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## Adjustment Trade-Offs of Co-Rumination in Mother-Adolescent Relationships

Erika M. Waller<sup>a</sup> and Amanda J. Rose<sup>b</sup>

<sup>a</sup> 210 McAlester Hall, Department of Psychological Sciences, University of Missouri, Columbia, Missouri 65211, 573-882-2686 (telephone), 573-882-4583 (fax), WallerE@missouri.edu

<sup>b</sup> 210 McAlester Hall, Department of Psychological Sciences, University of Missouri, Columbia, Missouri 65211, 573-884-4669 (telephone), 573-882-7710 (fax), RoseA@missouri.edu

### Abstract

The current study examined co-rumination (i.e., extensively discussing, rehashing, and speculating about problems) in the context of mother-adolescent relationships. Fifth-, eighth-, and eleventh-graders ( $N = 516$ ) reported on co-rumination and more normative self-disclosure with mothers, their relationships with mothers, and their own internalizing symptoms. A subset of mothers ( $N = 200$ ) reported on mother-adolescent co-rumination and self-disclosure. Results from the adolescent-report data indicated greater mother-adolescent co-rumination with daughters than sons and also adjustment trade-offs of mother-adolescent co-rumination. Mother-adolescent co-rumination was related to positive relationship quality but also to enmeshment in the relationship. Whereas the relation with positive relationship quality appeared to be due in part to normative self-disclosure, the relation with enmeshment was unique to co-rumination. Mother-adolescent co-rumination also was related to youth anxiety/depression. The relations with enmeshment and internalizing symptoms were strongest when co-rumination focused on the mothers' problems. Implications of mother-adolescent co-rumination for promoting appropriate relationship boundaries and youth well-being are discussed.

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Having social support and talking about problems are generally thought to be positive and adaptive. Therefore, it may seem counterintuitive that for some individuals seeking support and talking about problems could become “too much of a good thing.” However, growing evidence indicates that some people co-ruminate, or excessively discuss problems, and that co-rumination carries risks as well as benefits (Calmes & Roberts, 2008; Rose, 2002; Rose, Carlson, & Waller, 2007; Starr & Davila, 2009). Research on co-rumination in youth has focused on co-rumination in friendships and indicates that co-rumination is related to positive social adjustment (e.g., high-quality friendships) but also problematic emotional adjustment (e.g., depressive and anxiety symptoms; Rose, 2002; Rose et al., 2007; Starr & Davila, 2009).

Given increasing support for the idea that co-rumination has adjustment trade-offs, learning more about co-rumination in adolescents' relationships other than friendships is important. The current study focuses on co-rumination with mothers. Adolescence is a critical period in which to study co-rumination with mothers. Mothers may co-ruminate more with adolescents than younger youth because they are more adept conversation partners. However, the intense,

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Correspondence to: Erika M. Waller.

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personal nature of co-rumination seems inconsistent with autonomy development, a major task of adolescence. The current study aims to examine the prevalence of mother-adolescent co-rumination, relations of mother-adolescent co-rumination with adjustment in the mother-adolescent relationship and the youths' emotional well-being, and the degree to which these relations are unique to co-rumination versus overlapping with normative self-disclosure.

### The Constructs of Self-Disclosure and Co-Rumination

Co-rumination has been defined as excessively discussing problems in a relationship and is characterized by frequently discussing problems, rehashing problems, mutually encouraging problem talk, speculating about problems, and focusing on negative feelings. Importantly, co-rumination has been demonstrated to be distinct from related constructs of rumination and self-disclosure (Rose, 2002). Co-rumination and rumination are similar in that both have a negative focus. However, whereas rumination entails thinking about problems and negative affect oneself, co-rumination is a social disclosure process. Co-rumination and self-disclosure are similar because they involve personal sharing. Co-rumination is distinct from self-disclosure, however, in that the sharing about negative topics is excessive and repetitive in nature. Thus, only co-rumination captures both the negative emotional aspects of rumination and the positive relational aspects of normative self-disclosure.

The distinction documented in prior research (Rose, 2002) between co-rumination and more normative self-disclosure is of particular relevance for the current research, which also examined unique versus overlapping associations of co-rumination and self-disclosure. In the study of friendships (Rose, 2002), items such as those typically used to examine self-disclosure in friendships were used to assess normative self-disclosure (e.g., “We talk about things that make us sad.”). Items developed to assess co-rumination were more extreme, repetitive, and speculative (e.g., “When we talk about a problem that one of us has, we usually talk about that problem every day even if nothing new has happened.” and “When we talk about a problem that one of us has, we try to figure out everything about the problem, even if there are parts that we may never understand.”). The correlation between self-disclosure and co-rumination was relatively high ( $r = .61$ ) but also indicated that the constructs were not redundant (self-disclosure scores accounted for 37% of the variance in co-rumination scores).

Moreover, the distinction between the two constructs was further demonstrated in that differential relations were observed with adjustment. Co-rumination and self-disclosure were both positively correlated with having friendships of high quality. However, when co-rumination and self-disclosure were simultaneous predictors, the relation between co-rumination and friendship quality became notably weaker (the relation between self-disclosure and friendship quality remained strong). These results imply that co-rumination was related to positive friendship quality, at least in part, due to variance shared with self-disclosure. In contrast, even though self-disclosure and co-rumination also were both positively related to depressive and anxiety symptoms, when self-disclosure and co-rumination were simultaneous predictors only co-rumination was related to these symptoms. These results indicated that self-disclosure did not have a unique association with internalizing symptoms and was only correlated with internalizing symptoms due to shared variance with co-rumination.

Together these findings suggest that considering unique and overlapping relations of self-disclosure and co-rumination with adjustment is important conceptually and has applied implications. Of conceptual significance, the findings for friendship quality suggest that co-rumination may be related to friendship quality, at least in part, due to the social sharing processes inherent in normative self-disclosure. In terms of applied significance, the results suggest different emotional adjustment correlates for those who disclose at normative levels versus those who carry conversations about problems to a co-ruminative extreme. Specifically, finding that self-disclosure was not uniquely related to internalizing symptoms after controlling

for co-rumination implies that youth who disclose at normative levels (and refrain from co-rumination) may not experience elevated depression and anxiety.

### **The Prevalence of Co-Rumination in Mother-Adolescent Relationships**

As noted, the first goal of the current study was to extend previous research on co-rumination in youths' friendships by examining the degree to which co-rumination characterizes mother-adolescent relationships. We expected that at least some adolescents and their mothers co-ruminate. Zahn-Waxler (2000) alludes to this possibility when stating "if intense focus is placed on discussion of negative emotions (especially regarding the family environment, parental problems, and parent-child relationships), conditions may be ripe for perseveration on interpersonal problems (p. 246)." Moreover, we expected that co-rumination about adolescents' problems would be more common than co-rumination about mothers' problems. Certainly mothers disclose to children about day-to-day problems (e.g., financial strain; McLoyd & Wilson, 1992) and more major issues (e.g., HIV status; Schrimshaw & Siegel, 2002). However, given the hierarchical nature of the relationship and mothers' role as caregivers, it may be less appropriate for mothers to disclose to their children, especially if the disclosure is extensive and in detail. Adolescents disclosing about problems (even frequently, repetitively, and in detail) may be more developmentally appropriate and, therefore, common.

One recent study with undergraduates did indicate that some young adults report co-rumination with parents (Calmes & Roberts, 2008). Calmes and Roberts (2008) used the co-rumination measure designed for the current study, which separately assesses co-rumination about the child's problems and parent's problems. However, because Calmes and Roberts collapsed across these subscales for analyses, the study did not speak to whether the co-rumination focused more on the parents' or young adults' problems. Moreover, there may be important differences in the prevalence and correlates of parent-child co-rumination for adolescents versus young adults.

The prevalence of mother-adolescent co-rumination also may vary by gender and adolescent age. We expected that mothers would co-ruminate with daughters more than sons. This fits with research indicating that mothers talk about problems and negative emotions more with daughters than sons (e.g., Eisenberg, 1999; Reese & Fivush, 1993) and that daughters respond to mothers' distress with more empathy than do sons (e.g., Klimes-Dougan & Bolger, 1998; Radke-Yarrow, Zahn-Waxler, Richardson, Susman, & Martinez, 1994). Girls also report co-ruminating with friends more than boys do (Rose, 2002; Rose et al., 2007). Calmes and Roberts (2008) did not find a gender difference in co-rumination with parents among undergraduates. However, during young adulthood, both men and women reported very low levels of co-rumination with parents, which may help to explain the similarity across genders.

The current sample included youth ranging from preadolescence to later adolescence, and developmental differences also are examined. Predictions regarding these differences are challenging to make, however. Mothers may co-ruminate more with older adolescents because they perceive that discussing problems, especially their own, is more appropriate with older youth. However, because adolescents depend more on peers and less on parents for social support with age (Buhrmester & Furman, 1987; Hartup, 1996), co-rumination with mothers may be more common among younger youth.

### **Associations of Mother-Adolescent Co-Rumination with Relationship and Emotional Adjustment**

Another major goal of the current research was to examine relations of adolescents' co-rumination with mothers with mother-adolescent relationship adjustment and youth emotional well-being. On the positive side, we expected that co-rumination with mothers would be related

to high relationship quality (i.e., characterized by closeness, support, and affection) given the social sharing that is inherent in co-rumination. This hypothesis fits with the large body of literature indicating that open communication between children and parents is related to positive parent-child relationships in addition to many other positive aspects of development (e.g., Kerr & Stattin, 2000; see Maccoby & Martin, 1983; Parke & Buriel, 2006). The hypothesis also is consistent with past research indicating that friends who co-ruminate report having high-quality friendships (Rose, 2002; Rose et al., 2007). In fact, Calmes and Robert (2008) found that parent-child co-rumination in young adulthood was indeed related to positive relationship quality.

The current study not only tested the relation between mother-adolescent co-rumination and relationship quality in adolescence but also extended past research by testing whether co-rumination has adjustment trade-offs even within the context of relationships with mothers. Specifically, we expected co-rumination also to be related to relationship boundary problems, namely, enmeshment. Enmeshment refers to extremely high levels of cohesion, or closeness, between family members (e.g., Olson, 2000). Enmeshment is a maladaptive trait characterizing families in which there is a lack of appropriate boundaries and family members are overly involved in each other's lives. The relation to enmeshment is expected because co-ruminators are exposed to each others' personal problems and feelings repeatedly and in great detail.

Moreover, the current study tested the degree to which relations with relationship quality and enmeshment were unique to co-rumination versus due to variance shared with normative self-disclosure. As described, when co-rumination and self-disclosure were simultaneous predictors of friendship quality, the relation between co-rumination and friendship quality was reduced (Rose, 2002). Presumably this was because the relation between co-rumination and friendship quality was due to social sharing aspects that overlap with self-disclosure. In the current study, normative self-disclosure also may account for the relation between co-rumination and relationship quality. Moreover, the positive relation between self-disclosure and relationship quality may be strongest when the disclosure focuses on the adolescent's problems given that this is most developmentally appropriate and signals the mother's interest in the child.

In contrast, normative self-disclosure is not expected to account for the relation with enmeshment. Co-rumination is proposed to be related to enmeshment due to its extensive, repetitive, detailed focus on personal issues not because it involves social sharing per se. Moreover, we expected the unique relation of co-rumination with enmeshment to be strongest when co-rumination focused on the mothers' problems given that it is less developmentally appropriate for children to know vivid details about their mothers' problems.

Additionally, mother-adolescent co-rumination was expected to be related to emotional problems in the adolescents given the consistent negative focus of co-rumination and its interference with more adaptive activities (see Zahn-Waxler, 2000, for a related discussion). Consistent with the prior research on friendships (Rose, 2002), normative self-disclosure was not expected to account for this relation. The prediction that mother-adolescent co-rumination would be related to internalizing symptoms is consistent with research indicating that youths' co-rumination with friends is related to internalizing symptoms (Rose, 2002; Rose et al., 2007; Starr & Davila, 2009). Moreover, mother-adolescent co-rumination was predicted to have a particularly strong relation with internalizing symptoms when the focus was on mothers' problems, which youth are helpless to control (Zahn-Waxler, 2000; Zahn-Waxler, Cole, & Barrett, 1991). Maternal depression is associated with emotional problems for children (see Cummings, Davies, & Campbell, 2000; Goodman & Gotlib, 2002), and youth whose coping styles include dwelling on the stress associated with maternal depression are at increased risk for anxiety and depression themselves (e.g., Langrock, Compas, Keller, Merchant, & Copeland, 2002). These findings fit with the prediction that ruminative conversations with

mothers about the mothers' problems would be related to elevated depressive and anxiety symptoms for youth.

Notably, despite these predictions, Calmes and Robert (2008) found only mixed support for a relation between parent-child co-rumination and internalizing symptoms in young adults. Undergraduates' co-rumination with parents was not related to depression and was weakly related to anxiety. Examining this relation in an adolescent sample is important because relationships with parents may be more closely tied to well-being among younger youth.

To summarize, the goals of the current study were to examine the prevalence of mother-adolescent co-rumination and the unique and overlapping relations of co-rumination and self-disclosure with mothers with adjustment in the mother-adolescent relationship and with emotional well-being. Youth in the study were fifth-, eighth-, and eleventh-graders who reported on co-rumination and disclosure with mothers, their relationships with mothers and their emotional adjustment. Mother reports of co-rumination and disclosure were also available for a subsample of the youth and were used to corroborate results based on the youth-report measures.

## Method

### Participants

Youth in the fifth, eighth, and eleventh grades in five different schools were invited to participate. Of the 743 youth invited, 623 received parental consent. Youth responded to questionnaires at school as part of a larger study. The current sample included youth with sufficient data for each variable (at least two-thirds of the items on each scale).

The final sample ( $N = 516$ ) included 148 fifth-grade (79 girls and 69 boys), 195 eighth-grade (105 girls and 90 boys), and 173 eleventh-grade (93 girls and 80 boys) youth. The sample was 86.1% European American, 3.7% Native American, 4.7% African American, 1.2% Hispanic, 0.8% Asian American, and 2.5% of a mixed ethnic background. Six youth did not report their ethnicity. Some measures asked youth to think about their primary female caregivers. Youth reported that 92% of these caregivers were biological mothers, 3% were step-mothers, 3% were adoptive mothers, 1% were maternal grandmothers, less than 1% were fathers' girlfriends, and less than 1% were paternal grandmothers. Five youth were excluded from the sample because they only had a male caregiver or did not report the identity of a female caregiver.

Primary female caregivers (hereafter referred to as "mothers") of participating youth also were invited to participate. Of these, 200 mothers (39% of the sample) participated and provided sufficient data (i.e., at least two-thirds of the items) for the mother-adolescent co-rumination and self-disclosure measures. These included mothers of 55 fifth-grade (32 girls, 23 boys), 74 eighth-grade (40 girls, 34 boys), and 71 eleventh-grade (39 girls, 32 boys) youth. The mothers were 95% European American, 2% African American, and 2% Hispanic or Latino, and less than 1% Native American (one mother did not report ethnicity).

### Procedure

Questionnaires were completed by youth during group-administered classroom sessions. Youth signed an assent form before participating. Measures were read aloud by trained research assistants. Participating mothers were mailed questionnaires, completed them in their homes, and returned them in a self-addressed stamped envelope.

## Youth-Report Measures

**Co-Rumination**—Mother-adolescent co-rumination was assessed using a revision of the Co-Rumination Questionnaire (Rose, 2002). The original Co-Rumination Questionnaire consisted of 27 items and was designed to assess the extent to which youth generally co-ruminate with same-sex friends. In the original measure, three items were used to assess each of nine content areas: (a) frequency of discussing problems, (b) discussing problems instead of engaging in other activities, (c) consistent encouragement by the focal child of the friend's discussing problems, (d) consistent encouragement by the friend of the focal child's discussing problems, (e) discussing the same problem repeatedly, (f) speculation about causes of problems, (g) speculation about consequences of problems, (h) speculation about other aspects of the problem that are not understood, and (i) focusing on negative feelings.

For this study, the measure was revised to: (a) assess co-rumination with mothers and (b) make items specific to whose problem was co-ruminated about (the adolescent's problem or the mother's problem). For example, the original item “When we talk about a problem that one of us has we try to figure out everything about the problem, even if there are parts that we may never understand” was re-written as two items: (a) “When my Mom and I talk about a problem that I have, we try to figure out everything about the problem, even if there are parts that we may never understand,” (b) “When my Mom and I talk about a problem that she has, we try to figure out everything about the problem, even if there are parts that we may never understand.”

Because the length of the measure would have been unwieldy if all items were retained and revised, a shortened version was used. One item instead of three was chosen for each of the nine content areas. The item chosen was the item from each content area with the highest factor loading in the original co-rumination study (Rose, 2002). Also, the third and fourth content areas (encouragement by the focal child of the friend's discussing problems and encouragement by the friend of the focal child's discussing problems) yielded identical items once they were revised to reflect whose problem was being discussed. Therefore, these content areas were collapsed into one. The revised measure included 16 items. Each item was rated on a 5-point Likert scale ranging from 1 “*Not at all true*” to 5 “*Really true*.” Scores were the mean ratings across items for: (a) co-rumination about the adolescent's problems with the mother (8 items,  $\alpha = .91$ ), and (b) co-rumination about the mother's problems with the mother (8 items,  $\alpha = .94$ ).

Correlations were computed to test whether it was meaningful to retain separate scores depending on whose problems were the focus of co-rumination. The correlation between co-rumination about mothers' problems and the youths' problems was strong ( $r = .68$ ), but the scores were not redundant (one score accounted for less than half of the variance in the other score, specifically 46%). Therefore, the two scores were retained.

**Self-Disclosure**—Mother-adolescent self-disclosure was assessed with a revision of the Self-Disclosure Questionnaire (Rose, 2002; adapted from Parker & Asher, 1993). The original measure included five items assessing self-disclosure with friends. The items were designed to assess self-disclosure that was more moderate and normative in nature compared to co-rumination. For the current study, the measure was revised to assess self-disclosure with mothers as well as to make items specific to whose problems were discussed. For example, the original item “We tell each other about our problems” was revised as two items: (a) “I tell my Mom about my problems” and (b) “My Mom tells me about her problems.” This resulted in ten items total. Each item was rated on a 5-point Likert scale ranging from 1 “*Not at all true*” to 5 “*Really true*.” Scores were the mean rating across items for: (a) self-disclosure about the adolescent's problems (5 items,  $\alpha = .92$ ) and (b) self-disclosure about the mother's problems (5 items,  $\alpha = .92$ ). The correlation between self-disclosure about the mothers' problems and

the adolescents' problems was fairly strong ( $r = .59$ ) but indicated that the two scores were not redundant.

**Relationship Quality**—Relationship quality with mothers was assessed with the Network of Relationships Inventory (Furman & Buhrmester, 1985). Twenty-one items were used (3 items each for affection, admiration, companionship, instrumental aid, nurturance, reliable alliance, and satisfaction; for example, a satisfaction item is, “How satisfied are you with your relationship with this person?”) Each item was rated on a five-point scale ranging from 1 “*Little or None*” to 5 “*The Most.*” Scores were the mean of the 21 items ( $\alpha = .94$ ).

**Enmeshment**—Enmeshment was assessed with seven items from the Family Adaptation and Cohesion Scales IV (FACES IV; Olson, Gorall, & Tiesel, 2002). Example items included “We feel too connected to each other” and “We spend too much time together.” Youth rated each item on a 5-point Likert scale ranging from 1 “*DOES NOT describe our family at all*” to 5 “*VERY WELL describes our family.*” Scores were the mean of the seven items ( $\alpha = .72$ ).

**Anxiety/Depression**—The anxious/depressed subscale of the Youth Self-Report (Achenbach & Rescorla, 2001) was used. Items were rated on a 3-point Likert scale ranging from 0 “*Not true*” to 2 “*Very true or often true.*” An item assessing suicidal ideation was dropped. Scores were the mean rating of the remaining 12 anxious/depressed items ( $\alpha = .81$ ).

### Mother-Report Measures

**Co-Rumination**—Mothers reported on co-rumination with the same 16 items and response format used for youth (with minor wording changes to clarify that mothers were reporting on their children; e.g., “When my child and I talk about a problem that he/she has, we try to figure out everything about the problem, even if there are parts that we may never understand”). Scores were the mean of items assessing co-rumination about adolescents' problems (8 items;  $\alpha = .92$ ) and mothers' problems (8 items,  $\alpha = .94$ ). The scores were positively correlated,  $r = .63$ .

**Self-Disclosure**—Mothers reported on self-disclosure with their child using the same 10 items and response format used for youth (with minor wording changes; e.g., “My child tells me about his/her problems.”). Scores were the mean of the items assessing self-disclosure about the adolescents' problems (5 items;  $\alpha = .87$ ) and the mothers' problems (5 items  $\alpha = .87$ ). The scores were positively correlated,  $r = .30$ .

## Results

Means and standard deviations for all study variables and correlations among all study variables are presented in Table 1. In the first two subsections to follow, results based on the adolescent-report data are presented. In the third subsection, results based on the subsample of mother-reports are presented.

### Descriptive Statistics Regarding Co-Rumination (Adolescent-Report Data)

Examination of the means for mother-adolescent co-rumination indicated that adolescents reported moderate levels of co-rumination with mothers overall (near the midpoint on the 1-5 scale). Also, adolescents reported higher levels of co-rumination about their own problems than the mothers' problems,  $F(1, 515) = 171.97, p < .05$ . A 2 (Gender)  $\times$  3 (Grade) ANOVA was conducted for co-rumination about the adolescents' problems and for co-rumination about mothers' problems. Girls reported greater mother-adolescent co-rumination than boys, both about their own problems [girls,  $M = 2.76, SD = .94$ ; boys,  $M = 2.33, SD = .84, F(1, 510) = 31.99, p < .05$ ] and mothers' problems [girls,  $M = 2.28, SD = .98$ ; boys,  $M = 1.97, SD = .81$ ,

$F(1,510) = 16.05, p < .05$ ]. The grade effects and the interactions between gender and grade were not significant.

### **Associations of Mother-Adolescent Co-Rumination and Self-Disclosure with Relationship Quality, Enmeshment, and Emotional Adjustment (Adolescent-Report Data)**

**Analysis plan**—To examine the associations of mother-adolescent co-rumination and self-disclosure with the three dependent variables (relationship quality, enmeshment, and anxiety/depression), hierarchical regression analyses were performed. Three separate models were tested for each dependent variable. For the first model, gender and grade were entered on the first step as control variables. On the second step, the two self-disclosure variables (self-disclosure about the adolescents' problems and self-disclosure about the mothers' problems) were entered simultaneously. For the second model, gender and grade were again entered on the first step. On the second step, the two co-rumination variables (co-rumination about the adolescents' problems and co-rumination about the mothers' problems) were entered simultaneously. For the third model, gender and grade were entered on the first step. On the second step, the two self-disclosure variables and the two co-rumination variables were entered simultaneously. The three separate models were conducted in order to examine (a) the associations of co-rumination with the adjustment variables with and without controlling for self-disclosure and (b) the associations of self-disclosure with the adjustment variables with and without controlling for co-rumination. In other words, this approach allowed for the examination of the unique and overlapping associations of co-rumination and self-disclosure with the adjustment variables. The results of these analyses are presented in Table 2.

Also, preliminary regression analyses were conducted to test whether gender and/or grade interacted with co-rumination or self-disclosure in predicting the dependent variables (co-rumination and self-disclosure scores were centered for these analyses). Because of the large number of interactions tested (27 for each dependent variable across the three models), a family-wise Bonferroni correction was made and a significance criterion of  $p < .002$  (.05 divided by 27) was adopted. None of the interactions with gender and/or grade were significant.

**Relationship quality**—Across all three models, gender and grade were entered on the first step. This step was significant with being female and being younger predicting greater positive relationship quality. In the first model, the two self-disclosure variables were entered on the second step. This step was significant with self-disclosure about the adolescents' problems and the mothers' problems being related to greater relationship quality. In the second model, the two co-rumination variables were entered on the second step. This step was significant too with co-rumination about the adolescents' problems and the mothers' problems being related to greater relationship quality. For the third model, all four self-disclosure and co-rumination variables were entered on the second step. This step was significant. It was predicted that, when self-disclosure and co-rumination were simultaneous predictors, the relations with co-rumination would be weaker. As expected, in this model, co-rumination about the adolescents' problems was no longer a significant predictor. The relation between co-rumination about the mothers' problems and relationship quality remained significant but was somewhat smaller than when self-disclosure was not controlled (the  $\beta$  was reduced from .21 to .13). The relations with self-disclosure were expected to remain significant. The relation between self-disclosure about adolescents' problems and relationship quality remained significant and similar in magnitude as compared to when co-rumination was not controlled ( $\beta$  of .52 in this model compared to .56 when co-rumination was not controlled). This relation was the largest in magnitude. Unexpectedly, the relation of self-disclosure about mothers' problems and relationship quality was no longer significant in the third model when co-rumination was controlled.



**Enmeshment**—In all three models, gender and grade were entered on the first step. The step was significant, with being younger predicting greater enmeshment. In the first model, the second step on which the self-disclosure variables were entered was significant. Self-disclosure about mothers' problems was related to greater enmeshment. For the second model, the second step on which the co-rumination variables were entered was significant. Co-rumination about mothers' problems also was related to greater enmeshment. In the third model, the second step on which all four self-disclosure and co-rumination variables were entered also was significant. It was expected that co-rumination would remain significantly associated with enmeshment when self-disclosure and co-rumination were simultaneous predictors. In fact, the positive relation between co-rumination about mothers' problems and enmeshment remained significant when self-disclosure was controlled ( $\beta$  of .25 in this model as compared to .30 when self-disclosure was not controlled). In addition, the relation between co-rumination about the adolescents' problems and enmeshment that was not significant in the previous model become significant in this model when self-disclosure was controlled. In contrast, the positive relation between self-disclosure about mothers' problems and enmeshment that was significant in the previous model was no longer significant in the third model when co-rumination was controlled. Moreover, when co-rumination was controlled, self-disclosure about adolescents' problems actually became significantly related to *lower* enmeshment

**Anxiety/depression**—Across all three models for anxiety/depression, gender and grade were entered on the first step. The step was significant with being female and being younger predicting greater anxiety/depression. In the first model, the second step on which the two self-disclosure variables were entered was not significant and neither individual relation was significant. In the second model, the second step on which the co-rumination variables were entered was marginally significant. Co-rumination about the mothers' problems was significantly related to greater anxiety/depression. In the third model, the second step on which the four self-disclosure and co-rumination variables were entered was significant. In this step, only the relation of co-rumination about the mothers' problems with anxiety/depression was significant.

### Supplemental Analyses Testing Whether Results Replicate Using Mother-Reported Co-Rumination and Self-Disclosure Data

Analyses were next conducted for the subset of youth with mother-reported co-rumination and self-disclosure data to test whether the results replicated those found with the adolescent reports. Before conducting these analyses, youth with mother-reports ( $N = 200$ ) were compared to those without mother-reports ( $N = 316$ ) on each adolescent-report measure. Compared to youth without mother-reports, youth with mother-reports reported greater co-rumination about the mothers' problems [with mother-reports  $M = 2.21$ ,  $SD = .93$ ; without mother-reports  $M = 2.01$ ,  $SD = .89$ ;  $t(514) = 2.44$ ,  $p < .05$ ] and self-disclosure about the mothers' problems [with mother-reports  $M = 2.55$ ,  $SD = 1.13$ ; without mother-reports  $M = 2.35$ ,  $SD = 1.02$ ;  $t(514) = 2.01$ ,  $p < .05$ ]. However, these youth did not differ on any other adolescent-report measures. Also, adolescent and mother reports were positively and significantly correlated for co-rumination about mothers' problems, self-disclosure about adolescents' problems, and self-disclosure about mothers' problems; the correlation for co-rumination about adolescents' problems was positive but not significant (see Table 1).

Consistent with results using the adolescent-reports, mothers reported greater co-rumination about the adolescents' problems than their own problems,  $F(1, 199) = 397.47$ ,  $p < .05$  (see Table 1 for means). Also consistent with the adolescents' reports, mothers reported significantly greater co-rumination with daughters than with sons about the mothers' problems [girls  $M = 2.12$ ,  $SD = .99$ ; boys  $M = 1.84$ ,  $SD = .82$ ],  $t(198) = 2.05$ ,  $p < .05$ ]. Mothers also reported greater

co-rumination with daughters than with sons about the adolescents' problems but this difference did not reach significance [girls  $M = 3.15$ ,  $SD = .95$ ; boys  $M = 3.09$ ,  $SD = .89$ ,  $t(198) = .47$ ].

Next, the regression analyses performed to test the associations of mother-adolescent self-disclosure and co-rumination with relationship quality, enmeshment, and anxiety/depression were performed again but this time mother-reports of self-disclosure and co-rumination were used instead of adolescent-reports. The results of these analyses are presented in Table 3. Again, preliminary analyses indicated that the relations with self-disclosure and co-rumination were not moderated by gender or grade (self-disclosure and co-rumination were centered for these analyses; a Bonferroni corrected significance value of  $p < .002$  was again adopted for evaluating interactions). For parsimony, only the associations of the self-disclosure and co-rumination variables that were tested on the second steps of the models are discussed in the text (gender and grade effects tested on the first steps of the models are presented in the table).

Recall that the strongest unique relation found with the adolescent reports for relationship quality was the relation between self-disclosure about the adolescents' problems and relationship quality. In the first model with the mother reports, the second step on which the self-disclosure variables were entered was significant. Self-disclosure about adolescents' problems was again related to greater relationship quality. In the second model, the second step on which the co-rumination variables were entered was not significant and the individual relations were not significant. In the third model, the second step on which the four self-disclosure and co-rumination variables were entered was not significant. However, the individual positive relation between self-disclosure about the adolescents' problems and relationship quality was significant.

For enmeshment, the strongest unique relation found with the adolescent-report data was the positive relation between co-rumination about the mothers' problems and enmeshment. For the first model using the mother-report data, the second step on which the self-disclosure variables were entered was not significant and the individual relations were not significant. For the second model, the second step on which the co-rumination variables were entered was not significant and the individual relations were not significant. For the third model, the second step on which the self-disclosure and co-rumination variables were entered simultaneously was not significant, but the positive relation between co-rumination about the mothers' problems and enmeshment was significant.

In terms of anxiety/depression, the adolescent-reports indicated a significant relation between co-rumination about mothers' problems and anxiety/depression. However, with the mother-reports, none of the self-disclosure or co-rumination variables were associated with anxiety/depression in any of the three regression models.

## Discussion

Although self-disclosure and social support processes in close relationships have many positive benefits, in recent years, friendship researchers have considered an important variant of social support that has adjustment trade-offs (Rose, 2002; Rose et al., 2007; Starr & Davila, 2009). The current study extends research on co-rumination by considering this important interpersonal process in the context of adolescents' relationships with their mothers. The results suggest that mother-adolescent co-rumination is indeed related to both positive and negative aspects of adjustment. As discussed, the results speak to the conceptual and applied importance of learning more about the implications of this new construct.

First, findings indicated that co-rumination does occur in some mother-adolescent relationships. Calmes and Roberts (2008) found that some undergraduates reported co-rumination with parents. However, young adults reported parental co-rumination at very low

levels (average scores were less than 1.30 on a 1-5 scale). Inspection of the means suggests that youth in the current study may engage in somewhat greater co-rumination with parents (average scores on the 1-5 scale were 2.56 for co-rumination about adolescents' problems and 2.14 for co-rumination about mothers' problems). Given that reliance on parents is greater in adolescence than in young adulthood, mother-adolescent co-rumination may be more common and have a greater impact on the lives of adolescents. Of course, everyday experience and past research (Bowen, 1983; McLoyd & Wilson, 1992; Schrimshaw & Siegel, 2002) suggests that interactions between mothers and adolescents do include conversations about problems. The current results suggest that some parents focus on problem talk with children in a manner that is extreme.

Moreover, the results suggest that parents are more likely to co-ruminate with daughters than sons. Girls reported greater co-rumination with mothers than did boys about their own problems and their mothers' problems. Mothers did not report greater co-rumination with daughters about the adolescents' problems but did report greater co-rumination with daughters about their own problems. It is reasonable to suggest that conversations about mothers' own problems that are frequent, repetitive, and negative in tone are developmentally inappropriate for adolescents. It is concerning that girls are especially likely to be exposed to these conversations.

In contrast to the gender effects, there were not grade differences for mother-adolescent co-rumination. One possible explanation is that there are processes at work that make co-rumination with mothers both more likely to occur as children move into and through adolescence (e.g., increased youth maturity; Schrimshaw & Siegel, 2002) and less likely to occur (e.g., adolescents' increased reliance on peers versus parents; Hartup, 1996). If these processes occur simultaneously, no overall developmental differences would emerge.

Most importantly, mother-adolescent co-rumination also was related to adjustment. Moreover, considering the unique relations of co-rumination and normative self-disclosure with adjustment provided interesting insights regarding the nature of these relations. In terms of relationship quality, adolescents' reports of co-rumination about the adolescents' own problems and about their mothers' problems predicted positive relationship quality when self-disclosure was not controlled. However, when co-rumination and self-disclosure were simultaneous predictors, co-rumination about the adolescents' problems was no longer a significant predictor. Co-rumination about the mothers' problems remained a significant positive predictor of relationship quality; however, the magnitude of this relation was somewhat smaller than that found when self-disclosure was not controlled. These results suggest that co-rumination may be related to relationship quality at least in part due to the social sharing aspects of co-rumination that overlap with self-disclosure. In fact, both the adolescent- and mother-report data indicated that the predictor of positive relationship quality that was largest in magnitude was self-disclosure about the adolescents' problems. Longitudinal data are needed to test whether mother-adolescent co-rumination does lead to increased positive relationship quality over time and to confirm that the relation is due to the social sharing aspects of co-rumination as opposed to the repetitive, negative focus of co-ruminative conversations.

In contrast, the repetitive, negative focus of co-rumination may account for relations with negative aspects of adjustment. For example, when self-disclosure and co-rumination were considered in separate regression models, the adolescent-report data indicated that self-disclosure about mothers' problems and co-rumination about mothers' problem both were related to greater enmeshment. However, when co-rumination and self-disclosure were simultaneous predictors, only co-rumination about mothers' problems remained a significant positive predictor. Moreover, when self-disclosure was controlled, co-rumination about the adolescents' problems also became a significant positive predictor of enmeshment. Both the adolescent- and mother-report data indicated that the positive predictor of enmeshment that

was largest in magnitude was co-rumination about mothers' problems. Future prospective studies should test whether co-rumination about mothers' problems contributes to boundary problems in the form of enmeshment due to youths' frequent, repeated exposure to mothers' personal problems and feelings as opposed to being due to the social sharing aspects of co-rumination. In fact, when co-rumination was controlled, the adolescent-report data indicated that self-disclosure about adolescents' own problems actually predicted *lower* levels of enmeshment. This finding suggests that social sharing may be related to appropriate boundaries when the conversations focus on the youths' problems and are not frequent, repetitive, and especially negatively focused.

Finally, the current study provided information regarding mother-adolescent co-rumination and internalizing symptoms. According to the adolescents' reports, mother-adolescent co-rumination about the mothers' problems was related to internalizing symptoms. This result emerged regardless of whether or not self-disclosure was controlled in analyses suggesting that the relation was not due to shared variance with normative self-disclosure. However, mother-adolescent co-rumination about the adolescents' problems was not related to internalizing symptoms. Moreover, according to mother-reports, mother-adolescent co-rumination was not related to internalizing symptoms. These findings were admittedly weak given the more consistent relations between co-rumination with friends and internalizing problems (Rose, 2002; Rose et al., 2007; Starr & Davila, 2009). However, the results fit with Calmes and Roberts' (2008) findings that, in young adulthood, co-rumination with parents was not a consistent predictor of internalizing symptoms.

The finding from the adolescent-report data indicating that co-rumination about the mothers' problems was related to greater internalizing symptoms was consistent with hypotheses. However, given prior research findings, it also is important to consider why co-rumination with friends might have a more consistent association with youths' emotional well-being than co-rumination with mothers. Perhaps even when mothers co-ruminate with youth, they still discuss problems in a more constructive fashion than do peers. For instance, even if the conversations are repetitive and involve high levels of negative affect, they may still focus on solutions to problems more than do co-ruminative conversations with friends. Another possibility is that mother-adolescent co-rumination is associated with adolescent emotional adjustment problems only for some youth or under some circumstances. For example, co-rumination about mothers' problems may have a stronger association with youth emotional adjustment when the problems are especially weighty (e.g., focusing on mothers' substance use or psychopathology) as opposed to focusing on less serious problems (e.g., day-to-day troubles in the workplace).

In summary, as the first study of youths' co-rumination with mothers, this research points to a relationship process that may be important for understanding adolescent adjustment. However, much more work is needed to understand the implications of co-rumination with mothers. As noted, prospective studies are needed to test whether co-rumination with mothers elicits change in adjustment over time. Importantly, it also may be that positive relationship quality, enmeshment, and internalizing symptoms contribute to increases in co-rumination with mothers. Prospective studies are needed too to address third-variable explanations. For example, it could be that the characteristics of youth or mothers (e.g., personality styles) and/or their life circumstances (e.g., life stressors) contribute to changes in both co-rumination and aspects of adjustment over time. Prospective studies would benefit as well from considering additional adjustment indices. For example, a family systems perspective (e.g., Minuchin, 1974) suggests that co-rumination between mothers and children should impact other family members. It is of particular interest to consider the potential effects of a co-ruminative relationship between a child and one parent on the relationship between the parents.

Additionally, the current study relied on self-reports from youth and a subset of mothers. Future research incorporating more objective measures (e.g., observational assessments of co-rumination; clinical interviews of depression and anxiety) is needed. This is especially important given that stronger effects emerged when using adolescent-reported co-rumination than mother-reported co-rumination. Because adolescent-report data were used to assess relationship and emotional adjustment, associations with adolescent-reported co-rumination may have been inflated due to shared method variance. As such, if the findings can be replicated using assessments that eliminate concerns regarding single-reporter biases, confidence in the current results will be bolstered. Confidence in the generalizability of the results will be increased further if such research includes samples with greater ethnic diversity.

Lastly, potential applications of this research should be considered. Certainly parents should not be discouraged from talking with their children. Rather, this research suggests that parents should be aware of the potential risks of negative and perseverative parent-child communication, particularly when it focuses on the parents' own problems. Similarly, adults who work with children should be alert to the possibility that mother-adolescent co-rumination may be a factor in families with boundary problems or, possibly, emotional distress. It should be noted too that youth at risk for problems associated with co-rumination may be overlooked precisely because they do have seemingly positive, open communication with parents. Possible interventions in such cases might include re-directing parent-child dyads to more constructive communication through problem-solving training. Finally, it should be noted that prevention and intervention efforts may be particularly challenging given the subtle nature of co-rumination and that its association with positive relationship quality may be reinforcing.

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**Table 1**  
**Means and Standard Deviations of Study Variables and Correlations Among Study Variables**

	Adolescent Reports <i>M (SD)</i>	Mother Reports <i>M (SD)</i>	1.	2.	3.	4.	5.	6.	7.
1. Mother-Adolescent Co-Rumination (Adolescent Problems)	2.56 (.92)	3.12 (.92)	<b>.06</b>	.63*	.39*	.24*	.06	.03	.06
2. Mother-Adolescent Co-Rumination (Mother Problems)	2.14 (.92)	2.00 (.93)	.68*	<b>.16*</b>	.30*	.46*	.09	.10	.11
3. Mother-Adolescent Self-Disclosure (Adolescent Problems)	3.02 (1.15)	3.42 (.84)	.70*	.54*	<b>.36*</b>	.30*	.24*	.09	-.01
4. Mother-Adolescent Self-Disclosure (Mother Problems)	2.48 (1.09)	2.08 (.79)	.52*	.71*	.59*	<b>.20*</b>	.06	-.07	-.01
5. Mother-Adolescent Relationship Quality	3.90 (.81)		.49*	.43*	.63*	.42*	-	-	-
6. Enmeshment	1.84 (.64)		.25*	.32*	.15*	.23*	.13*	-	-
7. Youth Anxiety/Depression	.42 (.35)		.06	.11*	.05	.00	-.04	.20*	-

\*  $p < .05$ .

Correlations below the diagonal involved adolescent-reports of co-rumination and self-disclosure ( $N = 516$ ). Correlations above the diagonal involved mother-reports of co-rumination and self-disclosure ( $N = 200$ ). Bolded correlations on the diagonal represent the associations between adolescent- and mother-reports of co-rumination and self-disclosure ( $N = 200$ ).

**Table 2**  
**Associations of Mother-Adolescent Self-Disclosure and Co-Rumination (Adolescent Report) With Mother-Adolescent Relationship Quality, Enmeshment, and Anxiety/Depression**

	Model 1			Model 2			Model 3		
	$\beta$	t value	R <sup>2</sup> $\Delta$ R <sup>2</sup>	$\beta$	t value	R <sup>2</sup> $\Delta$ R <sup>2</sup>	$\beta$	t value	R <sup>2</sup> $\Delta$ R <sup>2</sup>
DV = Mother-Adolescent Positive Relationship Quality									
<i>Step 1:</i>			.07*			.07*			.07*
Gender	-.20	4.68*		-.20	4.68*		-.20	4.68*	
Grade	-.17	4.05*		-.17	4.05*		-.17	4.05*	
<i>Step 2:</i>			.41* .34*			.29* .22*			.42* .35*
Self-Disclosure (Adolescent Problems)	.56	11.95*					.52	9.38*	
Self-Disclosure (Mother Problems)	.10	2.22*					.02	.30	
Co-Rumination (Adolescent Problems)				.32	6.10*		.02	.33	
Co-Rumination (Mother Problems)				.21	4.03*		.13	2.32*	
DV = Enmeshment									
<i>Step 1:</i>			.02*			.02*			.02*
Gender	.04	.82		.04	.82		.04	.82	
Grade	-.12	2.79*		-.12	2.79*		-.12	2.79*	
<i>Step 2:</i>			.08* .06*			.13* .11*			.14* .12*
Self-Disclosure (Adolescent Problems)	-.02	.29					-.15	2.23*	
Self-Disclosure (Mother Problems)	.27	5.01*					.10	1.56	
Co-Rumination (Adolescent Problems)				.07	1.18		.15	2.14*	
Co-Rumination (Mother Problems)				.30	5.27*		.25	3.65*	
DV = Anxiety/Depression									
<i>Step 1:</i>			.05*			.05*			.05*
Gender	-.21	4.87*		-.21	4.87*		-.21	4.87*	



	Model 1			Model 2			Model 3					
	$\beta$	<i>t</i> value	$R^2$	$\Delta R^2$	$\beta$	<i>t</i> value	$R^2$	$\Delta R^2$	$R^2$	<i>t</i> value	$R^2$	$\Delta R^2$
Grade	-.10	2.39*			-.10	2.39*			-.10	2.39*		
Step 2:			.05*	.00			.06*	.01 <sup>†</sup>			.07*	.02*
Self-Disclosure (Adolescent Problems)	-.05	.78			-.06	.79						
Self-Disclosure (Mother Problems)	.01	.15			-.12	1.73						
Co-Rumination (Adolescent Problems)					-.08	1.42						
Co-Rumination (Mother Problems)					.14	2.30*			.22	3.05*		

<sup>†</sup>  $p < .10$ .

\*  $p < .05$ .

Girls were coded as 0 and boys as 1.

**Table 3**  
**Associations of Mother-Adolescent Self-Disclosure and Co-Rumination (Mother Report) With Mother-Adolescent Relationship Quality, Enmeshment, and Anxiety/Depression**

	Model 1			Model 2			Model 3		
	$\beta$	<i>t</i> value	$R^2$ $\Delta R^2$	$\beta$	<i>t</i> value	$R^2$ $\Delta R^2$	$\beta$	<i>t</i> value	$R^2$ $\Delta R^2$
DV = Mother-Adolescent Positive Relationship Quality									
<i>Step 1:</i>			.06*			.06*			.06*
Gender	.21	3.07*		.21	3.07*		.21	3.07*	
Grade	-.13	1.90		-.13	1.90		-.13	1.90	
<i>Step 2:</i>			.10* .04*			.07* .01			.10* .04
Self-Disclosure (Adolescent Problems)	.20	2.78*		.22	2.85*		.22	2.85*	
Self-Disclosure (Mother Problems)	-.01	.09		-.02	.19		-.02	.19	
Co-Rumination (Adolescent Problems)				-.00	.04		-.08	.84	
Co-Rumination (Mother Problems)				.06	.65		.05	.53	
DV = Enmeshment									
<i>Step 1:</i>			.04*			.04*			.04*
Gender	-.04	.61		-.04	.61		-.04	.61	
Grade	-.20	2.91*		-.20	2.91*		-.20	2.91*	
<i>Step 2:</i>			.05* .01			.06* .02			.07* .03
Self-Disclosure (Adolescent Problems)	.09	1.21		.10	1.27		.10	1.27	
Self-Disclosure (Mother Problems)	-.07	.93		-.14	1.70		-.14	1.70	
Co-Rumination (Adolescent Problems)				-.09	1.00		-.13	1.39	
Co-Rumination (Mother Problems)				.16	1.73		.22	2.21*	
DV = Anxiety/Depression									
<i>Step 1:</i>			.08*			.08*			.08*
Gender	.27	3.94*		.27	3.94*		.27	3.94*	
Grade	-.05	.76		-.05	.76		-.05	.76	

	Model 1			Model 2			Model 3					
	$\beta$	<i>t</i> value	$R^2$	$\Delta R^2$	$R^2$	<i>t</i> value	$R^2$	$\Delta R^2$	$R^2$	<i>t</i> value	$R^2$	$\Delta R^2$
<i>Step 2:</i>			.08*	.00	.08*		.09*	.01				
Self-Disclosure (Adolescent Problems)	-.06	.79								1.08		
Self-Disclosure (Mother Problems)	-.02	.21								.77		
Co-Rumination (Adolescent Problems)				.00	.05					.31		
Co-Rumination (Mother Problems)				.07	.75					1.06		

\*  $p < .05$ .

Girls were coded as 0 and boys as 1.