to others, and efforts at self-improvement or relationship enhancement (Guerrero et al., 1995). Positive responses to jealousy may demonstrate to partners their value to the individual or lead to an adaptive renegotiation of relational rules (Rusbult & Buunk, 1993). Indeed, it is likely that skillfully executed positive responses to jealousy do not strike partners or others as evidence of jealousy at all; instead, they may appear as evidence of interpersonal interest or as an expression of caring, closeness, and commitment (see Guerrero et al., 1995).

However, jealousy is not always or even usually expressed positively and, as noted, has been identified as a major source of relationship conflict, aggression, and violence among adults in romantic contexts. Negative behavioral responses to jealousy normally vary widely and may include simply abandoning the relationship entirely (e.g., Buunk, 1982). Equally often, however, behavioral expressions of jealousy include subtle forms of aggression, such as passive (e.g., sarcasm, sulking, threats to end the relationship, guilt induction, giving the "silent treatment") or social (e.g., derogating interlopers through gossip, manipulating social circumstances to exclude others) aggression as well as attempts at outright intimidation (e.g., verbal or physical assault, humiliation) (see Guerrero et al., 1995). Negative behavioral responses to jealousy are likely to be recognized by partners and others, and, when habitual, may earn individuals reputations for jealousy with partners and others.

The emphasis placed on less obvious forms of aggression as behavioral expressions of jealousy may in part reflect the communicative dilemmas faced by jealous individuals. Individuals who feel jealous may avoid unbridled, obvious aggression against a partner because it is normally incompatible with relationship ideals and can endanger their maintenance. Moreover, as noted, jealousy normally carries some degree of attached negative social stigma. Thus, jealous individuals may avoid obvious forms of aggression and retaliation to avoid appearing even less desirable to the partner. Likewise, patent aggression against a rival that is regarded as undeserved can engender sympathy for the victim in the partner or among others in the social network. By relying more on subtle aggression, jealous individuals may hope to escape some of the social accountability of obvious aggression while achieving the same retaliatory or coercive ends (Björkqvist, 1994). Women and girls, especially, may be inclined to use subtle forms of aggression because social disapproval for obvious aggression may be stronger for females than for males (Brown et al., 1999).

On the basis of these considerations, our initial goal in Study 2 was to expand the assessment of friendship jealousy beyond self-reports to include assessments based on the reports of peers. Peer behavioral assessments, particularly those based on sociometric nominations, have a long tradition within social developmental research and have contributed importantly to the understanding and identification of aggressive children and children with difficulties such as social withdrawal, depression, and deficit social skills (see Rubin, Bukowski, & Parker, 1997). In the present instance, we hypothesized that young adolescents would also be sensitive to signs of jealous behavior in others and therefore that some consensus would exist among the members of a grade level at school about which young adolescents are and are not prone to habitual jealousy and possessiveness over friends. Hence sociometric polling of peers should produce a useful hierarchy among members in terms of their peer-perceived susceptibility to friendship jealousy. However, because not all individuals who report feeling jealous may display jealous behaviors, we expected only a low to moderate correlation between individuals identified as jealous by their peers and those who self-reported being prone to jealousy. Further, consistent with theoretical and empirical arguments as well as with the findings in Study 1, we anticipated that, compared with boys, girls would have higher reputations for jealousy among their peers.

In addition, we distinguished the reports of jealousy stemming from an individual's mutual friends from those stemming from peers who were not friends with the individual. Several contemporary approaches to relationships stress that parties to relationships view one another in particularized ways. Idiosyncratic perceptions can be perceptual biases stemming from individuals' awareness of their relationship (e.g., Hymel, Wagner, & Butler, 1990; Sumrall, Ray, & Tidwell, 2000) or grounded in the unique relationship history of the perceiver and the perceived (e.g., Cillessen & Ferguson, 1988; Parker & Gamm, 2003). In the present instance, we reasoned that, compared with nonfriends, friends presumably have a deeper understanding of their partners and a wider context for judging their behavior. On the other hand, as the likely targets of their consternation, nonfriends may see the possessiveness of jealous individuals in clearer relief and may be less charitable when interpreting it. Thus, we anticipated that the reports of friends and nonfriends would produce overlapping but not redundant data on others' jealousy, and it was of interest whether and how the utility of these reports would vary with vantage point.

A second aim in Study 2 was to examine the link between self- and peer-perceived friendship jealousy and young adolescents' aggressive behavior. Although peers may perceive jealous tendencies in others directly by discerning that these individuals voice upset in specific circumstances surrounding friends, another avenue by which young adolescents may recognize jealous peers is through their tendency to engage in retaliatory or preemptive aggression. As noted, research with adults suggests that jealous individuals may favor subtle forms of aggression over obvious intimidation in order to avoid social disapproval and accountability with partners and others. On the assumption that jealous young adolescents, like adults, prefer aggressive strategies that balance their desire for maximal effects on targets with the risks of social censure (see Björkqvist, 1994), the link between jealousy and subtle social and passive aggression was of particular interest. After lagging for several decades behind research on direct, physical forms of aggression, research on social and passive forms of aggression has grown rapidly in recent years, and important strides have been made in understanding the assessment, functions, and impact of such behavior (see Underwood, 2003). This work demonstrates that acts of social exclusion, gossiping, and other forms of nonphysical aggression intended to harm others are relatively common in boys' and girls' groups from the early elementary school years on, more common typically than acts of physical assault (e.g., Prinstein, Boergers, & Vernberg, 2001), and that children victimized in this manner are at risk for subsequent maladjustment (see Crick, Casas, & Ku, 1999). Moreover, although notable exceptions exist (e.g., Henington, Hughes, Cavell, & Thompson, 1998; Paquette & Underwood, 1999; Prinstein et al., 2001), sex differences in social aggression have also been noted, prompting speculation that females, especially, may rely on subtle over obvious forms (see Crick, Werner, et al., 1999; Rys & Bear, 1997; Underwood, Galen, & Paquette, 2001). Accordingly, we hypothesized that young adolescents with reputations for jealousy over friends would behave more aggressively with peers and, in particular, would be more likely to engage in social or passive aggression. Self-reported jealousy was anticipated to be less strongly related to aggressive behavior because, as noted previously, the experience of jealousy need not necessarily translate into problematic expressions of jealousy.

Although negative jealous behavior is likely to have its strongest impact on relationship partners, it may also influence social adjustment beyond the context of the immediate relationship. Although an individual's jealous behavior may perhaps be flattering to a partner at first, the partner may grow weary of it and leave the relationship when it proves demanding or exceeds the boundaries of cultural expectations for autonomy in friendship relationships (Rawlins, 1992). Over time, habitually jealous individuals may acquire a retinue of disgruntled past friends within the group, lowering their overall social standing and acceptance. Likewise, even if their friends remain patient with them, individuals who habitually behave in overprotective ways around friends, particularly if they direct aggression toward outsiders, may exhaust the goodwill of the peer group. Habitually negative jealous behavior may also be linked to compromised social adjustment more directly, however. Specifically, studies with adults suggest that others perceive unwarranted jealousy as a sign of insecurity, immaturity, and weakness. If this occurs in young adolescent peer groups, jealous young adolescents may also be at risk for being victimized by more powerful and successful peers.

Accordingly, a third goal in Study 2 was to examine whether the tendency to act jealous over friends is associated with broader indices of problematic social adjustment, including peer rejection, peer victimization, and resultant feelings of loneliness. Because the experience of jealousy need not translate into expressions of problematic jealous behavior, we did not anticipate strong links among self-reported jealousy and peer difficulties, with the exception of loneliness. We anticipated that jealous young adolescents' chronic concerns surrounding friends might contribute directly to feelings of loneliness and social dissatisfaction regardless of whether those concerns translated into behavioral expressions of jealousy.

In sum, Study 2 was primarily designed to extend the assessment of friendship jealousy to include identification of young adolescents with reputations for jealousy among peers and to

examine how peer reputations for jealousy relate to specific forms of aggression and multiple indexes of broader social adjustment. In particular, Figure 1 summarizes in the form of a path model the hypotheses that serve as the foci for Study 2. As shown, the subjective experience of jealousy is anticipated to have modest direct influences on aggression and on young adolescents' reputations for jealousy within and outside their circle of friends, consistent with arguments that feelings of jealousy frequently, but not invariably, translate into aggressive and other forms of jealous behavior. On the other hand, young adolescents' reputations for jealousy among peers, especially among nonfriends, are anticipated to be strongly and directly linked to aggression. Aggression in turn is expected to diminish broader social acceptance among peers. However, perceptions of jealousy are also expected to contribute directly to problems in social acceptance, reflecting in part the potential negative stigma attached to such behavior in young adolescents of this age. In a similar vein, perceptions of jealousy in the peer group are also expected to contribute directly to victimization by peers. Consistent with past research, both peer victimization and problematic social acceptance are anticipated to increase young adolescents' reports of social dissatisfaction and loneliness. However, young adolescents' reports of social dissatisfaction and loneliness are also anticipated to be directly influenced by their feelings of jealousy and its attendant frustration. Unlike Study 1, Study 2 included a sample with a broad age range, from approximately 10 years to approximately 15 years. Thus, an additional feature of Study 2 is that it provides a beginning opportunity to explore age differences in the expression and experience of friendship jealousy. On the basis of Selman's (1980; Selman & Schultz, 1990) formulation, we anticipated lower ex-

pression and experience of jealousy for older adolescents, commensurate with putative improvement in the maturity of individuals' interpersonal reasoning over this span.

Method

Participants

Participants were young adolescents living in the rural northeast United States and enrolled in the fifth through ninth grades. Fifth- and sixth-grade participants were members of the 10 self-contained classrooms of a single elementary school. Seventh- through ninth-grade participants attended middle school in the same school district as the elementary-school-age participants. Although drawn from different communities, the demographic makeup of the region in Study 2 was similar to that in Study 1.

Parents of the 485 young adolescents in the targeted grades were mailed letters requesting permission for their child to participate. Of these 485 children, 422 received permission. However, 21 children with permission did not complete any assessments because of persistent scheduling difficulties, and 2 further children had extensive missing data and were also dropped. As a result, the final sample of 399 participating children consisted of 79 (33 girls) fifth graders, 99 (45 girls) sixth graders, 89 (38 girls) seventh graders, 73 (36 girls) eighth graders, and 59 (36 girls) ninth graders.

Measures

Peer-perceived friendship jealousy. Peer-perceived jealousy was assessed with four sociometric behavioral nomination items embedded in arbitrary order in a larger battery of items. Jealousy items included the following: "students who are possessive of their friends," "students who try to keep their friends to themselves," "students who get really jealous if you
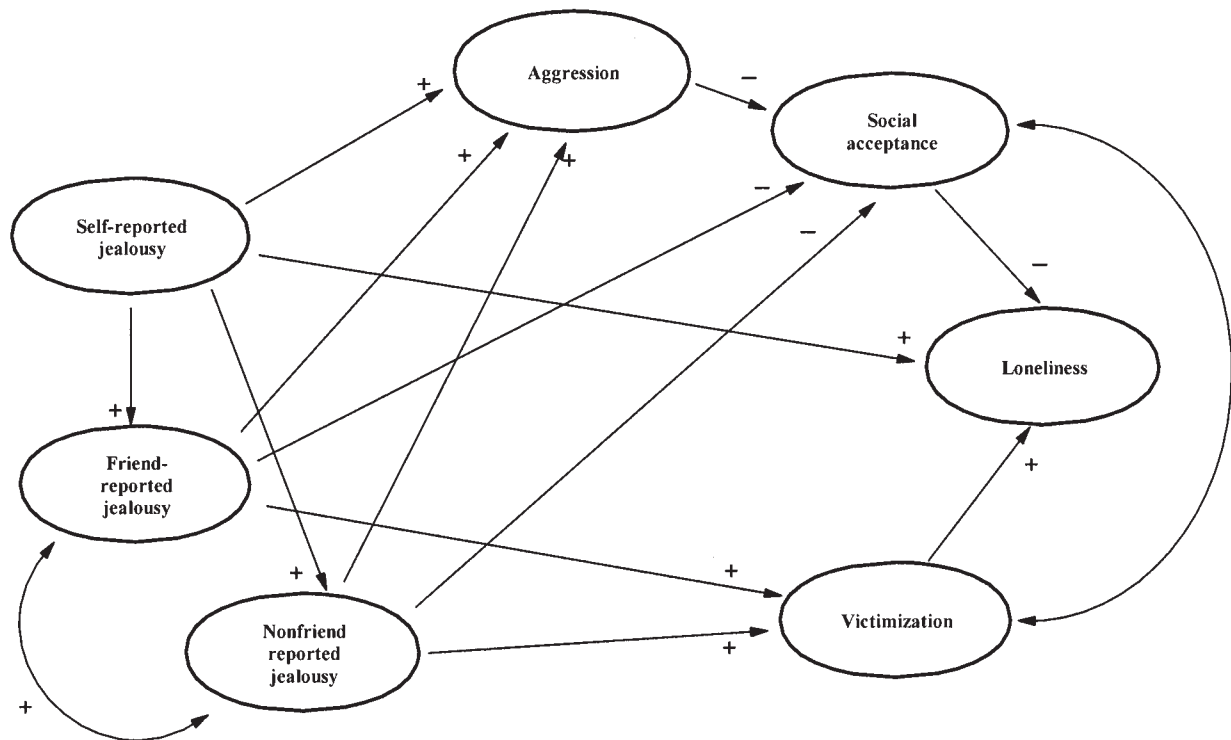

Figure 1. Conceptual model.

do something cool or fun with their friend," and "students who get really jealous if you try to be friends with their friend." In addition to jealousy, the larger battery also assessed participants' reputations for various forms of aggression (seven items, see below) and for peer victimization (four items, see below). Remaining items included positive, filler items (e.g., "students who care about others") that were included to avoid giving the battery a uniformly negative tone.

For each item, participants were presented with a roster consisting of a random sample of 25 same-sex and same-age peers and were asked to identify any individuals who fit the indicated description. An unlimited number of choices of peers was permitted for each item, and participants were permitted to cross out the names of individuals for whom they were too unfamiliar to make a confident judgment. Rosters were constructed using custom computer software that ensured that the lists of agemates that appeared were random over items in the battery and across individual participants with the constraint that for every item in the battery, every participant had to appear in the roster of potential choices of 25 of their peers.

Finally, along with their choices of others for the various behaviors, participants were also asked to list their closest friends in order to facilitate the differentiation of nominations received from friends from those received from nonfriend classmates. Friendship nominations were solicited without providing the participants with rosters, before soliciting their nominations for various behaviors, and an unlimited number of friendship designations was permitted. Classmates were considered friends if they mutually nominated one another.

Young adolescents' reputations for friendship jealousy among friends and nonfriends were calculated by summing for each jealousy item the number of nominations received from friends or nonfriends as appropriate and dividing by the corresponding number of potential nominators (minus the number of peers who felt too unfamiliar to judge). The resulting percentage scores were then standardized across the sample and averaged across items. In the calculation of friend-reported jealousy, it was determined that 37 participants (8%) did not have a reciprocal friend. Friend-reported jealousy could not be computed for these individuals. In addition, because peers were allocated to rosters at random, 46 further individuals (11%) were excluded because by chance none of their existing friends were included in the pool of peers assigned to provide nominations of their jealousy. The internal consistency of the four jealousy items, pooled over source, was excellent ($\alpha = .93$).

Self-reported friendship jealousy. Young adolescents' self-reports of their disposition for jealousy were again assessed using the FJQ. As in Study 1, the 15 primary items of the FJQ demonstrated high internal consistency ($\alpha = .94$).

Aggression. Participants' reputations among peers for specific forms of aggression were assessed as part of the peer nomination battery and following the procedures outlined above. Aggression items in the battery were culled from several existing batteries, particularly those provided by Crick & Grotpeter (1995) and Perry, Kussel, and Perry (1988). *Social aggression* consisted of three items focusing on attacking others by hurting their social standing or inclusion status without involving physical assault, including "students who try to keep certain people from being in their group," "students who, when they are mad at a person, get even by keeping that person out of their group of friends," and "students who try to make other students not like a person by spreading rumors about them or talking behind their backs" ($\alpha = .92$). *Passive aggression* consisted of two items ("students who, when mad at a person, ignore the person or stop talking to them" and "students who tell their friends they will stop liking them unless the friends do what they say") that, while confrontational, took the form of guilt induction or threatened withdrawal of affection ($\alpha = .79$). Finally, *verbal/physical harassment* consisted of two items ("students who hit and push others around" and "students who make fun of people") indexing obvious use of verbal intimidation or physical force ($\alpha = .89$). Participants' reputations for the various forms of aggression were determined by

calculating and standardizing the percentage of nominations for each relevant item, standardizing, and then averaging over items.

Social acceptance. Participants were presented with a roster consisting of a random sample of 25 same-sex and same-age peers and were asked to indicate on a 0 (*not at all*) to 4 (*really a lot*) rating scale how much they liked each individual. Participants were permitted to cross out the names of unfamiliar individuals, and rosters were constructed such that every participant's name appeared on the roster of a random sample of 25 of their peers. A participant's level of acceptance among peers was determined from the average ratings received from his or her peers.

Loneliness and social dissatisfaction. Individual differences in social dissatisfaction and feelings of loneliness were assessed with a 16-item scale developed and validated by Asher and Wheeler (1985). This measure includes 16 target items (e.g., "It is hard for me to make friends at school"; "I have nobody to talk to in class") and 8 distractor items (e.g., "I like to watch TV a lot"). Respondents rate on a 5-point scale ranging from *not at all true* (0) to *really true* (4), how strongly each item applies to themselves. A higher total score indicates greater loneliness and social dissatisfaction. Internal consistency for this scale was excellent ($\alpha = .91$).

Victimization by peers. Participants' victimization by peers was gauged as part of the peer nomination battery outlined above. The four victimization items included in the battery of nominations were "students who get their feelings hurt by other students," "students who get hit and pushed by other students," "students who get made fun of by other students," and "students who get picked on all the time by other students." Internal consistency (alpha) was .95.

Procedure

Primary assessment took place in two group-administered sessions of approximately 40 min each. The sessions were conducted by graduate students and trained undergraduate research assistants and were separated by approximately 1 week. Elementary school students were tested during school hours in their primary classroom. Middle school students were tested during mandatory English classes. Students who missed group testing participated individually or in small groups at variously scheduled makeup sessions held within a few days of group testing.

In the first session, students completed the self-report measure of jealousy as well as the measure of loneliness. During the second group testing, participants completed the assessments of acceptance, friendship, jealousy, aggression, and victimization. Instructions for all measures were read to the participants, but they silently read and answered items individually. Individuals who were identified by teachers as requiring support with reading were tested individually or in small groups by trained undergraduate research assistants who read all items aloud and gave individualized instruction. At the completion of testing, questionnaires were spot-checked for errors, and participants were thanked and given token gifts of appreciation.

Results

Sex and Grade Differences in Jealousy

Potential grade and sex differences in jealousy were explored in three parallel multiple regressions. Self-, friend- and nonfriend-reported jealousy served as the dependent measures in these analyses. In each, sex (dummy coded; female = 0, male = 1) and grade were entered on the first step, followed on the next step by the Sex × Grade interaction term.

Results were highly consistent across regressions, and all three regressions resulted in significant overall models: self-reports, $R(3, 382) = 20.60$, $p < .01$, $R^2 = .14$; friend reports, $R(3, 348) = 4.39$, $p < .01$, $R^2 = .04$; nonfriend reports, $R(3, 395) = 26.78$, $p < .01$, $R^2 = .17$. With respect to grade, all three models produced

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associated betas that were negative and significant: βs = −.35, −.16, and −.24, for self-, friend-, and nonfriend-reported jealousy, respectively, all ps < .01. Thus, as grade increased, in general children's jealousy surrounding friends subsided, regardless of the index. Likewise, the betas associated with sex were also significant in every regression: βs = −.14, −.11, and −.36, for self-, friend-, and nonfriend-reported jealousy, respectively, all ps < .05. The negative direction of these relations indicates that boys were less jealous than girls. No significant Grade × Sex interactions were present.

Jealousy, Aggression, and Adjustment

Structural equation modeling (SEM) utilizing the AMOS 4.0 program (Arbuckle, 1999) was used to model the expected associations among the measures of jealousy as well as hypothesized direct and indirect links between these measures and measures of aggression, social acceptance, victimization, and loneliness (see Figure 1). Modeling was based on the maximum-likelihood estimation algorithm and conducted once based on only the subset of 292 of 321 participants with complete data and once using imputation for cases with missing variables. However, models using listwise deletion and those correcting for missing data were nearly identical. Thus, all results presented below are based on cases with complete data to provide the optimal unbiased estimates of parameters. Prior to modeling, data were scrutinized for outliers, skewed distributions, or other nonstandard conditions that would cloud interpretation of the path model. No substantial difficulties were noted apart from the distribution of loneliness, which was skewed. Accordingly, loneliness was log transformed to achieve a more normal distribution.

Table 1 presents the means, standard deviations, and results of t tests comparing boys and girls on each variable intended for SEM analysis. Consistent with the analysis from the full sample, boys and girls in the SEM sample differed in self- and nonfriend-reported jealousy (see Table 1). Sex differences in friend-reported jealousy were in the same direction but not as strong in the SEM sample as in the full sample. Compared with boys, girls also had reputations for greater passive and social aggression, consistent

with the literature (see Table 1). Table 1 also presents the correlations among these variables. Coefficients appearing above the diagonal apply to girls (N = 151), whereas those appearing below the diagonal apply to boys (N = 141). Of special interest is that strong positive associations existed among social aggression, passive aggression, and verbal/physical harassment for both sexes. Substantial correlations among these forms of aggression have also been noted in past research (e.g., Crick & Grotpeter, 1995; Henington et al., 1998; Prinstein et al., 2001), but their presence caused multicollinearity-related fit problems in the model and precluded using these variables as indicator variables of a latent variable. In view of this difficulty, the model in Figure 1 was fit by averaging participants' reputation for all three forms of aggression and using this composite as an observed variable. The reliability of this composite was excellent (α = .90).

Following Loehlin (1992) and Byrne (2001), we proceeded with model fitting by estimating a series of nested models to determine the invariance of estimates across sex. Specifically, a baseline model and associated goodness of fit were initially established by constraining all parameters to be equal across sexes. Results indicated that this fully constrained model did not provide an adequate fit to the data: $\chi^2(33)$ = 145.64, p < .01; normed fit index (NFI) = .81; conditional fit index (CFI) = .84; root-mean-square error of approximation (RMSEA) = .11. Accordingly, the model was respecified to permit measurement error to vary between the sexes but holding invariant the path coefficients and covariances among variables (i.e., the parameters of principal interest). Compared with the fit of the fully constrained baseline model, this less-restricted model was a significant improvement, $\Delta\chi^2(6)$ = 100.75, p < .01. The fit statistics for this revised model were as follows: $\chi^2(27)$ = 44.89, p < .01; NFI = .94; CFI = .97; RMSEA = .06. However, further analyses indicated that allowing path coefficients and covariances among variables to be freely estimated for each sex yielded even further improvement in fit, $\Delta\chi^2(8)$ = 24.89, p < .01, and also provided a good fit to the data: $\chi^2(19)$ = 20.14, p < .38; NFI = .97; CFI = .99; RMSEA = .01. Thus, this fully unconstrained model was the model adopted as the final model. Figures 2 and 3 present the standardized path coefficients and covariances

Table 1
Sex Differences and Intercorrelations Among Primary Variables in Structural Model Sample

Variable	1	2	3	4	5	6	7	8	9
1. Jealousy—Self-reported		**.18**	.06	−.02	.01	.03	.10	.03	**.19**
2. Jealousy—Friend-reported	.06		**.45**	**.41**	**.42**	**.44**	**.22**	**−.31**	.11
3. Jealousy—Non-friend-reported	**.18**	**.34**		.77	.87	.91	.11	**−.36**	.02
4. Verbal/physical harassment	−.08	.09	**.49**		.82	.80	.13	**−.32**	.04
5. Passive aggression	.14	**.38**	**.71**	**.55**		.88	.12	**−.36**	.03
6. Social aggression	.15	**.29**	**.70**	**.74**	**.64**		.05	**−.28**	−.07
7. Victimization by peers	−.10	**.19**	.09	−.09	.13	−.11		**−.78**	**.47**
8. Social acceptance	.02	**−.16**	**−.22**	−.09	**−.25**	−.06	**−.62**		**−.39**
9. Loneliness	.13	−.09	.05	−.03	.08	−.05	**.26**	**−.37**	
Girls	1.53	.01	.36	.00	.33	.25	−.11	3.05	1.39
Boys	1.30	−.07	−.38	−.09	−.38	−.27	−.21	3.16	1.41
$t(290)$	2.15	1.05	7.17	.87	6.96	4.84	1.01	−1.46	−1.57
p	.05	ns	.00	ns	.00	.00	ns	ns	ns

Note. Correlations for girls appear above the diagonal, and those for boys appear below the diagonal. Correlations that appear in bold are significant at p < .05 or greater.
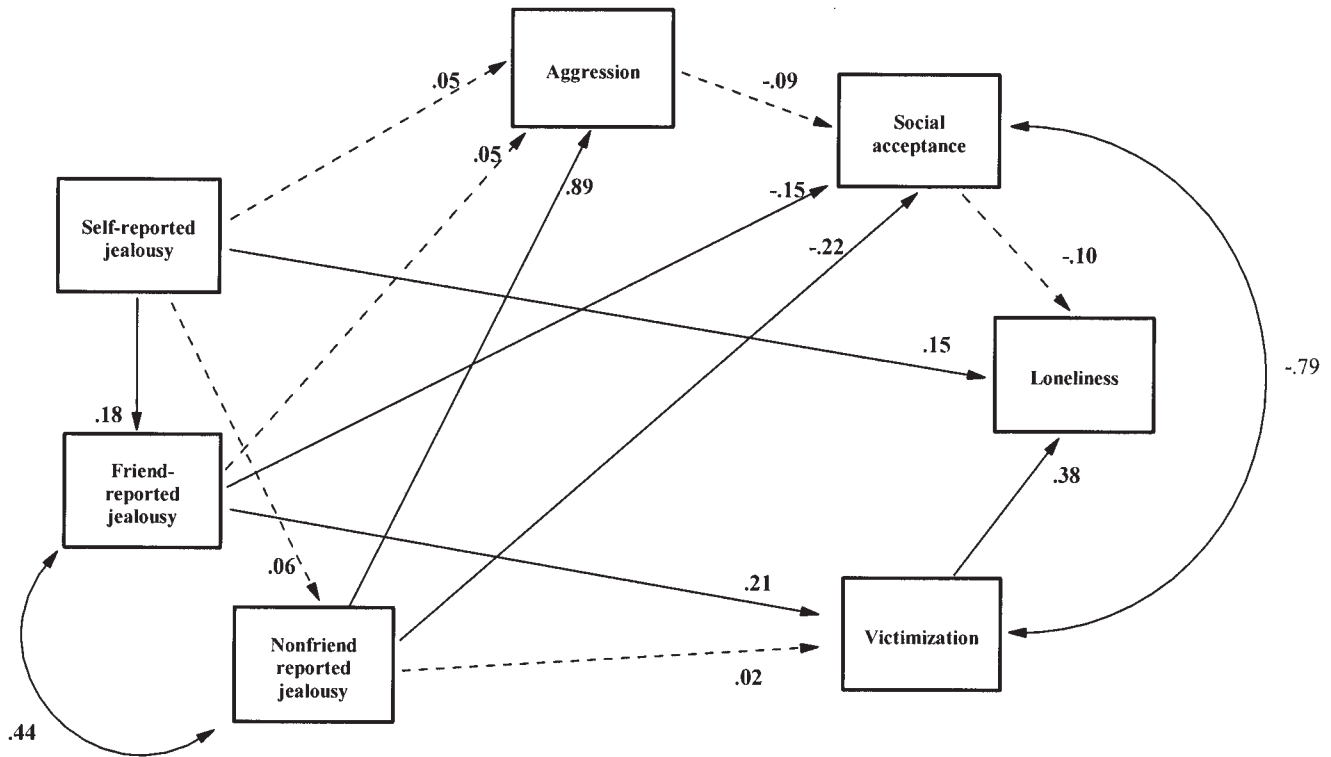
Figure 2. Structural equation model for girls.

from the final model for female and male participants, respectively. Hypothesized pathways that did not produce statistically significant coefficients are displayed only as dashed lines to aid interpretation. In addition, for the sake of clarity of presentation, these figures do not include the error variances for the indicator variables.

Inspection of Figure 2 reveals that the primary hypotheses were supported to a large degree among girls. Thus, as shown, girls' self-reports of their vulnerability to jealousy predicted a reputation for jealousy among their friends and, via this indirect route, a reputation for jealousy among nonfriends. In turn, a reputation for jealousy among nonfriends was strongly associated with being known for engaging in aggression. However, unless girls had a reputation for jealousy among nonfriends, their self-reported vulnerability to jealousy was not directly related to aggression. Further, girls' reputations for jealousy with friends and nonfriends independently and negatively influenced their social acceptance with peers, as anticipated. Significantly, girls' reputation for aggression no longer influenced their social standing among peers after the joint influence of friends' and nonfriends' perceptions of jealousy was considered (cf. Figure 2 and Table 1). Low social acceptance, in turn, was strongly related to victimization among girls and, via this route, to feelings of loneliness. However, girls' reputation for jealousy among friends (but not nonfriends) also had a more direct route to victimization and, hence, subsequent loneliness (see Figure 2). Finally, as anticipated, self-reported jealousy contributed directly to loneliness, over and above the overlapping and substantial contributions of social acceptance and victimization.

As shown in Figure 3, the conclusions for boys are similar to those for girls, although a few differences are also of note. As with girls, boys' self-reports of friendship jealousy did not directly predict aggression but did directly predict loneliness. Likewise, self-reported jealousy in boys was related to the reports of friends and nonfriends, as in girls. Unlike self-reports of jealousy in girls, boys' self-reports of jealousy were directly related to their reputation for jealousy outside their friendship network rather than linked indirectly via the reports of members of the friendship network. Nonetheless, the directions of the coefficients for both pathways were similar across boys and girls and not significantly different from one another (critical ratios = .27 and 1.16, respectively). Further, unlike friends' reports of jealousy for girls, friends' reports of jealousy for boys were not significantly related to lower acceptance (see Figure 3). Again, however, the directions of the coefficients for this pathway were similar across boys and girls and not significantly different from one another (critical ratio = .67). As with girls, friend reports of jealousy did contribute to victimization, and a reputation among nonfriends for jealousy was strongly associated with aggression and also contributed to lower acceptance with peers. Acceptance and victimization were strongly inversely related, in turn, and jointly contributed to loneliness. In contrast to the situation with girls, however, social acceptance, rather than victimization per se, uniquely contributed to loneliness in boys. Moreover, the differences between boys and girls in the magnitudes of these pathways were statistically significant (critical ratio of differences = 1.97 and 2.30, respectively).
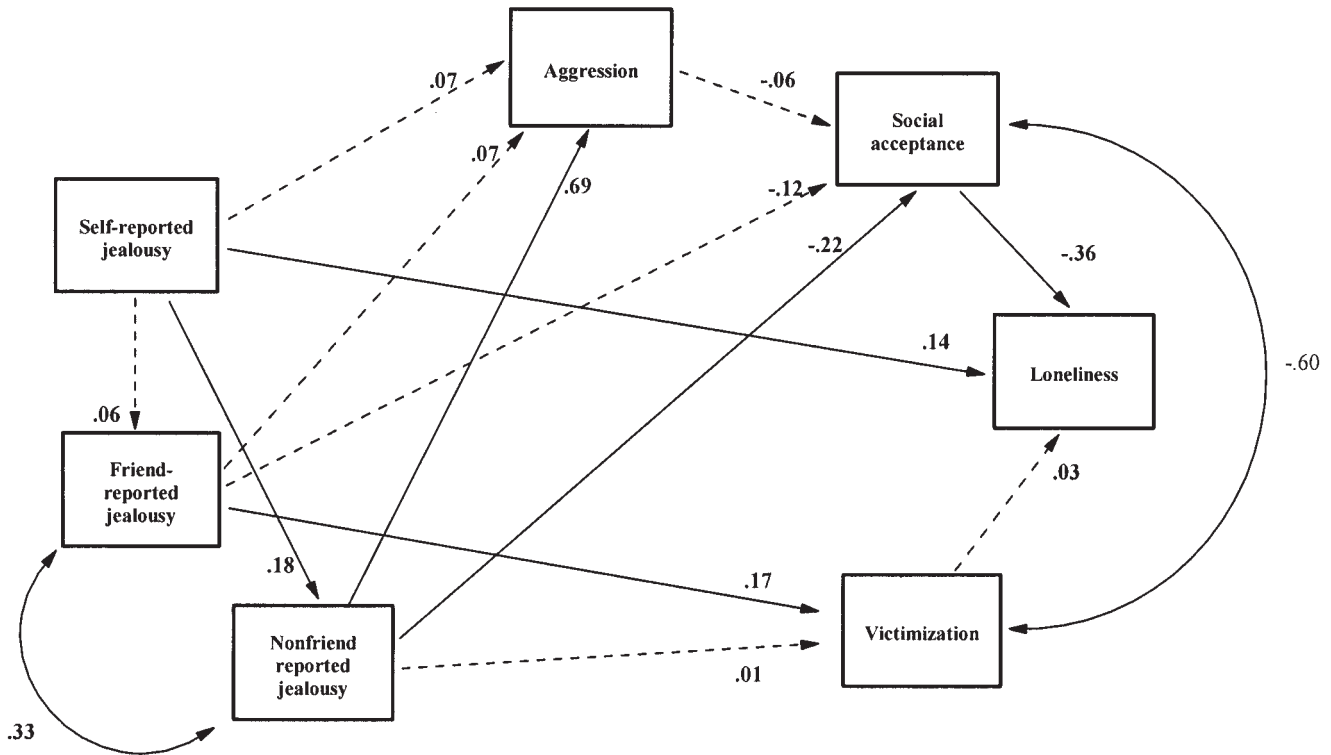
Figure 3. Structural equation model for boys.

Discussion

As in Study 1, young adolescents' self-reports of their vulnerability to jealousy surrounding friends were internally consistent and produced robust individual differences. In Study 1, these differences were linked to self-worth; in Study 2, they were related to, among other things, individuals' reports of their loneliness and dissatisfaction with their peers and friends. It is important to note that this connection existed (a) even within a pool of subjects that excluded individuals who had only one friend or no friends at all and (b) even after we controlled for young adolescents' broader social acceptance and experiences of active victimization by peers. Lacking friends, being poorly liked, and being the target of victimization are all strongly associated, albeit in overlapping ways, with feelings of loneliness (Parker, Saxon, Asher, & Kovacs, 1999). Therefore it is particularly impressive that feelings of jealousy should further contribute to the experiencing of loneliness. After reviewing the literature in children's loneliness recently, Parker et al. (1999) called for further insight into why many children who are well adjusted by traditional markers (e.g., many high-quality friendships, being well liked) nonetheless continue to express loneliness. The present findings may provide a partial answer: For at least a subset of highly vulnerable individuals, having friends and being well accepted may well be the beginning—not the end—of their social difficulties. For these vulnerable individuals, the social context of their friendships is an important, and presumably chronic, source of subjective distress and disillusionment.

The findings also extend Study 1 by documenting that peers inside and outside of an individual's friendship network can pro-

vide an important additional source of information on young adolescents' jealousy. In particular, sociometric polling in both contexts produced hierarchies of jealousy that were linked to other important variables. The question of how peers come by these impressions is an interesting one that warrants further study. Presumably, the task of judging others' jealousy depends less on gauging the frequency of specialized behavior than on making inferences about others' motivations (i.e., their disposition to be insecure about their friend's other friends and social activities) on the basis of a broad swath of behavior with full consideration of its contextual meaning. For example, bragging and boasting may represent just an irksome personality trait when they occur frequently, indiscriminately, and unpredictably; but they could be signs of jealousy when they occur selectively following a close friend's choice of another, high-status peer as an activity partner. Our findings do not provide much insight into precisely how peers infer such motivations, but the apparent sophistication of these judgments suggests that there may be limits on how early one may use sociometric assessments of jealousy. With very young children, difficulties in inferring others' motives and emotional states may limit the usefulness of this assessment (Zelazo, Astington, & Olson, 1999).

Relatedly, although the assessments of jealousy provided by friends and nonfriends were each related to other variables, they were not redundant. This highlights the importance of considering the source's vantage point in the use of peer assessments of behavior, especially behaviors as complex as jealousy. Compared with those of nonfriends, friends' judgments of jealousy offer the advantage of being based on a longer history of contact with the

target and a deeper understanding of the target's interests and insecurities (Furman, 1996). On the other hand, a good deal of research supports the conclusion that relational schemas and other cognitive processing variables can lead individuals to dismiss or minimize unflattering or aggressive behavior when it is perpetrated by friends or liked peers as opposed to others (e.g., Parker & Gamm, 2003; Sumrall et al., 2000). Outsiders may not be as charitable. Each perspective may have merit, and unless and until it is clear from subsequent research that one source is superior to another, future studies of jealousy should continue to distinguish these sources to obtain the most comprehensive portrait of individuals' jealousy.

Although friends and nonfriends did not wholly agree on which individuals were the most jealous and possessive of their friends, they agreed that the individuals they knew to be the most jealous were also the most aggressive individuals they knew. This link between jealousy over friends and aggression is consistent with considerable research on adults that links the expression of jealousy in romantic contexts to negative behavior, including interpersonal violence (Hansen, 1991; Stets & Pirog-Good, 1987; Sugarman & Hotaling, 1989). It is noteworthy that nonfriends' reports of jealousy, especially, were strongly related to aggression. As noted earlier, because they are embedded in larger group contexts, young adolescents' relationships cannot be shielded from outside events. The present findings are provocative insofar as they suggest that the reverse is also true—issues between friends can make life difficult for outsiders as well.

Strong associations among our measures of aggression prevented us from directly testing our hypothesis that jealous individuals may favor subtle forms of aggression over obvious efforts at intimidation. Indeed, the consistency of the correlation between jealousy and aggression regardless of form suggests that this hypothesis must be somehow incomplete. Nonetheless, that jealousy was tied at all to social and passive forms of aggression is noteworthy, as considerable controversy exists concerning the motivational basis for these types of behavior (see Simmons, 2002; Underwood, 2003). Our findings point to the possibility that perceived interference in friendships may provide a previously underappreciated motivational basis for these forms of aggressive behavior.

It is also interesting to note that structural modeling revealed that it was peers' perception that individuals were jealous, and not their reputation for aggression, that contributed to their victimization by peers and undermined their broader acceptance. These findings serve to highlight the potential social stigma attached to jealousy in the peer group and the potential role that perceptions of jealousy may play as a stimulus to peer victimization. Several years ago, Argyle and Henderson (1985) noted that adults and adolescents understand the "rules" of friendships to include prohibitions against being jealous or critical of a partner's other relationships. If jealousy violates cultural conceptions of friendship, it would not be surprising if peers disliked jealous individuals, who may strike them as immature or out of touch. However, broader group processes may also be at work. For example, Bukowski and Sippola (2001) recently proposed that individuals invite peer victimization when they interfere with collective group needs for homogeneity, cohesion, and evolution. To the extent that chronic jealousy is not a widely shared disposition, disrupts group functioning by creating tension among members, and discourages

exploration of new social ties among the members, Bukowski and Sippola's formulation appears to be a good candidate explanation for the link we observed between jealousy and peer rejection and victimization.

Whereas peer reports of jealousy were linked to aggression, young adolescents' self-reports were not. Because our assessments of aggression and peer reputations for jealousy were both based on peer reports, common method variance may play some role in this differential association. Nonetheless, we anticipated a modest or low association between self-reported jealousy and measures of aggressive behavior on the basis of conceptual arguments found in the literature about the experience of jealousy and its expression (e.g., Afifi & Reichert, 1996; Andersen et al., 1995; Guerrero et al., 1995). A wide number of factors no doubt govern whether feelings of jealousy are expressed and what shape those expressions take. For example, research with adults suggests that individuals' responses are shaped by their attributions for their partner's interest in others (Buunk, 1984). Jealous individuals also sometimes dismiss their feelings, feign indifference, or display exaggerated self-reliance in the form of steadfastly refraining from feeling sad or angry and refusing to ask others for support in an effort to preserve or restore self-esteem (Salovey & Rodin, 1985, 1988, 1989). Presumably, the broader emotional understanding and regulation skills of jealous individuals also play a role in whether their feelings are apparent to their partners and others (Saarni, 1999).

At present, only limited empirical data exist on these coping processes in jealous adults, and virtually none exists on jealousy in young adolescents. An important goal for future research should be to broaden our understanding of the range of behaviors young adolescents engage in when they feel jealous and to better delineate when they use various coping strategies and how effective these are in managing the perceived threat. White and Mullen (1989), for example, argued that externally directed, problem-focused jealous responses are likely used when individuals believe they can affect the situation, whereas internally directed, emotion-focused strategies are used when individuals believe they cannot affect the situation or engage in self-blame (see also Lazarus, 1991). White and Mullen's (1989) formulation, as well as several other related conceptualizations (e.g., Afifi & Reichert, 1996; Guerrero et al., 1995; Radecki-Bush, Farrell, & Bush, 1993; Salovey & Rodin, 1988; White, 1999) might serve as a starting point for further investigation into this issue.

Finally, our analysis of sex and grade influences on jealousy in Study 2 produced results that were not only consistent with expectations and past research but also robust to differences in measurement perspective. To begin with, girls reported greater jealousy over friends than did boys, which replicated the findings of Study 1. Indeed, the present findings extend those of Study 1 by demonstrating that sex differences in jealousy are apparent not only in ninth grade but also several years earlier. Moreover, Study 2 shows that the salience of friendship jealousy among girls extends beyond their subjective experience. As a group, girls also had greater reputations for jealousy among their peer friends and nonfriends relative to boys. As noted earlier, girls' greater jealousy may reflect both cultural norms and their greater dependence on their friends for emotional support. However, Study 2 also provides an important counterweight to the emphasis on sex differences that might otherwise be present. Notwithstanding the mean

differences between the sexes, for the most part, jealousy functioned similarly for boys and for girls in contributing to problems of peer victimization, social rejection, and loneliness. Nonfriend-reported jealousy was strongly linked to engaging in aggression in both groups, for example. Moreover, although some pathways were significant for one sex or the other, for the most part the coefficients connected to these pathways for boys and girls were similar in direction and not statistically different when compared directly.

Finally, older adolescents reported they were less likely to experience jealousy over friends. This lowered vulnerability was echoed in the reports of peers, who reported fewer friends and nonfriends as chronically jealous with age. As noted, age differences in friendship jealousy were first posited by Selman (1980). In particular, Selman earmarked the beginning of the fourth stage of his developmental framework (Stage III) as the period of heightened friendship jealousy, anticipating a decline over this period such that, by the next stage (Stage IV), jealousy should no longer present difficulties for most individuals. Although Selman provided only rough guidelines as to the specific ages of his stages, it appears that Stage III in Selman's framework corresponds roughly to ages 9–10 years to 14–15 years, tightly encompassing the age span sampled in the present study. Our findings, then, fit very neatly into Selman's developmental description, although in the absence of data on both younger and older participants, they are far from conclusive. As noted, Selman surmised that older children's better perspective-taking skills permitted them to step outside the relationship, viewing it with greater objectivity and realism, and to recognize some limits on their ability to meet all of the needs of their friend. However Selman's is only one possible interpretation of why the older adolescents in our study expressed less jealousy than did the younger ones. For example, after about age 12, a general decline can be observed in individuals' vulnerability to making unwarranted hostile interpretations of others' intent in ambiguous circumstances (Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). It is reasonable to expect that the disposition to jealousy is driven in part by a readiness to infer malevolent intent toward the self in an outsider's overtures toward one's friend. If this is so, a decline in this disposition could drive a decline in vulnerability to jealousy.

Conclusions

Researchers have been slow to acknowledge that friendships are embedded in larger networks of relationships, and little is confidently known of the quandaries young adolescents face as a result. The present research helps close this gap by addressing the issue of the distress and feelings of threat that some children routinely experience surrounding their friends' other friends or social activities with others. Drawing partly on the literature on adult relationships, we conceptualize this orientation as a disposition to friendship jealousy, and an important conclusion of the present study is that this disposition can be assessed with a good deal of reliability and validity through children's self-reports or the reports of friends and nonfriend peers. Moreover, the present study provides beginning data on both the intrapersonal and interpersonal correlates of individual differences in the disposition to jealousy surrounding friends. It should be noted that no direct evidence exists to support the claim that friendship jealousy in young

adolescence and romantic jealousy in adults share more than a conceptual resemblance. It would be particularly interesting to discover that individuals who are atypically jealous over friends are also atypically jealous over their romantic partners later. However, there are also reasons to surmise that the factors that underpin friendship and romantic jealousy differ in several essential respects (see Roth & Parker, 2001). It also bears mentioning that although the approach in the present research stresses self- or peer reports of jealousy, understanding would undoubtedly be strengthened by alternative assessment approaches, such as observational or physiological assessments in more naturalistic settings. For example, important strides have been made recently in the representation of children's behavior in observations of small groups (e.g., Lansford & Parker, 1999). These techniques could be applied to the study of jealous individuals.

References

Afifi, W. A., & Reichert, T. (1996). Understanding the role of uncertainty in jealousy experience and expression. *Communication Reports, 9,* 93–103.

Andersen, P. A., Eloy, S. V., Guerrero, L. K., & Spitzberg, B. H. (1995). Romantic jealousy and relational satisfaction: A look at the impact of jealousy experience and expression. *Communication Reports, 8,* 77–85.

Arbuckle, J. L. (1999). AMOS 4.0 [Computer software]. Chicago: Smallwaters.

Argyle, M., & Henderson, M. (1985). The rules of relationships. In S. Duck & D. Perlman (Eds.), *Understanding personal relationships: An interdisciplinary approach* (pp. 64–86). Beverly Hills, CA: Sage.

Asher, S. A., Parker, J. G., & Walker, D. L. (1996). Distinguishing friendship from acceptance: Implications for intervention and assessment. In W. Bukowski, A. Newcomb, & W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 366–405). New York: Cambridge University Press.

Asher, S. R., & Wheeler, V. A. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *Journal of Consulting and Clinical Psychology, 53,* 500–505.

Aune, K. S., & Comstock, J. (1991). Experience and expression of jealousy: Comparison between friends and romantics. *Psychological Reports, 69,* 315–319.

Baumeister, R. F. (1998). The self. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., Vol. 1, pp. 680–740). New York: McGraw-Hill.

Beal, C. R. (1994). *Boys and girls: The development of gender roles.* New York: McGraw-Hill.

Bers, S. A., & Rodin, J. (1984). Social-comparison jealousy: A developmental and motivational study. *Journal of Personality and Social Psychology, 47,* 766–779.

Björkqvist, K. (1994). Sex differences in physical, verbal, and indirect aggression: A review of recent research. *Sex Roles, 30,* 177–188.

Bringle, R. G. (1981). Conceptualizing jealousy as a disposition. *Alternative Lifestyles, 4*(3), 274–290.

Bringle, R. G., & Buunk, B. (1985). Jealousy and social behavior: A review of person, relationship and situational determinants. In P. Shaver (Ed.), *Review of personality and social psychology* (Vol. 6, pp. 241–264). Beverly Hills, CA: Sage.

Bringle, R. G., Renner, P., Terry, R. L., & Davis, S. (1983). An analysis of situation and person components of jealousy. *Journal of Research in Personality, 17,* 354–368.

Bringle, R. G., Roach, S., Andier, C., & Evenbeck, S. (1979). Measuring the intensity of jealous reactions. *JSAS Catalog of Selected Documents in Psychology, 9,* 23–24 (Ms. No. 1832).

Brown, L. M., Way, N., & Duff, J. L. (1999). The others in my I:

Adolescent girls' friendships and peer relations. In N. G. Johnson, M. C. Roberts, & J. Worell (Eds.), *Beyond appearance: A new look at adolescent girls* (pp. 205–226). Washington, DC: American Psychological Association.

Bukowski, W. M., & Sippola, L. K. (2001). Groups, individuals, and victimization: A view of the peer system. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 355–377). New York: Guilford Press.

Buunk, B. (1982). Strategies of jealousy: Styles of coping with extramarital involvement of the spouse. *Family Relations, 31,* 13–18.

Buunk, B. (1984). Jealousy as related to attributions for the partner's behavior. *Social Psychology Quarterly, 47,* 107–112.

Buunk, B., & Bringle, R. G. (1987). Jealousy in love relationships. In D. Perlman & S. Duck (Eds.), *Intimate relationships: Development, dynamics, and deterioration* (pp. 123–147). Newbury Park, CA: Sage.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming.* Mahwah, NJ: Erlbaum.

Carson, C. L., & Cupach, W. R. (2000). Fueling the flames of the green-eyed monster: The role of ruminative thought in reaction to romantic jealousy. *Western Journal of Communication, 64,* 308–329.

Cillessen, T., & Ferguson, T. J. (1988). Self-perpetuation processes in children's peer relationships. In B. H. Schneider, G. Attili, J. Nadel, & R. P. Weissberg (Eds.), *Social competence in developmental perspective* (pp. 203–222). Dordrecht, The Netherlands: Kluwer.

Clanton, G., & Kosin, D. J. (1991). Developmental correlates of jealousy. In P. Salovey (Ed.), *The psychology of jealousy and envy* (pp. 132–147). New York: Guilford Press.

Crandall, V. C., Crandall, V. J., & Katkovsky, W. (1965). A children's social desirability questionnaire. *Journal of Consulting Psychology, 29,* 27–36.

Crick, N. R., Casas, J. F., & Ku, H. (1999). Relational and physical forms of peer victimization in preschool. *Developmental Psychology, 35,* 376–385.

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66,* 710–722.

Crick, N. R., Werner, N. E., Casas, J. F., O'Brien, K. M., Nelson, D. A., Grotpeter, J. K., & Markon, K. (1999). Childhood aggression and gender: A new look at an old problem. In D. Bernstein (Ed.), *Nebraska Symposium on Motivation: Vol. 45. Gender and motivation* (pp. 75–141). Lincoln: University of Nebraska Press.

Darling, N., Dowdy, B. B., Van Horn, M. L., & Caldwell, L. L. (1999). Mixed-sex settings and the perception of competence. *Journal of Youth and Adolescence, 28,* 461–480.

DeSteno, D. A., & Salovey, P. (1997). The effects of mood on the structure of the self-concept. *Cognition & Emotion, 11,* 351–372.

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70,* 1327–1343.

Duck, S. (1993). *Learning about relationships.* Thousand Oaks, CA: Sage.

Ellestad, J., & Stets, J. E. (1998). Jealousy and parenting: Predicting emotions from identity theory. *Sociological Perspectives, 41,* 639–668.

Furman, W. (1996). The measurement of friendship perceptions: Conceptual and methodological issues. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 41–65). New York: Cambridge University Press.

Guerrero, L. K., & Afifi, W. A. (1999). Toward a goal-oriented approach for understanding communicative responses to jealousy. *Western Journal of Communication, 63,* 216–248.

Guerrero, L. K., & Andersen, P. A. (1998). The dark side of jealousy and envy: Desire, delusion, desperation, and destructive communication. In B. H. Spitzberg & W. R. Cupach (Eds.), *The dark side of close relationships* (pp. 33–70). Mahwah, NJ: Erlbaum.

Guerrero, L. K., Andersen, P. A., Jorgensen, P. F., Spitzberg, B. H., & Eloy, S. V. (1995). Coping with the green-eyed monster: Conceptualiz-

ing and measuring communicative responses to romantic jealousy. *Western Journal of Communication, 59,* 270–304.

Guerrero, L. K., Eloy, S. V., Jorgensen, P. F., & Andersen, P. A. (1993). His or hers? Sex differences in the communication of jealousy in close relationships. In P. Kalbfleisch (Ed.), *Interpersonal communication in evolving interpersonal relationships* (pp. 109–131). Hillsdale, NJ: Erlbaum.

Hansen, G. L. (1991). Jealousy: Its conceptualization, measurement, and integration within family stress theory. In P. Salovey (Ed.), *The psychology of jealousy and envy* (pp. 252–272). New York: Guilford Press.

Harter, S. (1988). *Manual for the Self-Perception Profile for Adolescents.* Denver, CO: University of Denver.

Harter, S. (1999). *The construction of the self: A developmental perspective.* New York: Guilford Press.

Heatherton, T. F., & Vols, K. D. (2000). Interpersonal evaluations following threats to self: Role of self-esteem. *Journal of Personality and Social Psychology, 78,* 725–736.

Henington, C., Hughes, J. N., Cavell, T. A., & Thompson, B. (1998). The role of relational aggression in identifying boys and girls. *Journal of School Psychology, 36,* 457–477.

Hupka, R. B. (1981). Jealousy: Compound emotion or label for a particular situation? *Motivation and Emotion, 8,* 141–155.

Hymel, S., Wagner, E., & Butler, L. J. (1990). Reputational bias: View from the peer group. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 119–155). New York: Cambridge University Press.

Klein, R., & Milardo, R. M. (1993). Third-party influence on the management of relationships. In S. Duck (Ed.), *Social context and relationships* (pp. 55–77). New York: Sage.

Kless, S. J. (1992). The attainment of peer status: Gender and power relationships in the elementary school. *Sociological Studies of Child Development, 5,* 115–148.

Lansford, J., & Parker, J. G. (1999). Children's interactions in friendship triads: Effects of gender and relationship intransitivity. *Developmental Psychology, 35,* 80–93.

Lazarus, R. S. (1991). *Emotions and adaptation.* New York: Oxford University Press.

Leaper, C. (1994). Exploring the consequences of gender segregation on social relationships. In C. Leaper (Ed.), *Childhood gender segregation: Causes and consequences* (pp. 67–86). San Francisco: Jossey-Bass.

Leary, M. R. (1990). Responses to social exclusion: Social anxiety, jealousy, loneliness, depression, and low self-esteem. *Journal of Social and Clinical Psychology, 9,* 221–229.

Loehlin, J. C. (1992). *Latent variable models: An introduction to factor, path, and structural analysis.* Hillsdale, NJ: Erlbaum.

Ludlow, L., Hartmann, D. P., George, T. P., Maianu, C., Abbott, C., & Anderson, D. (1999, April). *Reasons for children's friendship loss as a function of popularity status.* Poster presented at the biennial meetings of the Society for Research in Child Development, Albuquerque, NM.

Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist, 45,* 513–520.

Masciuch, S., & Kienapple, K. (1993). The emergence of jealousy in children 4 months to 7 years of age. *Journal of Social and Personal Relationships, 10,* 421–435.

Mathes, E. W., Adams, H., E., & Davies, R. M. (1985). Jealousy: Loss of relationship rewards, loss of self-esteem, depression, anxiety, and anger. *Journal of Personality and Social Psychology, 48,* 1552–1561.

Mathes, E. W., Phillips, J. T., Skowran, J., & Dick, W. E. (1982). Behavioral correlates of the Interpersonal Jealousy Scale. *Educational and Psychological Measurement, 42,* 1227–1231.

Orobio de Castro, B., Veerman, J. W., Koops, W., Bosch, D., & Monshouwer, H. J. (2002). Hostile attributions of intent and aggressive behavior: A meta-analysis. *Child Development, 73,* 916–934.

Paquette, J. A., & Underwood, M. K. (1999). Gender differences in young

adolescents' experiences of peer victimization: Social and physical aggression. *Merrill-Palmer Quarterly, 45,* 233–258.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29,* 611–621.

Parker, J. G., & Gamm, B. K. B. (2003). Describing the dark side of preadolescents' peer experiences: Four questions (and data) on preadolescents' enemies. In E. Hodges & N. Card (Eds.), *Enemies and the darker side of peer relations* (pp. 55–72). San Francisco: Jossey-Bass.

Parker, J. G., Saxon, J., Asher, S. R., & Kovacs, D. (1999). Dimensions of children's friendship adjustment: Implications for studying loneliness. In K. J. Rotenberg & S. Hymel (Eds.), *Loneliness in childhood and adolescence.* New York: Cambridge University Press.

Parrott, G. W. (1991). The emotional experiences of envy and jealousy. In P. Salovey (Ed.), *The psychology of jealousy* (pp. 3–28). New York: Guilford Press.

Perry, D. G., Kussel, S. J., & Perry, L. C. (1988). Victims of peer aggression. *Developmental Psychology, 24,* 807–814.

Pfeiffer, S. M., & Wong, P. T. (1989). Multidimensional jealousy. *Journal of Social and Personal Relationships, 6,* 181–196.

Prinstein, M. J., Boergers, J., & Vernberg, E. M. (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. *Journal of Clinical Child Psychology, 30,* 479–491.

Radecki-Bush, C., Farrell, A. D., & Bush, J. P. (1993). Predicting jealous responses: The influence of adult attachment and depression on threat appraisal. *Journal of Social and Personal Relationships, 10,* 569–588.

Rawlins, W. K. (1992). *Friendship matters.* New York: Aldine de Gruyter.

Richards, M. H., Crowe, P. A., Larson, R., & Swarr, A. (1998). Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Development, 69,* 154–163.

Roth, M. A., & Parker, J. G. (2001). Affective and behavioral responses to friends who neglect their friends for dating partners: Influences of gender, jealousy, and perspective. *Journal of Adolescence, 24*(3), 281–296.

Rubin, K. H., Bukowski, W. A., & Parker, J. G. (1997). Peer interactions, relationships, and groups: A developmental perspective. In W. Damon (Ed.), *Handbook of child psychology: Vol 3. Social, emotional, and personality development* (5th ed. pp. 619–700). New York: Wiley.

Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships, 10,* 175–204.

Rys, G. S., & Bear, G. G. (1997). Relational aggression and peer relations: Gender and developmental issues. *Merrill-Palmer Quarterly, 43,* 87–106.

Saarni, C. (1999). *The development of emotional competence.* New York: Guilford Press.

Salovey, P., & Rodin, J. (1984). Some antecedents and consequences of social-comparison jealousy. *Journal of Personality and Social Psychology, 47,* 780–792.

Salovey, P., & Rodin, J. (1985, September). The heart of jealousy. *Psychology Today,* pp. 22, 25, 28–29.

Salovey, P., & Rodin, J. (1988). Coping with envy and jealousy. *Journal of Social and Clinical Psychology, 7,* 15–33.

Salovey, P., & Rodin, J. (1989). Envy and jealousy in close relationships. In C. Hendrick (Ed.), *Close relationships* (pp. 221–246). Newbury Park, CA: Sage.

Selman, R. L. (1980). *The growth of interpersonal understanding: Developmental and clinical analyses.* New York: Academic Press.

Selman, R. L., & Schultz, L. H. (1990). *Making a friend in youth: Developmental theory and pair therapy.* Chicago: University of Chicago Press.

Sharabany, R., Gershoni, R., & Hofman, J. E. (1981). Girlfriend, boyfriend: Age and sex differences in intimate friendship. *Developmental Psychology, 17,* 800–808.

Sharpsteen, D. J. (1993). Romantic jealousy as an emotion concept: A prototype analysis. *Journal of Social and Personal Relationships, 10,* 69–82.

Sharpsteen, D. J. (1995). The effects of relationship and self-esteem threats on the likelihood of romantic jealousy. *Journal of Social and Personal Relationships, 12,* 89–101.

Sharpsteen, D. J., & Kirkpatrick, L. A. (1997). Romantic jealousy and adult romantic attachment. *Journal of Personality and Social Psychology, 72,* 627–640.

Simmons, R. (2002). *Odd girl out: The hidden culture of aggression in girls.* Harcourt: New York.

Stets, J. E., & Pirog-Good, M. A. (1987). Violence in dating relationships. *Social Psychology Quarterly, 50,* 237–246.

Sugarman, D. B., & Hotaling, G. T. (1989). Dating violence: Prevalence, context, and risk markers. In M. A. Pirog-Good & J. E. Stets (Eds.), *Violence in dating relationships: Emerging social issues* (pp. 3–32). New York: Praeger.

Sumrall, S. G., Ray, G. E., & Tidwell, P. S. (2000). Evaluations of relational aggression as a function of relationship type and conflict setting. *Aggressive Behavior, 26,* 179–191.

Underwood, M. K. (2003). *Social aggression among girls.* New York: Guilford Press.

Underwood, M. K., Galen, B. R., & Paquette, J. A. (2001). Top ten challenges for understanding gender and aggression in children: Why can't we all just get along? *Social Development, 10,* 246–266.

Way, N. (1998). *Everyday courage: The lives and stories of urban teenagers.* New York: New York University Press.

White, G. L. (1981). Jealousy and a partner's perceived motives for attraction to a rival. *Social Psychology Quarterly, 44,* 24–30.

White, G. L. (1999). Jealousy and problems of commitment. In J. M. Adams & W. H. Jones (Eds.), *Handbook of interpersonal commitment and relationship stability* (pp. 471–480). New York: Kluwer Academic/Plenum.

White, G. L., & Mullen, P. E. (1989). *Jealousy: Theory, research, and clinical strategies.* New York: Guilford Press.

Zelazo, P. D., Astington, J. W., & Olson, D. R. (Eds.). (1999). *Developing theories of intention: Social understanding and self-control.* Mahwah, NJ: Erlbaum.