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The "Cost of Caring" in Youths' Friendships: Considering Associations Among Social Perspective-Taking, Co-Rumination, and Empathetic Distress

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Abstract

The current research considered the costs of caring in youths' friendships. The development of a new construct, empathetic distress, allowed for a direct test of the commonly held belief that females suffer greater vicarious distress in response to close others' stressors and problems than do males. Empathetic distress refers to strongly sharing in a relationship partner's distress over problems to the point of taking on the partner's distress and experiencing it as one's own. This new construct was examined in an ethnically diverse sample of early adolescents who responded to a series of questionnaires in their classrooms. Results indicated that girls did experience greater empathetic distress in friendships than did boys. In addition, the current research revealed that social perspective-taking in friendships (i.e., the social-cognitive ability to infer and understand the friend's perspective) had adjustment trade-offs in that it predicted greater positive friendship quality but also greater empathetic distress in the friendship. Interestingly, the associations of social perspective-taking with both positive friendship quality and empathetic distress were partially mediated by co-rumination or excessive discussion of problems. Applied implications of the findings that girls' greater social perspective-taking and associated co-rumination contributed both to their greater positive friendship quality but also to greater costs of caring in the form of empathetic distress are discussed.

Keywords

early adolescence; friendship; gender; internalizing distress

Empathic concern for others generally is considered an adaptive socioemotional competency (Zahn-Waxler & Radke-Yarrow, 1990) and an important feature of close relationships such as friendships (Bukowski, Newcomb, & Hartup, 1996). However, researchers also have cautioned that there may be emotional "costs of caring," especially for females (Kessler & McLeod, 1984). Although this idea has intuitive appeal, supporting research is surprisingly scarce (Rudolph, 2002). The current research focuses on a new, potentially "costly" interpersonal construct, empathetic distress, and examines the processes that may put girls at risk for the emotional costs of caring in their friendships.

Empathetic distress is a new construct that refers to emotional involvement in the problems and distressed feelings of a relationship partner, to the point of taking on the partner's emotional distress and experiencing it as one's own. A new measure was developed for the current study to assess empathetic distress in early adolescents' friendships. We chose to focus on early adolescents (grades 6–8) because friendships become especially central

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relationships at the transition to adolescence (Buhrmester & Furman, 1987). The current research considers whether there are gender differences in empathetic distress and tests the hypothesis that empathetic distress in friendships is more common among girls than boys. In addition, the role of social perspective-taking, or the social-cognitive ability to infer and understand another's viewpoint, is considered as well. Girls' social perspective-taking skills are expected to afford them high-quality friendships, but paradoxically to put them at risk for empathetic distress. Further, relations of social perspective-taking with friendship quality and empathetic distress are expected to be at least partially accounted for by co-rumination, or excessive discussion of problems between friends. These hypotheses are guided by Rose and Rudolph's (2006) theoretical framework, which proposes that girls' peer relationships give rise to adjustment trade-offs by protecting girls from friendship problems but creating risk for internalizing difficulties.

In terms of gender differences, researchers have speculated that heightened internalizing problems, such as depression, among girls and women may be partially explained by females' strong interpersonal orientation and stressors associated with close relationships (e.g., Helgeson, 1994; Nolen-Hoeksema & Girgus, 1994; Zahn-Waxler, Cole, & Barrett, 1991). As such, it has been proposed that girls and women may suffer "costs of caring," meaning they suffer vicarious distress when faced with the stress of loved ones or close others (Kessler & McLeod, 1984). In a test of their proposal, Kessler and McLeod (1984) found that stressful events in the lives of important others were linked with depression more strongly for adult women than for men. A separate study with adolescents found that girls reported greater caring for others and reported listening to friends' problems more than did boys (Gore, Aseltine, & Colten, 1993). These two factors partially accounted for greater depressive symptoms among girls than boys.

Findings from these studies indicate that having a caring orientation toward others and being exposed to close others' life stressors can be particularly detrimental for females and are often interpreted to mean that girls and women share others' distress. However, these studies do not include an actual assessment of the degree to which females experience vicarious distress. Instead, they make assumptions regarding this possibility based on relations between close others' troubles and individuals' well-being. For example, although Gore et al. (1993) assessed whether adolescent girls listen to friends' problems, they did not assess the extent to which girls experienced vicarious distress about these problems or the extent to which negative affect over the problems was shared between the friends. Therefore, the extent to which girls actually experience emotional distress regarding others' problems is unknown. This is problematic because it is likely that girls' emotional distress regarding others' problems, rather than simple exposure to the problems, is the mechanism through which girls experience costs of caring.

The current research involves the development of a new measure to test whether girls do in fact experience greater vicarious distress in response to friends' problems than do boys. Specifically, the study examines the new construct, empathetic distress. Empathetic distress is defined as a strong sharing of negative affect with a relationship partner in response to problems experienced by that partner. This response can be thought of as a potentially maladaptive type of empathy that arises when individuals are unable to emotionally distance themselves from a relationship partner's distress over problems and instead take on the distress as their own.

Given that empathetic distress is a new construct, it is important to distinguish it from the previously studied constructs personal distress and sympathy. Personal distress refers to emotional overarousal in "tense interpersonal settings" (Davis, 1983, p. 114) such as emergencies, and is commonly assessed using the Personal Distress subscale of Davis'

(1980) Interpersonal Reactivity Index (IRI). Items from this scale assess the ability to remain calm during emergencies and the extent to which one is overcome by apprehension in emergency situations. This response has been conceptualized as a *self*-focused form of empathy, as it is characterized by preoccupation with one's own distress at the necessary exclusion of attention to the other person's distress (Eisenberg & Fabes, 1998). In contrast, empathetic distress occurs in dyadic relationships rather than in the context of emergency situations and does not preclude attention to the relationship partner's distress. In fact, attention to the relationship partner's distress is necessary for empathetic distress to develop.

Empathetic distress also is distinct from sympathy. Sympathy refers to feelings of pity for another person, and is commonly assessed using the Empathic Concern (EC) subscale of the IRI (Davis, 1980). Items from this scale assess the tendency to feel sorry for or protective toward others who are less fortunate or treated unfairly. This response can be conceptualized as an *other*-focused form of empathy, as it is characterized by altruistic feelings of pity toward another person but does not necessarily involve feeling distressed one's self. In contrast, empathetic distress involves feeling distressed *along with* a relationship partner. It is simultaneously self- and other-focused.

The development of the new measure was important because it allowed for a direct test of whether girls actually experience greater costs of caring than boys in the form of empathetic distress. In addition, testing this gender difference among early adolescents was especially appropriate given that gender differences in friendship (see Rose & Rudolph, 2006) and emotional distress (see Nolen-Hoeksema & Girgus, 1994) tend to emerge or strengthen at this developmental stage.

The current study further considered the idea that social-perspective taking may be an important correlate of empathetic distress. Social perspective-taking refers to the social-cognitive process of suspending one's own viewpoint to take the perspective of another (Selman, 1980) and has been represented in the literature as positive. Selman's (1980) seminal work emphasized the implications of social perspective-taking for youths' social competence, and other work indicates that social perspective-taking is related to youths' peer acceptance in early adolescence (Bosacki & Astington, 1999) and the development of conflict negotiation strategies in childhood and adolescence (Selman et al., 1986; Selman & Demorest, 1984; Yeates & Selman, 1989). Social perspective-taking also has been found to be related to adults' high-quality romantic relationships (Franzoi, Davis, & Young, 1985; Rusbult et al., 1991). In line with this past work focused on the social benefits of social perspective-taking, in the current study, social perspective-taking is predicted to be related to youths having high-quality friendships. It is surprising that the benefits of social perspective-taking for youths' friendships at this developmental stage have yet to be examined given that social perspective-taking skills (Selman, 1980) and the salience of friendships in youths' lives (Buhrmester & Furman, 1987) both increase at adolescence.

Despite the benefits of social perspective-taking, we further propose that social perspective-taking will be related to emotional costs in the form of empathetic distress. Although social perspective-taking and empathetic distress can both be conceptualized as components of the broader construct of empathy, they are not redundant. Whereas social perspective-taking is the social-cognitive ability to infer and understand another's viewpoint, empathetic distress is the affective response of sharing another person's negative feelings about problems. This distinction fits with the more global distinction empathy researchers have made between the *social-cognitive* processes of identifying and understanding others' thoughts and emotions and the *affective* responsiveness to others' emotions (e.g., Baron-Cohen, 2003; Davis, 1980; Eisenberg & Strayer, 1987). Past research indicates associations between social-cognitive and affective aspects of empathy. For instance, perspective-taking is positively related to

sympathy and negatively related to personal distress. However, the social-cognitive and affective aspects of empathy do not always have to co-occur. As an example, it is possible to share someone's emotional experience through emotional mimicry (also termed emotion contagion or automatic empathy; Preston & de Waal, 2002) without a well-developed cognitive awareness of that person's point of view.

Likewise, in the current study, the social-cognitive construct of social perspective-taking and the affective construct of empathetic distress are expected to be distinct but related. There may be some individuals who are experts at taking others' points of view and do so in an emotionally disengaged manner that does not lead to empathetic distress. On average, though, social perspective-taking is expected to predict greater empathetic distress. When youth with well-developed social perspective-taking skills encounter a friend who is troubled or upset, the tendency to take the friend's perspective and imagine the upsetting situation from the friend's point of view should increase the likelihood of their sharing in their friend's affective state. In this way, social perspective-taking in close friendships may contribute to the strong sharing of friends' negative affect. Interestingly, one past study with preschoolers examining theory-of-mind ability (i.e., an early precursor of social perspective-taking) found that theory-of-mind abilities were associated with sensitivity to teacher criticism (Cutting & Dunn, 2002). However, costs associated with social perspective-taking in adolescents' close relationships remain unexplored.

Social perspective-taking, then, is expected to have trade-offs. Namely, in keeping with past research that focused on the benefits of social perspective-taking, social perspective-taking is predicted to be associated with positive friendship quality. However, we also anticipated emotional costs of social perspective-taking in the form of empathetic distress.

Moreover, the processes that might help explain the relations of social perspective-taking with friendship quality and empathetic distress were of interest. A clear candidate was the interactional process of co-rumination, which also has adjustment trade-offs. Co-rumination is defined as excessively talking about problems within a dyadic relationship and is characterized by revisiting and speculating about problems, encouraging problem talk, and focusing on negative affect (Rose, 2002). Notably, there are important distinctions between co-rumination and more normative self-disclosure (Rose, 2002). Co-rumination is a specific form of self-disclosure that refers to frequent, repetitive, speculative problem talk with a negative focus, whereas the broader construct of self-disclosure captures sharing of personal information in general. Previous research indicates that, although co-rumination in friendships is related to positive friendship quality in middle childhood and adolescence, presumably due to the social sharing inherent in co-rumination, co-rumination also is related to depressive and anxiety symptoms, likely due to its negative focus (Rose, 2002; Rose, Carlson, & Waller, 2007).

For the present research, we hypothesized that co-rumination would mediate the predicted relations of social perspective-taking with both friendship quality and empathetic distress. First, consider the association with positive friendship quality. Youths with social perspective-taking skills may be drawn to co-rumination because they find it easy to relate to friends' problems, to speculate about possible causes and consequences, and to understand their friend's negative affective responses. Co-rumination, in turn, should predict greater friendship quality as in past research (Rose, 2002; Rose et al., 2007).

Additionally, co-rumination may help to explain the association with empathetic distress. As described, social perspective-taking is hypothesized to be related to co-rumination. Then, when youth co-ruminate, they face prolonged exposure to friends' worries and negative

affect, which may contribute to their taking on friends' feelings in the form of empathetic distress.

At this point, consider again the role of gender and the motivation of this work to better understand the costs of caring for girls. Girls are found to have especially well-developed social perspective-taking skills in adolescence (Schonert-Reichl & Beaudoin, 1998; Bosacki & Astington, 1999), which typically is considered an advantage for girls given the many benefits of social perspective-taking. However, the current research tests the idea that girls' greater social perspective-taking helps to explain not only their more positive friendship quality but also their elevated empathetic distress. Specifically, girls' greater social perspective-taking is hypothesized to predict greater co-rumination among girls than boys, which will help to account for their greater positive friendship quality but also their greater empathetic distress.

Finally, we have highlighted the importance of considering the relations among gender, social perspective-taking, co-rumination, friendship quality, and empathetic distress in an early adolescent sample, and we also will consider the role of development within this age range. Given research suggesting that gender differences intensify at the transition to adolescence (Hill & Lynch, 1983; Nolen-Hoeksema & Girgus, 1994; Rose & Rudolph, 2006), we may find that gender differences in these constructs increase with age in our sample of sixth through eighth graders. If this is the case, the tradeoffs of social perspective-taking may become more pronounced with age.

Method

Participants

Participants were sixth-, seventh- and eighth- grade students at an ethnically diverse urban middle school in St. Louis, Missouri. The socioeconomic status of residents in the school district was low; only 20% of residents age 25 and over were college educated, the median reported household income was $35,946, and 62% of students in the participating school qualified for free or reduced lunch.

Given that past research has documented challenges of obtaining parental consent among low-income ethnic minority samples (Cauce, Ryan, & Grove, 1998; Dent et al., 1993), steps were taken to increase the likelihood of consent. First, consent forms were mailed directly to students' homes rather than handled by students. Second, we visited the school several times to remind students to return the forms. Third, multiple waves of reminder letters were mailed to families who had not returned their forms. Finally, telephone calls were made to families to remind them to return forms. The consent forms were mailed to the homes of all 692 students in the middle school, on which parents/guardians could consent or decline students' participation. Of the 518 returned consent forms, 442 (64% of all students) granted consent, which is similar to some past classroom-based studies (e.g., Mostow, Izard, Fine, & Trentacosta, 2002; Pomerantz, Ruble, Frey, & Greulich, 1995).

Students also gave their own assent. Two students chose not to participate, six others were repeatedly absent, and the remaining 434 participated. Of the 434, 18 students had no reciprocal friends and were dropped from analyses. In addition, 52 students were dropped because they could not be paired into a mutually exclusive dyad (see information regarding identifying friendship dyads in the Measures section). Of the 364 remaining students, 28 students did not have sufficient data (at least two-thirds of items on each questionnaire) and were dropped, and the 28 friends of these students were dropped. The final sample for analyses then included 308 youths (in 154 dyads, M age = 12.94), with 90 sixth-grade youths (52 girls, 38 boys), 82 seventh-grade youths (44 girls, 38 boys), and 136 eighth-grade

youths (82 girls, 54 boys). The final sample was 46% European American, 29% African American, 8% Latino(a)/Hispanic American, 1% Asian American, 1% Native American, 6% bi- or multi-racial, and 9% classified themselves as "other." Most youth indicated that their families most often spoke English at home (91%; 7% chose Spanish; <2% chose another language). Even more youth chose English as their own most preferred language (97%; 2% chose Spanish; 1% chose another language).

Procedure

All measures were group administered in two classroom sessions lasting approximately 45 minutes. Questionnaires were read aloud to students. Follow-up visits were made to collect data with students who were absent during the initial sessions.

Measures

Friendship nominations—For many study measures, youths answered questions about a specific friend. Friendship nominations were used to determine which friendship each adolescent would report on. The friendship nomination measure used is similar to those used in past research (e.g., Graham & Cohen, 1997; Hoza, Molina, Bukowski, & Sippola, 1995; Parker & Asher, 1993; Rose, 2002; Rose & Asher, 1999). Youths were given a roster of participating students in their grade. First, youths were asked to circle an unlimited number of friends. Next, youth indicated their three best friends by marking a star next to the names. Youths were then asked to indicate their "very best friend" by marking a second star next to the name.

For analyses, adolescents were paired into mutually exclusive dyads so that each adolescent was a member of only one dyad. All of the dyads consisted of reciprocal friends (i.e., both youth nominated the other). Also, only same-sex friends were considered to facilitate examination of gender differences.

The decision rules used to identify dyads were similar to those used in past research (Rose, 2002; Rose & Asher, 1999; 2004). First, dyads in which each youth nominated the other as a very best friend were selected to be included in analyses. Ninety-three friendships of this type were identified (68 girl dyads, 28 boy dyads). From the remaining sample, 28 dyads (16 girl dyads, 12 boy dyads) were selected in which one adolescent nominated a student as his or her very best friend and that student nominated the adolescent as one of three best friends. Next, 11 dyads (6 girl dyads, 5 boy dyads) were selected in which both adolescents nominated each other as a best friend but neither nominated the other as his or her very best friend. As a next step, 16 dyads (6 girl dyads, 10 boy dyads) were selected in which one adolescent nominated a student as his or her very best friend and that student nominated the adolescent as a friend but not a best or very best friend. From the remaining sample, 12 dyads (6 girl dyads, 6 boy dyads) were selected in which one adolescent nominated a student as one of his or her best friends and that student nominated the adolescent as a friend but not a best or very best friend. Last, 22 dyads (11 girl dyads, 11 boy dyads) were selected in which both adolescents nominated the other as a friend but neither nominated the other as a best or very best friend.

With this method, 182 mutually exclusive reciprocal friendship pairs were identified. An additional 52 youth had reciprocal friends but could not be paired into a mutually exclusive dyad because their friends had higher-priority friendships. Also, as noted earlier, of the 182 dyads identified, 28 were dropped because at least one dyad member had too much missing data. This resulted in a final sample of 154 friendship dyads (308 youths in 154 dyads). In addition, similar to past research (e.g., Parker & Asher, 1993), adolescents without a

reciprocal friendship (n = 18) reported on one of their friend choices for the questionnaires involving friendship, but their data were not used in analyses.

Social perspective-taking—Adolescents' social perspective-taking was assessed with a 19-item measure that included 13 items adapted from the 60-item Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) and six items adapted from the 7-item Perspective-Taking (PT) subscale of the IRI (Davis, 1980). These items all assess the tendency to adopt the perspective of others. All 19 items were revised to assess social perspective-taking in the context of a specific friendship, and customized questionnaires were created for each participant. The name of the friend was inserted into each item. For example, the original item from the EQ scale (Baron-Cohen & Wheelwright, 2004) "I find it easy to put myself in somebody else's shoes" was reworded to read "I find it easy to put myself in [friend's name]'s shoes." An item adapted from the PT subscale of the IRI (Davis, 1980) is "I sometimes try to understand my friends better by imagining how things look from their perspective" and was reworded as "I sometimes try to understand [friend's name] better by imagining how things look from his/her perspective." Customized questionnaires were used to ensure that youth reported specifically on the relationship with the identified friend.

As noted, some items from the EQ and PT scales were not used. The EQ was not used in its entirety because many items did not assess social perspective-taking. As examples, excluded items included "It upsets me to see an animal in pain" and "Friendships and relationships are just too difficult, so I tend not to bother with them." In addition, one item from the PT subscale ("I believe that there are two sides to every question and try to look at them both") could not be reworded to assess social perspective-taking specifically in a dyadic friendship, and this item was not used.

Participants indicated how well each item described them using a 5-point Likert scale ranging from "Does not describe me at all" (0) to "Describes me very well" (4). Total scores were the mean scores across items. The 19 items formed a reliable single scale (Cronbach's α = .88).

Friendship quality—Friendship quality was assessed using a revision of the Friendship Quality Questionnaire (Rose, 2002, revision of Parker & Asher, 1993). This 18-item scale included 3 items to assess each of six qualities: validation and caring, conflict resolution, help and guidance, companionship and recreation, intimate exchange, and conflict and betrayal. Questionnaires were customized with the name of the friend inserted in each item. Participants indicated how true each item was using a 5-point Likert scale ranging from "Not at all true" (0) to "Really true" (4). Because the interest in the current study was positive friendship quality, the three conflict and betrayal items were dropped. Positive friendship quality scores were the mean of the remaining 15 items (α = .95).

Empathetic distress—Participants responded to a 12-item measure of the new construct, empathetic distress. These items assess elevated negative affective responses to a friend's experience of distress. This measure included two items adapted from Gore, Aseltine, and Colten's (1993) Interpersonal Caring Orientation scale, two items adapted from Mehrabian and Epstein's (1972) measure of emotional empathy, and eight original items. All items were revised to assess empathetic distress in the context of a specific friendship, and all youth received a customized questionnaire with the friend's name inserted in each item. An example item adapted from the Interpersonal Caring Orientation scale (Gore et al., 1993) is "I worry a lot about [friend's name] when I know something is bothering her/him." An example item adapted from Mehrabian and Epstein's (1972) measure is "It's hard for me to feel ok if [friend's name] seems depressed." A new item is "If [friend's name] is having a tough time, just knowing how bad he/she must feel makes me feel upset too." Participants

indicated how well each item describes them using a 5-point Likert scale ranging from "Does not describe me at all" (0) to "Describes me very well" (4). Total scores for the measure were the mean item scores. The internal reliability was high for the new empathetic distress measure (Cronbach's α = .95).

Co-Rumination—Co-rumination was assessed with a revised version of Rose's (2002) Co-Rumination Questionnaire. The original measure, which assesses co-rumination with friends in general, was revised to assess co-rumination in a specific friendship using customized questionnaires. This 27-item scale assesses nine content areas: frequency of discussing problems, discussing problems instead of engaging in other activities, encouragement by the focal child of the friend's discussing problems, encouragement by the friend of the focal child's discussing problems, discussing the same problem repeatedly, speculation about causes of problems, speculation about consequences of problems, speculation about parts of the problem that are not understood, and focusing on negative feelings. An example item is "When we talk about a problem that one of us has, we'll talk about every part of the problem over and over." Youth rated each item on a 5-point Likert scale from "Not at all true" (1) to "Really true" (5). Total co-rumination scores were the mean of all items (α = .97).

Results

In the following sections, the first analyses presented are tests of the psychometric properties of the new empathetic distress measure. Then, the approach for analyzing the dyadic data is discussed. Next, the results of the tests of mean-level gender and grade differences are presented. Finally, analyses testing the proposed relations among the variables are presented. For descriptive purposes, correlations among all study variables are presented in Table 1.

Psychometric Properties of the New Empathetic Distress Measure

Given that empathetic distress is a new construct, analyses tested the psychometric properties of the new measure. An exploratory factor analysis was conducted. Based on the eigenvalues, a single factor was retained (first eigenvalue = 22.04; second eigenvalue = .92). One item ("It is easy for me to stay cheerful when [friend's name] talks to me about something bad that happened to him/her") had a factor loading near zero and was dropped. All other items loaded on the single factor and were retained (factor loadings ranged from . 70 to .86). Not surprisingly, then, a CFA also indicated that a one-factor model that excluded the item that had a near zero loading on the EFA fit the data well (CFI = .96; RMSEA = . 08). In addition, multi-group mean and covariance structures (MACS) analyses were conducted to test whether the structure of the new measure differed by gender (see Card & Little, 2006; Little, 1997). The unrestricted model (in which factor loadings and indicator intercepts were free to vary by gender) did not fit the data better than the restricted model (i.e., loadings and intercepts were restricted to be equal for girls and boys; ΔNNFI < .05; see Little, 1997) indicating measurement invariance across gender. Finally, as stated previously, results indicated high internal reliability (α= .95).

Data Analytic Approach

Because friends are more similar to one another than non-friends (Campbell & Kashy, 2002), interdependence of data was a concern. In fact, significant or marginally significant intraclass correlations (ICCs) emerged between friends' scores for social perspective-taking (ICC = .12, $p < .10$), friendship quality (ICC = .54, $p < .0001$), empathetic distress (ICC = . 45, $p < . 0001$), and co-rumination (ICC = .35, $p < . 0001$). Therefore, ordinary analysis of variance and regression analyses were not appropriate because they assume independence of observations (Kenny & Judd, 1986). Instead, methods for analyzing interdependent dyadic

data outlined by Kenny, Kashy, and Cook (2006) were used. In the next section, multilevel models were used to test for mean-level gender and grade differences. In the following sections, a structural equation modeling (SEM) approach for dyadic data was used.

Gender and Grade Differences

A multilevel model with youth nested in dyads was conducted for each variable to test the effects of gender, grade, and their interaction. Means and standard deviations are presented by gender, by grade, and by gender within each grade in Table 2. The results of the analyses also are summarized in Table 2. Significant gender effects emerged for each variable, with girls reporting higher social perspective-taking, positive friendship quality, empathetic distress, and co-rumination than boys. One significant grade effect emerged. This grade effect emerged for empathetic distress, with 8th grade youth reporting the lowest empathetic distress. The interactions were significant or approached significant for every construct. The interaction approached significance for social perspective-taking ($t = 1.60$, $p = .11$), with the strongest gender difference favoring girls found in the 8th grade (6th grade, $t = 1.95$, $p < .05$, $d = .42$; 7th grade, $t = 1.08$, *ns,* $d = .27$; 8th grade, $t = 4.17$, $p < .0001$, $d = .71$). The interaction was significant for friendship quality ($t = 2.31$, $p < .05$), with the strongest gender effect in the 8th grade (6th grade, $t = 2.31$, $p < .05$, $d = .58$; 7th grade, $t = 2.12$, $p < .05$, $d = .56$; 8th grade, $t = 6.07$, $p < .0001$, $d = 1.25$). The interaction also was significant for empathetic distress ($t = 2.37$, $p < .05$). Again, the gender effect was the strongest in the 8th grade (6th grade, $t = 3.14$, $p < .01$, $d = .78$; 7th grade, $t = 2.98$, $p < .01$, $d = .78$; 8th grade, $t = 8.30$, $p < .0001$, $d = 1.47$). Last, the interaction was significant for co-rumination ($t = 2.32$, $p < .05$), with the strongest gender effect in the 8th grade (6th grade, $t = 2.46$, $p < .05$, $d = .52$; 7th grade, $t = 1.61$, $p = .12$, $d = .44$; 8th grade, $t = 5.98$, $p < .0001$, $d = 1.20$). Overall, then, the pattern of results indicated that gender differences favored girls in regards to social perspective-taking, friendship quality, empathetic distress, and co-rumination and were strongest among the oldest youth in the study.

SEM Approach for Examining Relations Among Social Perspective Taking. Friendship Quality, Empathetic Distress, and Co-Rumination

In the following sections, an SEM approach was used to examine relations among variables. An SEM approach was preferable over other data analytic approaches (e.g., multilevel modeling) because it allowed for the estimation of models in which variables simultaneously serve as predictors and outcomes, as is the case with mediation analyses. An SEM approach that took into account the interdependence of the dyadic data was adopted (Kenny et al., 2006; Olsen & Kenny, 2006). Specifically, paths were modeled for each friend, but equality restrictions were imposed such that all parameters in the model (e.g., the predictor means, predictor variances, outcome intercepts, residual variances, and regression coefficients) were constrained to have the same values for both friends.

For example, consider a model in which friendship quality is predicted from social perspective-taking (see Figure 1). The path from social perspective-taking to friendship quality is modeled both for Friend A (Path A) and Friend B (Path B). However, these paths are constrained to be equal because there is no reason to expect the paths to differ between the two friends given that the dyad members were indistinguishable. That is, dyad members belonged to a single class (i.e., friendship partners were same-age and same-sex) and there was not a meaningful dimension (e.g., sex) on which it would be important to distinguish them. The covariances between the friends also were estimated in these models to account for the interdependence between friends. Finally, model fit indices were adjusted to take into account the arbitrary assignment of friends to A and B (see Olsen & Kenny, 2006).

For each of the following models, a multi-group model was first fitted to test for gender and grade differences in relations. For each model, gender differences in relations were examined by comparing a restricted model (i.e., regression paths were restricted to be equal for girls and for boys) with an unrestricted model (i.e., regression paths were freed to vary by gender). A parallel analysis examined grade differences. Finally, gender and grade differences were tested together by fitting the models separately for boys and girls within each grade (for a total of six separate models, one for 6th grade boys, 6th grade girls, 7th grade boys, 7th grade girls, 8th grade boys, and 8th grade girls). These six models were fit with and without restricting the regression paths to be equal across groups. Model comparisons revealed no significant improvement in model fit when the paths were freed across gender and/or grade. Accordingly, the following analyses were conducted collapsing across gender and grade.

In addition, it was of interest to test whether the results from the SEM analyses presented in the next sections would differ depending on whether gender, grade, or friendship type (i.e., whether the dyad was composed of youths who nominated each other as very best friend-very best friend, very best friend-best friend, best friend-best friend, etc.) were controlled in the models. Results indicated that including these covariates in the models presented in the following sections did not result in important changes to the modeled paths (results from these additional models are available upon request from the authors). Therefore, in the following sections, we present the more parsimonious models that do not include the covariates.

Relations of Social Perspective-Taking with Friendship Quality and Empathetic Distress

To test whether social perspective-taking was related to greater friendship quality and empathetic distress, an SEM model predicting friendship quality and empathetic distress from social perspective-taking was fit. This model had a satisfactory fit, χ^2 (14) = 18.06, p = .20; CFI = .99; RMSEA = .06, and is presented in Figure 2 (Panel 1). Social perspective-taking was a significant positive predictor of both friendship quality (β = .64, p < .0001) and empathetic distress (β = .61, p < .0001).

Co-Rumination as a Mediator

Next, whether associations of social perspective-taking with friendship quality and empathetic distress were mediated by co-rumination was tested. The model described in the last section was re-fit to include co-rumination as a mediator. In addition to the direct paths from social perspective-taking to friendship quality and empathetic distress, the paths from social perspective-taking to co-rumination and from co-rumination to friendship quality and empathetic distress were included. The model had a good fit, χ^2 (24) = 12.59, p = .97; CFI = 1.00; RMSEA = .00, and is presented in Figure 2 (Panel 2).

In this model, social perspective-taking significantly predicted co-rumination, which significantly predicted both friendship quality and empathetic distress. In terms of friendship quality, the effect of social perspective-taking on friendship quality in the previous model in which co-rumination was not controlled was β = .64. In the model in which co-rumination was controlled, this effect dropped to β = .49. In fact, the indirect effect of social perspective-taking on friendship quality through co-rumination was significant (*Sobel's test statistic* = 7.17, p < .0001; see MacKinnon, Warsi, & Dwyer, 1995). These findings indicated that co-rumination partially mediated the effect of social perspective-taking on friendship quality. In terms of empathetic distress, the effect of social perspective-taking on empathetic distress in the previous model in which co-rumination was not controlled was β = .61. In the model that controlled for co-rumination, this effect dropped to β = .46. In addition, the indirect effect of social perspective-taking on empathetic distress through co-

rumination was significant (*Sobel's test statistic* = 7.12, $p < .0001$), indicating that co-rumination partially mediated the effect of social perspective-taking on empathetic distress. Overall then, co-rumination helped to account for the effects of social perspective-taking on both friendship quality and empathetic distress.

Mediation of the Effect of Gender

Last, analyses tested whether the effects of gender on friendship quality and empathetic distress were at least partially accounted for by girls' greater social perspective-taking and co-rumination. For comparison, a model was fit that tested only the direct effects of gender on friendship quality and empathetic distress. This model is presented in Figure 3 (Panel 1). The model had a good fit, χ^2 (8) = .03, $p = 1.00$; CFI = 1.00; RMSEA = .00. As expected, given the previous analyses, gender predicted friendship quality ($\beta = .39$, $p < .0001$) and empathetic distress ($\beta = .47$, $p < .0001$).

Next, the model was re-fit in order to test whether the effects of gender on friendship quality and empathetic distress were at least partially accounted for by social perspective-taking and co-rumination. The model again included the direct paths from gender to friendship quality and to empathetic distress. In addition, the model included paths from gender to social perspective-taking, from social perspective-taking to co-rumination, and from co-rumination to friendship quality and to empathetic distress. This model is presented in Figure 3 (Panel 2). This model also had a good fit, χ^2 (27) = 13.82, $p = .98$; CFI = 1.00; RMSEA = .00. In this model, the effect of gender on friendship quality was reduced from $\beta = .39$ (found in the previous model that did not include the mediators) to $\beta = .14$. In addition, the indirect effect of gender on friendship quality through social perspective-taking and co-rumination was significant (*Sobel's test statistic* = 14.19, $p < .0001$), indicating that social perspective-taking and co-rumination partially mediated the effect of gender on friendship quality. Also, the effect of gender on empathetic distress was reduced from $\beta = .47$ (found in the previous model that did not include the mediators) to $\beta = .24$. The indirect effect of gender on empathetic distress through social perspective-taking and co-rumination was also significant (*Sobel's test statistic* = 15.06, $p < .0001$), indicating that social perspective-taking and co-rumination partially mediated the effect of gender on empathetic distress. Together, these results indicate that social perspective-taking and co-rumination helped to account for gender differences in friendship quality and empathetic distress.

Discussion

Adolescence can be an emotionally tumultuous time, and adolescent girls' emotional well-being has been a key concern for parents, teachers, clinicians, and researchers. Although the idea that girls suffer emotionally because they take on others' problems is well-accepted in the literature (Helgeson, 1994; Nolen-Hoeksema & Girgus, 1994; Rose & Rudolph, 2006; Zahn-Waxler et al., 1991), the idea has received surprisingly little empirical attention. The present research contributes to our understanding of how girls come to experience emotional costs of caring by introducing a new construct, empathetic distress, which captures girls' tendency to take on others' distress as their own in their close friendships.

In fact, one of the major contributions was the development of the new measure of empathetic distress. Researchers previously have found relations between females' exposure to others' problems and their own emotional difficulties and have taken these findings to mean that girls and women suffer as a result of taking on others' distress (Gore et al., 1993; Kessler & McLeod, 1984). However, these studies did not directly test whether girls shared in the emotional distress of others. The new measure of empathetic distress assessed youths' tendency to take on a friend's distress and experience it as their own. Importantly, the new

measure had strong measurement properties including a single-factor structure, high internal reliability, and expected associations with other variables.

The development of the measure, in conjunction with the assessment of related constructs, allowed for the identification of important differences between girls and boys. On the positive side for girls, girls had greater social perspective-taking skills in that they were more likely than boys to report a tendency to adopt and understand friends' points of view. These skills were linked with experiencing friendships characterized by high positive quality, which also was more common among girls. However, these same social perspective-taking skills also were associated with emotional costs in the form of empathetic distress in friendships, which was more common among girls too. Notably, the trade-offs of social perspective-taking in regards to its relations with both positive friendship quality and empathetic distress were partially accounted for by co-rumination, a construct also demonstrated to have adjustment trade-offs especially for girls (e.g., Rose et al., 2007).

It is easy to imagine how these processes could unfold in girls' friendships. Girls with the tendency to take and understand friends' points of view may have particularly sophisticated and nuanced perspectives on friends' problems, which may contribute to problem talk that is extended, detailed, and speculative. These co-ruminative conversations, then, may be related to perceptions of the friendship as high-quality due to the social sharing inherent in co-rumination but also to empathetic distress given that the exposure to friends' problems is frequent, repetitive, and characterized by negative affect.

Moreover, in keeping with research indicating that gender differences become stronger at adolescence (Hill & Lynch, 1983), the results also suggest an intensification of gender differences with age. For social perspective-taking, although the gender difference was present by the sixth grade, the difference was strongest in the eighth grade. An examination of the means indicated that the genders diverged because boys' tendency to take the perspective of friends decreased. As such, boys may be increasingly protected from empathetic distress but also increasingly unlikely to experience the benefits of high-quality friendships. Similar to social perspective-taking, the gender differences for co-rumination, friendship quality, and empathetic distress also were strongest among the older youth.

Notably, the findings regarding the adjustment trade-offs of social perspective-taking fit with a recent movement in developmental research toward recognizing that behavioral and social-cognitive styles can simultaneously have both positive and negative outcomes. Historically, research typically focused on the idea that some behaviors are positive and should be fostered (e.g., prosocial behavior), whereas others are maladaptive and should be discouraged (e.g., aggression). Recently, though, researchers have begun to move away from conceptualizing behavioral and social-cognitive styles in dichotomous terms and instead have worked to identify adjustment trade-offs. As examples, recent work indicates that investment in personal goals is linked with positive emotions such as happiness and pride but also with worrying (Pomerantz & Shim, 2008), that concerns about social evaluation are related to both social competence and depression (Rudolph & Conley, 2005), and that aggression can sometimes confer risk for peer rejection but also has the potential to afford elevated social status (Hawley, Little, & Rodkin, 2007). Until this point, though, social perspective-taking has not received a similar level of critical analysis. Instead, researchers have focused on the benefits of social perspective-taking (e.g., Bosacki & Astington, 1999; Selman 1980). Our study moves the conceptualization of social perspective-taking forward by identifying that it too has adjustment trade-offs.

Moreover, the current findings also are in line with Rose and Rudolph (2006)'s proposal that there are adjustment trade-offs of girls' and boys' peer relationship styles. According to this

proposal, girls' heightened sensitivity to and investment in interpersonal relationships promotes close friendships but simultaneously confers risk for internalizing problems. The current findings fit in this framework by revealing that social perspective-taking in friendships, which is more characteristic of girls than boys, predicts positive friendship quality but confers risk for empathetic distress. In fact, meditational analyses indicated that the effects of gender on positive friendship quality and empathetic distress were partially accounted for by social perspective-taking and the associated construct of co-rumination.

Although these initial results are promising, there also are limitations to be addressed in future research. Further strengthening some aspects of the design in future studies would be useful. Studies using methods other than self-reports (e.g., observational assessments of co-rumination) would increase confidence in the results and alleviate potential concerns regarding shared method variance. In addition, replicating the current findings with an even larger sample would be helpful for testing gender and grade effects. The current study included reasonably large samples of girls and boys and youth in each grade. However, the samples of girls and boys within each grade were smaller. In regards to mean-level gender and grade differences, there was sufficient power to detect interactions between gender and grade. However, the analyses did not reveal gender and/or grade differences in the associations among variables. Replication with an even larger sample would further increase confidence in these results. Additionally, future studies should follow youth over time. The current work was motivated by the idea that social perspective-taking predicts co-rumination, which then leads to positive friendship quality but also empathetic distress. Longitudinal studies are needed to support this hypothesized direction of effect. Such studies also would allow for testing bidirectional associations and feedback loops. For example, although we proposed that social perspective-taking would predict high-quality friendships, it also may be the case that high-quality friendships serve as an important training ground for the development of social perspective-taking skills. Finally, future studies also should take into account the possible role of social desirability. Youth may be aware of traditional gender roles (e.g., females are concerned/caring, males are reserved/independent; see Leaper, 2000), which may prompt them to respond to measures in a sex-typed manner that could be perceived as socially desirable. If future research replicates the gender differences while controlling for individual differences in social desirability, this would be helpful as well.

In addition, future research could examine how these processes unfold across development. For example, considering trade-offs of social perspective-taking among adults will be important. Although past work demonstrates benefits of social perspective-taking for adults' romantic relationships (Franzoi et al., 1985; Rusbult et al., 1991), research is needed to examine potential costs of social perspective-taking for adults. For example, given that gender differences in social perspective-taking favoring women are found in adulthood (Davis, 1980), women's social perspective-taking abilities could present special challenges in romantic relationships with men. In particular, the marriage literature indicates that wives are more likely than husbands to hold unrealistic expectations that their spouses should know what they are thinking and feeling, without their explicitly stating these thoughts and feelings (e.g., Foran & Slep, 2007). If women are especially skilled at social perspective-taking and are able to infer their husbands' thoughts and feelings without the husband explicitly expressing them, they may assume that husbands should be able to do the same and become frustrated when they do not.

Considering the generalizability of findings will be important too. The current study involved an ethnically diverse, low-income sample, which was a benefit of the research given that the majority of research on youths' friendships focuses on White, middle-income youth (Graham, Taylor, & Ho, 2009). Although supplementary analyses did not indicate

important ethnic differences in our sample, it is unknown whether the same results would emerge in middle- or higher-income samples. Socioeconomically disadvantaged youths experience greater stress in their daily lives than other youths (DuBois et al., 1994), likely due to poverty, violence, and limited resources in low-income neighborhoods. It is possible that already elevated stress levels could increase lower-income youths' susceptibility to empathetic distress. However, an alternative hypothesis is that lower-income youth are consumed with their own stress to the degree that they are less able and likely to take on others' negative affect in the form of empathetic distress.

Examining empathetic distress in other cultures will be interesting as well. For example, whereas American culture strongly emphasizes the self as unique and independent, many Asian cultures emphasize interdependence and connectedness among individuals (Markus & Kitayama, 1991). It may be then that youths in some Asian cultures experience even greater empathetic distress because the division between self and others is blurred, making it more likely that youths will take on the distress of others as their own. Further, if interdependence in these cultures is emphasized equally among males and females, then gender differences in empathetic distress may be minimized.

Finally, in terms of applied implications, results from the current study suggest some challenges for intervening with youths who experience costs of caring in the form of empathetic distress. Typically, interventions designed to address negative outcomes involve strategies aimed at decreasing or even eliminating the behaviors or cognitions that confer risk for the negative outcomes. However, the current findings suggest that this would mean discouraging social perspective-taking among youth. Clearly, though, such efforts would seem misguided given the benefits of social perspective-taking identified in the current research and in many previous studies. Interventions, then, will need to be especially nuanced and focus on balancing concern for others with ones' own well-being.

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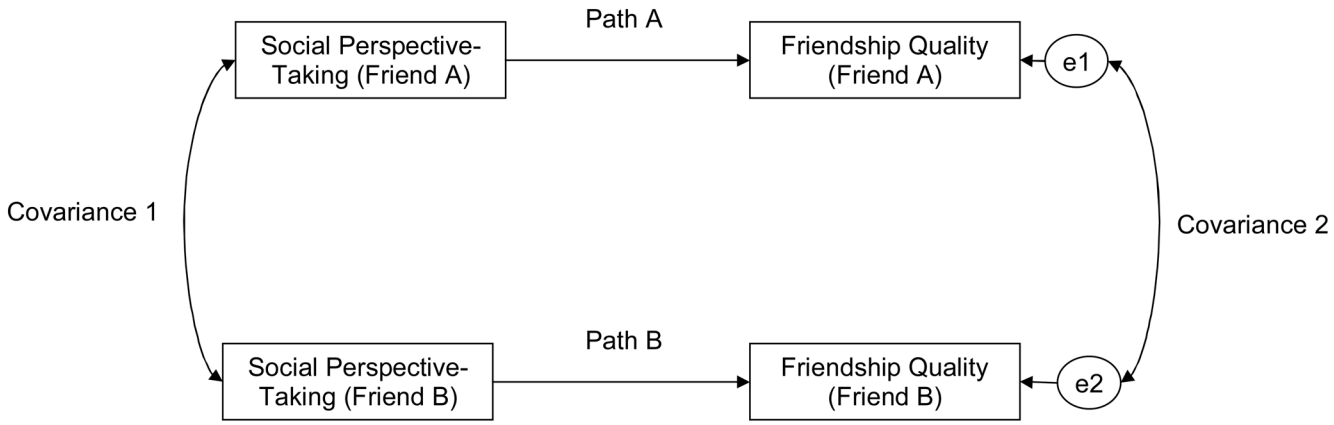
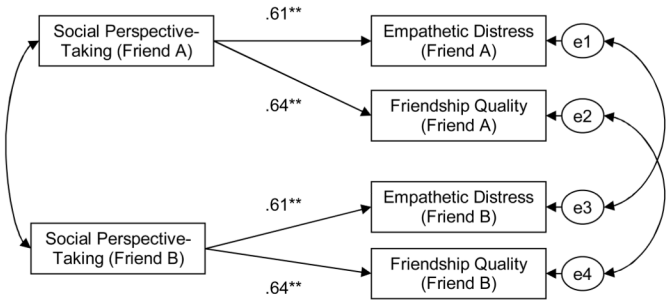


Figure 1.
Example dyadic model.

Panel 1. Adjustment trade-offs model



Panel 2. Adjustment trade-offs mediation model

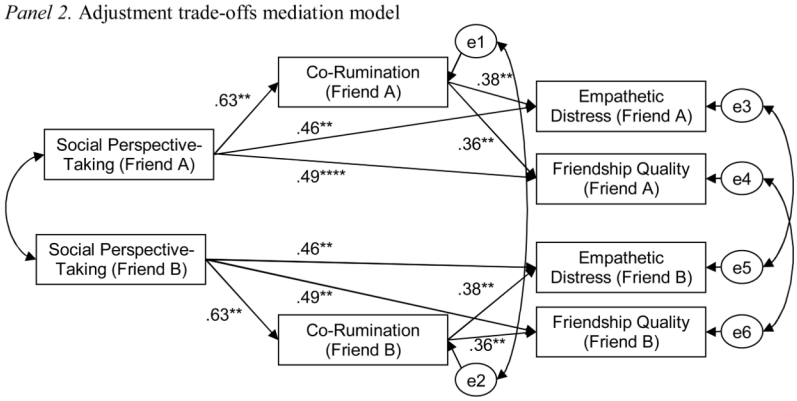
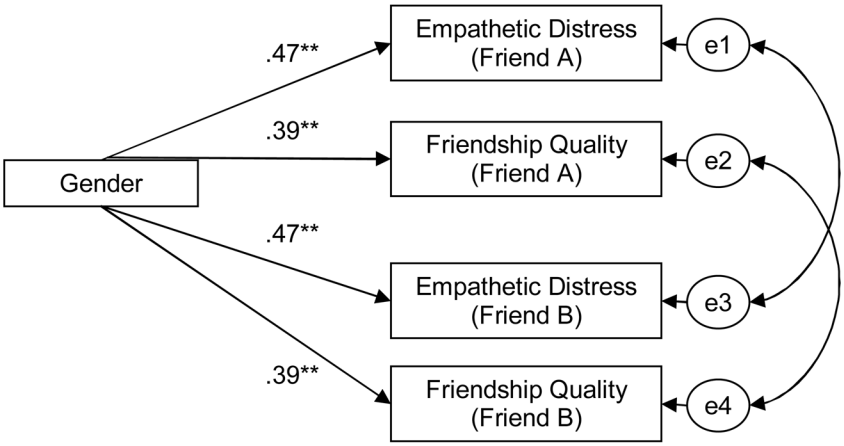


Figure 2.

Adjustment trade-offs of social perspective-taking. *Notes.* Residual covariances (not shown) were modeled within and across youths between the outcome variables. $^{**}p < .01$.

Panel 1. Gender differences model



Panel 2. Gender differences mediation model

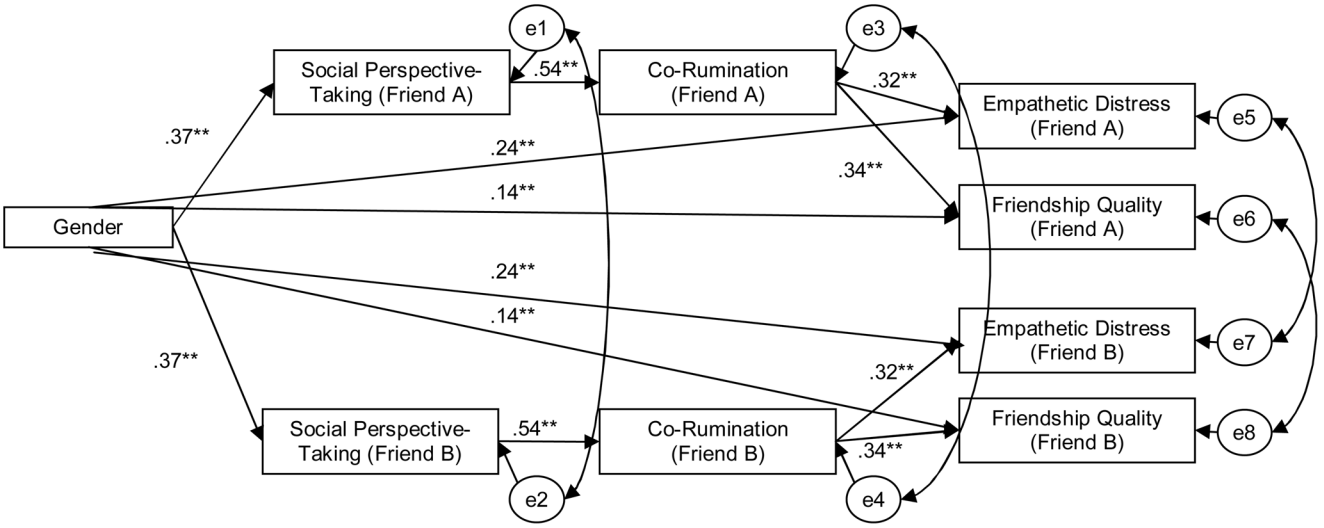


Figure 3.

Gender differences in adjustment outcomes. *Notes.* Residual covariances (not shown) were modeled within and across youths between the outcome variables. $^{**}p < .01$.

Table 1

Correlations Among Study Variables and Whole Sample Means and Standard Deviations

	M (SD)	1.	2.	3.	4.
1. Social Perspective-Taking	2.32 (.58)	--			
2. Friendship Quality	2.51 (1.02)	.68**	--		
3. Empathetic Distress	2.27 (1.06)	.64**	.72**	--	
4. Co-Rumination	2.40 (.98)	.45**	.63**	.60**	--

Notes. $N = 308$.

** $p < .01$. Variable means are presented with standard deviations in parentheses.

Table 2

Mean-Level Gender and Grade Differences

Variable	*M* (*SD*)	*M* (*SD*)	*t* value	*d*	γ	$CI_{.95}$	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*t* value	γ	$CI_{.95}$
	Girls [*N* = 178]	Boys [*N* = 130]					Grade 6 [*N* = 90]	Grade 7 [*N* = 82]	Grade 8 [*N* = 136]			
Social Perspective-Taking	2.44 (.50)	2.16 (.63)	4.25**	.49	−.28	−.41, −.15	2.35 (.52)	2.43 (.48)	2.24 (.65)	1.56	−.06	−.14, .02
Friendship Quality	2.85 (.85)	2.04 (1.06)	6.12**	.84	−.81	−1.07, −.55	2.51 (1.00)	2.71 (.83)	2.38 (1.13)	.91	−.08	−.25, .09
Empathetic Distress	2.68 (.82)	1.69 (1.09)	7.91**	1.03	−.99	−1.24, −.74	2.41 (1.02)	2.46 (.89)	2.06 (1.16)	2.22*	−.19	−.36, −.02
Co-Rumination	2.70 (.94)	2.00 (.90)	5.90**	.76	−.70	−.94, −.45	2.36 (.94)	2.54 (.86)	2.34 (1.07)	.27	−.02	−.17, .13
	Grade 6 Girls [*N* = 52]	Grade 6 Boys [*N* = 38]										
Social Perspective-Taking	2.45 (.49)	2.23 (.56)	1.95*	.42	−.22	−.43, .00						
Friendship Quality	2.75 (.92)	2.19 (1.02)	2.31*	.58	−.56	−1.05, −.07						
Empathetic Distress	2.73 (.80)	1.97 (1.13)	3.14**	.78	−.77	−1.26, −.27						
Co-Rumination	2.57 (.89)	2.09 (.96)	2.46*	.52	−.49	−.89, −.09						
	Grade 7 Girls [*N* = 44]	Grade 7 Boys [*N* = 38]										
Social Perspective-Taking	2.49 (.45)	2.36 (.51)	1.08	.27	−.13	−.38, .11						
Friendship Quality	2.92 (.76)	2.47 (.85)	2.12*	.56	−.46	−.89, −.02						
Empathetic Distress	2.76 (.80)	2.11 (.86)	2.98**	.78	−.65	−1.10, −.21						
Co-Rumination	2.71 (.80)	2.34 (.89)	1.61	.44	−.37	−.84, .10						
	Grade 8 Girls [*N* = 82]	Grade 8 Boys [*N* = 54]										
Social Perspective-Taking	2.42 (.54)	1.97 (.71)	4.17**	.71	−.45	−.65, −.23						
Friendship Quality	2.87 (.87)	1.64 (1.08)	6.07**	1.25	−1.23	−1.64, −.83						
Empathetic Distress	2.61 (.86)	1.21 (1.04)	8.30**	1.47	−1.40	−1.74, −1.06						
Co-Rumination	2.78 (1.03)	1.69 (.76)	5.98**	1.20	−1.09	−1.46, −.73						

Notes.

$^{*}p \leq .05$.

$^{**}p < .01$. Means are presented with standard deviations in parentheses. *n*s are in brackets. *t* values, parameter estimates (γs), and 95% confidence intervals are from multi-level analyses in which each variable was predicted by gender, grade, or gender within each grade.