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Associations of Mothers' Friendship Quality with Adolescents' Friendship Quality and Emotional Adjustment

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Abstract

Little research has examined the association of parents' friendships with adolescent's well-being, perhaps because the association was considered too distal. However, developmental theories suggest that contexts in which parents, but not their children, are situated may be related to child development (Bronfenbrenner, 1979; 1986). The current work examined associations between the quality of mothers' own friendships and their adolescent children's friendship quality and emotional adjustment. Fifth-, eighth-, and eleventh-graders ($N = 172$) whose mothers' friendships were characterized by conflict and antagonism reported having friendships that were high in negative friendship qualities as well as elevated internalizing symptoms. These associations held after controlling for mother-child relationship quality, suggesting that mothers' friendships may have a unique association with adolescents' adjustment.

The idea that children are influenced by relationships that their parents have with adults outside of the family is present in developmental theories (Bronfenbrenner, 1979; 1986; Cochran & Brassard, 1979) but understudied empirically. The current research focuses on mothers' friendships to address two major research questions. The study examines whether the quality of mothers' friendships is associated with their adolescent children's: (a) friendship quality and (b) emotional adjustment. Past research suggests that mothers' friendship quality may be related to their children's friendships and emotional adjustment (e.g., Doyle, Markiewicz, & Hardy, 1994; Homel, Burns, & Goodnow, 1987), but it is unclear whether these relations are accounted for by the quality of the mother-child relationship. The current study tests whether mothers' friendship quality is related to their adolescents' friendship quality and emotional adjustment after controlling for mother-child relationship quality. Also, whereas past studies focused on childhood, the present study

focuses on whether mothers' friendships are associated with adolescent adjustment, when youth become increasingly autonomous from parents.

Why Study Mothers' Friendships?

Historically, developmentalists have focused the bulk of their attention on proximal influences on children and adolescents, such as parents, teachers, and peers. However, ecological models have highlighted the significance of exosystems, or settings where parents spend time (e.g. social networks, places of work) but children and adolescents have relatively limited access (Bronfenbrenner, 1979; 1986). Bronfenbrenner (1979; 1986) further proposed that parents' friends are an integral part of youths' exosystems. Cochran and Brassard (1979) also drew attention to parents' friendships, stressing that these relationships may influence children indirectly (i.e., by influencing parents, who influence the child) or directly (i.e., by influencing the children over and above any indirect effects operating through the parent-child relationship).

The current study addresses this issue by examining whether associations of mothers' friendship quality with their adolescent children's friendship quality and emotional well-being hold while the quality of the mother-child relationship is controlled. Although fathers' friendships may influence their children's adjustment, the current study focused on mothers because, on average, youth spend more time with mothers than fathers in adolescence and tend to experience more closeness with mothers than with fathers (Smetana, Campione-Barr, & Metzger, 2006).

Mothers' Friendship Quality and Their Adolescent Children's Friendship Quality

In the current study, the quality of mothers' friendships is expected to be related to their adolescent children's friendship quality. Bandura's (1977) social learning theory, which posits that youth model the behavior of the adults in their lives, suggests that how parents carry themselves in friendships with other adults will be a salient influence on their children's behavior in friendships with other youth. Several studies indicate that mothers with larger friendship networks have children who have more friends themselves (Homel et al., 1987; Markiewicz, Doyle, & Brendgen, 2001; Uhlenhorff, 2000). Moreover, past research indicates that the features of mothers' friendships are related to the features of their children's friendships. Doyle and colleagues (1994) found that 3rd to 6th grade children of mothers who rated their best friend as a source of interesting and stimulating ideas rated their own friends as more helpful. Children of mothers who reported deriving self-affirmation from close friends also reported more closeness in their own friendships. Simpkins and Parke (2001) found that 4th grade children whose mothers' friendships were characterized by negative qualities had friendships characterized by negative qualities themselves.

Although these studies indicate relations between mothers' and children's friendship quality (Doyle et al., 1994; Simpkins & Parke, 2001), it is not clear whether these relations will continue to hold in adolescence when youth have more behavioral and psychological autonomy from parents (Smetana et al., 2006). Only one prior study addressed this issue in adolescence. Markiewicz and colleagues (2001) found that adolescents' perceptions of their mothers as deriving support and satisfaction from their social networks (e.g. "My mom's relationships with her friends are very satisfying") were related to positive qualities in adolescents' own friendships. However, the associations could have been due to shared method variance or, more specifically, due to perceptions on the part of the adolescents that their mothers' friendships were like their own. The current study extends the past research

and circumvents this problem by utilizing mothers' reports of their own friendship quality to provide a stronger test of whether mothers' friendship quality is related to the quality of their children's friendships in adolescence.

Another methodological strength of the current study is that friendship quality was considered within verified reciprocal friendships. Meta-analyses indicate that reciprocated friendships (i.e., friendships in which both youth acknowledge the relationship) are characterized by more positive relationship qualities (e.g. closeness, loyalty) and better conflict management than non-reciprocal friendships (i.e., relationships in which only one youth perceives the other as a friend; Newcomb & Bagwell, 1995). Focusing on reciprocal friendships in the current study ensured that variations observed in friendship qualities were due to naturally-occurring differences among true friendship pairs rather than being driven, at least in part, by reports on one-sided or desired friendships.

Mothers' Friendship Quality and Their Adolescent Children's Emotional Adjustment

In addition to examining adolescents' friendship quality, the present study also tests whether the quality of mothers' friendships is related to their adolescent children's internalizing symptoms. In their proposed model regarding the development of depression, Cicchetti and Toth (1998) posited that difficulties in youths' exosystems may make important contributions to the development of emotional adjustment problems. The possibility that mothers' friendships are related to youths' emotional well-being fits within Cicchetti and Toth's conceptual framework. In fact, one past study found that 9 to 11 year olds whose parents reported having "friends that you see regularly and that you could call on in a crisis" reported relatively low levels of negative emotionality (Homel et al., 1987). More work is needed to replicate and extend the claim that mothers' friendships are related to youths' emotional functioning.

In the present study, mothers' friendship quality was expected to be associated with their adolescent children's internalizing symptoms. The presence of high-quality friendships in mothers' lives may be related to their children's positive well-being. In contrast, the presence of poor quality friendships, defined by high levels of conflict and antagonism, may be associated with their children's distress. Past research indicates that stressful events experienced by close others can be associated with one's own distress; a phenomenon referred to as the "costs of caring" (Kessler & McLeod, 1984, 1985). For example, Gore, Aseltine, and Cohen (1993) found that family members' experiences of stressful events were related to adolescents' own depressive symptoms. Emotional involvement in a relationship partner's problems may lead to "empathetic distress" or vicariously experiencing the relationship partner's emotional distress as one's own (Smith & Rose, 2011). In the current study, adolescents who are exposed to mothers' stressful experiences in friendships may experience empathetic distress and report more generalized internalizing symptoms.

Conducting a Strong Test of the Relations of Mothers' Friendship Quality with Adolescents' Friendship Quality and Internalizing Symptoms

The present study also extends past research by controlling for several important variables. First, mother-child relationship quality served as a critical control variable in the present study. Mother-child relationship quality is related both to the quality of mothers' friendships (Akiyama, Antonucci, Takahashi, & Langfahl, 2003; Birditt, Jackey, & Antonucci, 2009) and to the quality of their children's friendships (Cui, Conger, Bryant, & Elder, 2002; Shomaker & Furman, 2009; see Brown & Bakken, 2011). This is not surprising given that mothers' attachment styles influence the attachment styles of their children (see van

IJzendoorn, 1995) and that attachment styles are related to the qualities of non-familial relationships, like friendships (see Schneider, Atkinson, & Tardiff, 2001; Doyle, Lawford, & Markiewicz, 2009). In addition, mother-child relationship quality also is related to adolescents' emotional well-being (Colarossi & Eccles, 2000; Rubin et al., 2004; Sentse & Laird, 2010). Given these patterns of effects, associations between mothers' friendship qualities and their children's friendship qualities and emotional adjustment found in past studies may have become non-significant if mother-child relationship quality had been controlled. In the current study, controlling for mother-child relationship quality provides a stronger test of the associations of mothers' friendship quality with their adolescent children's friendship and emotional adjustment.

In addition, taking into account the overlap between adolescents' friendship quality and emotional adjustment is important. Research indicates that youth with poor-quality friendships tend to have heightened internalizing symptoms (e.g., Oppenheimer & Hankin, 2011; Prinstein, Borelli, Cheah, Simon, & Aikins, 2005; see Rudolph, Flynn, & Abaid, 2008). Conceptually, this may be because depressed individuals tend to behave in ways that create problems in their interpersonal relationships, which then exacerbates their depression (Joiner & Coyne, 1999). Given this overlap, it is important to control for adolescents' internalizing symptoms when examining the relation between mothers' friendship quality and adolescents' friendship quality. Likewise, it is important to control for adolescents' friendship quality when examining the relation between mothers' friendship quality and adolescents' internalizing symptoms. This approach allows for greater specificity in regards to testing the associations of mothers' friendship quality with adolescents' friendship quality and emotional adjustment. In addition, because mothers' own emotional adjustment may be related to that of their adolescent children (see Downey & Coyne, 1990; Goodman & Gotlib, 1999), mothers' internalizing symptoms were controlled in models testing associations with adolescents' internalizing symptoms.

Developmental and Sex Differences

Developmental and sex differences also were considered. In regards to developmental differences, because parent-child closeness tends to decline across adolescence (Buhrmester & Furman, 1987; Seiffge-Krenke, 1999), mothers' friendships may be more strongly related to their children's friendships and emotional well-being earlier in adolescence than later in adolescence. However, in terms of emotional adjustment, an alternate hypothesis is that mothers' poor-quality friendships may be more strongly related to older adolescents' internalizing symptoms as youths' empathic understanding of mothers' interpersonal difficulties likely increases with age.

Finally, social learning theories (e.g., Mischel, 1970) suggest that children acquire social behaviors more readily from same-sex than opposite-sex parents. In fact, Simpkins and Parke (2001) found that qualities of mothers' friendships were related to qualities of their daughters' friendships but not their sons' friendships. The current study tests whether this sex difference is present in adolescence. The association of mothers' friendships with emotional adjustment also may be strongest for daughters as girls experience grater empathetic distress than boys (Smith & Rose, 2011) and have been argued to be especially vulnerable to the "costs of caring" in mother-child relationships (Davies & Lindsay, 2004; Gore, et al., 1993).

Method

Participants

Participants in this study were a subset of adolescents who participated in a larger, school-based study focused on adolescents' peer interactions and psychological adjustment. The mothers of this subset of adolescents also participated. To recruit participants for the larger, school-based study, parental consent forms were mailed to the parents of 743 students in grades 5, 8, and 11 (ages 10–11, 13–14, 16–17, respectively) from eight schools in four Midwestern school districts. Students were recruited in two cohorts, one during the winter semester and the other during the fall semester of the following school year. Of the 743 students invited, 610 (82%) received parental consent and participated. We then invited the primary female caregivers of these students to complete surveys through the mail. For the current study, youth were included in analyses only if their mothers completed these surveys.

Of the 610 participants in the school-based study, 39% had caregivers ($N = 239$) who completed the surveys. We included in our sample youth whose biological mother, adoptive mother, or stepmother participated ($N = 222$). We excluded youth whose grandmothers participated ($N = 3$; due to possible generational differences) or whose foster parents participated ($N = 1$). In addition, some fathers chose to participate (e.g., if a primary female caregiver was not available, $N = 6$); however, these youth were excluded because the sample was too small to examine differences between mothers and fathers. Finally, 7 youth were excluded due to missing data regarding the identity of the caregiver.

We further limited our sample to adolescents with a reciprocal same-sex friend. As described below, we used a friendship nominations procedure in which youth could nominate three of their peers as friends. A friendship was reciprocal when a nominated friend also nominated the adolescent. Of the 222 adolescents with mother-reported data, 172 (77%) had a reciprocal same-sex friend. The remaining 50 adolescents nominated peers who did not reciprocate their nomination. As in past research (e.g., Parker & Asher, 1993), data from youth with nonreciprocal friends were not included.

Of the 172 youth in the final sample, 48 were in the fifth grade (age 10–11; 18 boys, 30 girls), 56 were in the eighth grade (age 13–14; 21 boys, 35 girls) and 68 were in the eleventh grade (age 16–17; 32 boys, 36 girls). The youth sample was 92% European American, with the remainder of the sample identifying as African American, Asian American, Latino, Native American, or "Other" (e.g., multiethnic; none more than 3% of the total sample). Of these youth, 95% identified their biological mother as their primary female caregivers, 3% identified their adoptive mother and 2% identified a step-mother (hereafter referred to as "mothers"). Of the participating mothers, 96% identified as European American, with the remainder identifying as African American, Hispanic, or Native American (none more than 2% of the total sample). Mothers' mean age was 42.09 years ($SD = 5.74$).

Representative analyses indicated that the 172 youth included in the sample did not differ significantly from the 438 youth who were excluded (because they did not have mother-report data or a same-sex reciprocal friend) on any study variable. Although it was not possible to compare participating mothers with mothers who did not participate on the study variables, participating mothers provided household income and education data that could be compared to Census data for their communities. According to mothers' reports, the median household income was in the \$40,000 – \$60,000 range. According to the Census data, this was approximately \$10,000 to \$20,000 higher than the communities at-large. Also, 95.9% of the participating mothers reported finishing high school and 35.7% reported having a

bachelor's degree. These figures ranged from 3% to 17% higher than those from the communities overall.

Procedure

All youth-report data were collected in the students' classrooms. Trained research assistants read aloud all questionnaires as the youth answered questions. Data were collected in two 45 minute sessions about two weeks apart. In the first session, youth completed a friendship nominations questionnaire and reported on their psychological adjustment. In the second session, youth reported on the quality of their relationships with mothers and with a specific friend. Additional school visits were made to collect data from youth who were initially absent.

Mothers who agreed to participate signed a consent form and completed a packet of questionnaires that were included with the initial letter inviting them to participate. Mothers returned the consent form and questionnaires in a self-addressed stamped envelope.

Youth-Report Measures

Friendship Nominations—A widely-used friendship nomination procedure (e.g., Parker & Asher, 1993; Rose & Asher, 1999) was used to identify a friend for each youth to report on for friendship quality. Rosters of participating classmates were presented to each youth. Fifth-graders' rosters included names of participating children in their self-contained classrooms. Because eighth- and eleventh-graders switched classes throughout the day, their rosters included the names of students with parental consent in their grade. Youth circled the names of "three best friends" and drew a star next to the one of the three who was their "very best friend." Youth had a reciprocal friend if one of the classmates they circled also circled their name.

These data were used to choose the friend who youth would report on during the second session for friendship quality. Youth reported on their highest-priority friendship. Priority was determined with a procedure used in past research (Rose, 2002; Rose & Asher, 1999). First priority was given to friendships in which a youth "starred" his or her very best friend and that friend "starred" him or her in return. Next, priority was given to friendships in which youth "starred" a very best friend and that friend circled his or her name. Third priority was given to friendships in which a youth circled (but did not star) the name of a friend and was "starred" in return. Lowest priority was given to friends who circled each other but did not star one another.

Youth with only one reciprocal friend reported on that friend. Youth with two or more reciprocal friends reported on their highest-priority friendship. Youth who were not identified as having any reciprocal friendships reported on a non-reciprocal friendship but these data were excluded.

Network of Relationships Inventory-Youth—Mother-child relationship quality and friendship quality were assessed with the Network of Relationships Inventory-Social Provisions Version (NRI-SPV; Furman & Buhrmester, 1985). The NRI-SPV assesses seven positive features: affection, admiration, companionship, instrumental aid, intimacy, nurturance, and reliable alliance. Examples items include "depend on for help" (instrument aid subscale), "share secrets and private feelings with" (intimacy subscale), and "turn to this person for support with personal problems" (nurturance subscale). The NRI-SPV also assesses two negative features: antagonism and conflict. Examples include "get on each others' nerves" (antagonism), and "disagree or quarrel with" (conflict). Each feature is assessed with 3 items and each item is rated on a 5-point Likert scale (1 = "little or none"; 5

= “the most”). For the current study, the wording of several items was revised to be consistent with a more recent version of the NRI (Relationship Qualities Version; Furman & Buhrmester, 2010). To assess mother-child relationship quality, “mom” was inserted into each item. To assess friendship quality, the name of each youth’s highest-priority friend (identified using the friendship nominations measure) was inserted into each item.

As in past research, (Furman, 1996), youth were given composite scores for positive relationship quality. For each relationship, positive quality scores were the mean of the 21 items of the seven positive NRI subscales. Negative relationship quality scores were the mean of the 6 items of the two negative NRI subscales (i.e., antagonism and conflict). The scores were internally consistent for relationships for reports on mothers ($\alpha = .93$ for positive quality, $\alpha = .89$ for negative quality) and on friends ($\alpha = .95$ for positive quality, $\alpha = .85$ for negative quality).

Youth Self-Report—The Youth Self-Report (YSR; Achenbach, 1991; Achenbach & Rescorla, 2001) assesses emotional and behavioral problems. Youth were asked to report on each item as it pertained to them over the past six months. Items were rated on a 3-point scale (0 = “not true”; 1 = “somewhat or sometimes true”; 2 = “very true or often true”). YSR items are grouped according to three broad-band subscales: internalizing, externalizing and other problems. Of interest in the current study was the internalizing subscale. Youth in the first cohort completed the 1991 version of the YSR (Achenbach, 1991). Youth in the second cohort completed the 2001 version (Achenbach & Rescorla, 2001). However, most items were included on both versions. The 2001 version included 32 items on the internalizing scale. Of these, 29 items were administered to youth in both cohorts. These 29 items comprised the internalizing scale in the present study ($\alpha = .89$).

Mother-Report Measures

Network of Relationships Inventory—Mothers also responded to the Network of Relationships Inventory-Social Provisions Version (Furman & Buhrmester, 1985). Mothers responded to the same 27 items as the adolescents did and scores were computed in the same fashion. Mothers responded to the items in regards to their adolescent child and their closest female friend. For mother-child relationship quality, the adolescent’s name was inserted in each item. Mothers’ positive and negative relationship quality scores were internally consistent for relationships with children ($\alpha = .87$, $\alpha = .92$, respectively) and friends ($\alpha = .95$, $\alpha = .77$, respectively).

Brief Symptom Inventory—Mothers also responded to the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Mothers’ rated 51 symptoms on a 5-point Likert scale based on the degree to which each was distressing or bothersome over the past week (1 = “not at all”; 5 = “extremely”). Items were grouped into nine subscales. Of interest in the current study were the five depression scale items and six anxiety scale items. A mean of these items was computed and was internally consistent ($\alpha = .93$).

Imputation of Missing Data

Although the percent of participants who had complete data for every item on each measure ranged from 86% to 94% across measures, some data were missing for some items. Therefore, multiple imputation (MI) was performed with Proc MI in SAS (SAS Institute Inc., 2006). MI uses an algorithm to predict a likely score for each missing data point and then adds a randomly generated plausible error term to that score. This is repeated multiple times, creating multiple datasets, which are aggregated to produce final parameters estimates (Rubin, 1987; Widaman, 2006). Consistent with recommendations (Graham, Olchowski, & Gilreath, 2007), 100 imputations were computed in the present study. PROC MIANALYZE

(SAS Institute Inc., 2008) was used to aggregate results across datasets. Preliminary analyses indicated that the 107 youth who had complete data for all items did not differ from the 65 youth with at least one missing item on study variables, which supported the decision to impute the missing data.

Results

Aggregating Youth- and Mother-Reports of Mother-Child Relationship Quality

Mother-child relationship quality was assessed with mothers' reports and adolescents' reports to capture both mothers' and adolescents' perceptions of the relationship. Consistent with past research (Feinberg, Howe, Reiss, & Hetherington, 2000), the associations between mothers' and adolescents' reports were small but significant for positive ($r = .23, p < .01$) and negative ($r = .24, p < .01$) quality. Preliminary analyses were conducted in which the regressions described in the following sections were tested using different approaches to controlling for mother-child relationship quality. The regressions were tested using: (a) only mothers' reports of positive and negative mother-child relationship qualities as control variables, (b) only adolescents' reports of positive and negative mother-child relationship qualities as control variables, (c) mothers' reports and adolescents' reports of positive and negative mother-child relationship qualities as separate, simultaneous control variables, and (d) aggregate scores of positive and negative mother-child relationship qualities (the mean of mothers' and adolescents' reports) as control variables. Regardless of which approach was used, the same pattern of significant effects emerged for the associations of interest (i.e., associations of mothers' friendship qualities with adolescents' friendship qualities and emotional adjustment). The details of these results are not presented here in order to conserve space but this information is available from the authors. Because these effects did not vary as a function of which approach was used, aggregate reports were computed because this was the most parsimonious approach (i.e., resulted in the fewest variables). Specifically, as in some past studies (Conger et al., 1992; Power, Welsh, & Wright, 1994), aggregate reports were computed by taking the mean of mother- and youth-reports of positive quality and of negative quality.

Descriptive Statistics and Sex and Grade Differences in Study Variables

Means and standard deviations for all variables and correlations among the variables are presented in Table 1. In addition, a 2 (Sex) X 3 (Grade) analysis of variance (ANOVA) was conducted for each variable. The F values for the main effects and the means by sex and grade are presented in Table 2. Girls scored higher for positive friendship quality and positive mother-child relationship quality than did boys. Girls also reported higher internalizing symptoms. Significant grade effects emerged for positive and negative relationship quality with mothers. Tukey's tests indicated that fifth-graders scored higher on positive quality than eighth- or eleventh-graders (who did not differ from one another). Eighth-graders scored higher on negative relationship quality than fifth- and eleventh-graders (who did not differ from one another).

Associations Between Mothers' Friendship Quality and Youths' Friendship Quality

Two hierarchical linear regression models were used to test whether mothers' friendship qualities were related to their adolescent children's friendship qualities. The dependent variables were adolescents' positive friendship quality in one model and adolescents' negative friendship quality in the other model. The following variables were entered into each model as simultaneous predictors: sex, grade, positive and negative mother-child relationship quality (each score entered separately), adolescents' internalizing symptoms, and adolescents' positive and negative friendship qualities (each score entered separately). On a second step, the four two-way interactions of mothers' friendship quality (positive and

negative) with sex and with grade were tested (the Sex X Grade interaction term was included as well). On a third step, the two three-way interactions of mothers' friendship quality (positive and negative) with both sex and grade were tested.

The results are presented in Table 3. For adolescents' positive friendship quality, neither sex nor grade were significant predictors. Positive mother-child relationship quality was significantly associated with greater positive friendship quality among adolescents. Surprisingly, mother-child negative relationship quality also was related to greater positive friendship quality among adolescents. Adolescents' internalizing symptoms were not significantly associated with adolescents' positive friendship quality. Of primary interest, neither mothers' positive friendship quality nor their negative friendship quality was related to adolescents' positive friendship quality. Further, no interactions with sex or grade were significant (and the magnitude of these interactions was small, with no interaction accounting for more than .005 of the variance). For parsimony, the interactions are not presented in the table. Notably, the bivariate correlations (see Table 1) also indicated that the relations between mothers' friendship quality (positive and negative) and adolescents' positive friendship quality were not significant.

In the model predicting adolescents' negative friendship quality, neither sex nor grade were significant predictors. Negative (but not positive) mother-child relationship quality was associated with greater negative friendship quality among adolescents. Internalizing symptoms also were associated with greater negative friendship quality among adolescents. Of primary interest, negative quality in mothers' friendships was associated with greater negative quality in adolescents' own friendships. However, mothers' positive friendship quality was not associated with adolescents' negative friendship quality. No interactions with sex or grade were significant (and no interaction accounted for more than .005 of the variance).

Associations Between Mothers' Friendship Quality and Youths' Emotional Adjustment

A hierarchical linear regression model tested whether mothers' friendship qualities were related to their children's emotional adjustment. The results are presented in Table 4. The dependent variable was adolescents' internalizing symptoms. The following variables were entered into each model as simultaneous predictors: sex, grade, mothers' internalizing symptoms, positive and negative mother-child relationship quality (each score entered separately), adolescents' positive and negative friendship qualities (each score entered separately), and mothers' positive and negative friendship quality. The effects of sex and grade were significant with girls and younger youth reporting greater symptoms. The effects of mothers' internalizing symptoms, mother-child relationship quality (positive or negative), and adolescents' friendship quality (positive or negative) were not significant. Of primary interest, mothers' negative friendship quality was associated with heightened internalizing symptoms among adolescents. However, the effect of mothers' positive friendship quality was not significant. On a second step, four two-way interactions of mothers' friendship quality (positive or negative) with sex and grade were tested (as was the Sex X Grade interaction term). On a third step, two three-way interactions of mothers' friendship quality (positive or negative) were tested. No interactions were significant (none accounted for more than .005 of the variance). The bivariate correlation between mothers' positive friendship quality and adolescents' internalizing symptoms also was not significant (see Table 1).

Discussion

The present study demonstrates that mothers' experience of negative qualities in their friendships is related to their adolescent children experiencing negative friendship quality and elevated internalizing symptoms, even while controlling for mother-child relationship

quality. Despite broad acceptance that exosystems may be related to youths' development (e.g. Bronfenbrenner, 1979; 1986; Cicchetti & Toth, 1998), such contexts have been understudied, and little attention has been paid to parents' friendships. The present study makes an important contribution by highlighting the associations of mothers' friendships with their children's adjustment in adolescence. Because this work was motivated by ecological systems theory and the idea that exosystems may influence youths' development, the findings are largely discussed within that theoretical framework. However, because the study was not longitudinal and because third-variable explanations also cannot be ruled out, these interpretations are speculative (and other explanations are considered later in the Discussion).

The first major aim was to test the relation between mothers' friendship quality and the quality of their adolescent children's friendships. Mothers whose friendships were characterized by negative qualities had adolescent children who also had friendships high in conflict and antagonism. This finding provides an important extension to past work. The only previous study to assess the relation between mothers' and their adolescent children's friendship quality (Markiewicz et al., 2001) relied on adolescents' reports of the quality of their mothers' friendships. In contrast, by incorporating mothers' own reports of friendship quality, the present study identified relations between the qualities of mothers' and adolescents' friendships that could not be due to biased perceptions on the part of the adolescents or shared method variance.

In addition, because the relation held while statistically controlling for mother-child relationship quality, the findings suggests that the qualities of mothers' friendships may be uniquely associated with their adolescent children's friendship quality even after accounting for the more proximal variable of mother-child relationship quality. If longitudinal studies indicate that mothers' negative friendship quality predicts increases in adolescents' negative friendship quality, research should address mechanisms that explain this relation. Mothers who behave in a conflictual manner with friends may signal to their children that such behavior is acceptable, or even normative, in friendships. Moreover, the contexts in which children witness these negative behaviors (i.e., mothers' friendships) may serve as a reference point for contexts in which the children could display the behavior themselves (see Bandura, 1986). Importantly, these future studies should continue to control for mother-child relationship quality and also should control for other features that may stem from the mother-child relationship (e.g., attachment styles, relationship schemas) that could influence both mothers' and children's friendships.

Negative qualities in mothers' friendships also were related to youths' internalizing symptoms. Although one past study reported links between mothers' friendships and negative emotionality among children (Homel et al., 1987), the current study extends these findings to adolescents. As with the results for adolescent friendship quality, the relations held even when controlling for mother-child relationship quality.

Although the relations also held while controlling for mothers' internalizing symptoms, it should be noted that mothers' and adolescents' internalizing symptoms were not significantly related. This was surprising given that mothers with internalizing symptoms tend to have children at risk for emotional problems (Downey & Coyne, 1990; Goodman & Gotlib, 1999). However, a closer examination of the literature indicates that relations between mothers' and adolescents' reports of their own internalizing symptoms are often small (e.g., r s ranging from .08–.28, Kouros & Garber, 2010; r s of .05 and .10, Nelson, Hammen, Brennan, & Ullman, 2003) and similar to the relation found in the current study ($r = .12, p = .11$). The relations tend to be larger when mothers report on both their own and their children's symptoms (perhaps due to shared method variance, e.g., Nelson et al., 2003).

Relations also are stronger when clinic-referred mothers are considered as opposed to mothers from community samples (Connell & Goodman, 2002). Future studies with clinical samples could consider whether mothers' friendships are related to adolescents' internalizing symptoms even after accounting for more serious emotional maladjustment among mothers.

Research also should examine processes that might account for the association between mothers' negative friendship quality and heightened internalizing symptoms among their adolescent children. Perhaps witnessing mothers' experience of conflictual, antagonistic friendships elicits interpersonal concern in adolescents. This would fit with both the "costs of caring" hypothesis (e.g. Kessler & McLeod, 1984; 1985) and the recent work on empathetic distress (Smith & Rose, 2011). That is, youth may take on as their own mothers' negative feelings about stressful friendships and experience empathetic distress, which could be associated with more generalized internalizing symptoms. Youth who are especially interpersonally oriented may be particularly at risk of experiencing empathetic distress and associated emotional problems. In addition, past work indicates that some mothers co-ruminate, or engage in lengthy, repetitive discussions, about their own problems with their adolescent children (Waller & Rose, 2010). Perhaps the relation between mothers' negative friendship quality and adolescents' internalizing symptoms is intensified when mothers co-ruminate with their adolescent children about the mothers' own friendship problems.

Adolescents' exposure to mothers' negative relationships also might provide insight into their mothers' lives that is distressing. Mothers' behaviors in their friendships may not be consistent with the impressions that they reveal to their children through their maternal role. If youth see mothers as contentious or conflictual with friends, this might highlight their mothers' imperfections, which could be upsetting. Exposure to mothers' negative behavior may be especially distressing if mothers are friends with the mothers of the adolescents' own friends. Studies also could test whether mothers who have negative friendship interactions also have problems in other relationships that their adolescents witness, such as with neighbors and teachers. Mothers who have negative interactions with many adults may represent a particularly toxic influence on youths' adjustment.

Despite the findings for negative friendship quality, mothers' positive quality was not related to adolescents' friendship or emotional adjustment. Simply put, exposure to negative interactions may be more salient to youth than exposure to positive interactions. This idea is consistent with the well-documented findings that negative behaviors are far more salient (e.g., more likely to be attended to by others, more likely to be modeled) than positive behaviors (see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001). Accordingly, conflictual and antagonistic interactions between mothers and friends may more readily seize youths' attention than an embrace, smile, or words of support.

Another possibility is that relations between mothers' positive friendship quality and youths' adjustment would be significant in a more representative sample. In the current study, about 40% of invited mothers participated, and these mothers had somewhat higher household incomes and education levels than others in their communities. It may be that these mothers' also had friendships that were characterized by particularly positive qualities. This could restrict the range of positive friendship quality scores, which would make it more difficult to detect significant results. Future research should increase recruitment efforts (e.g., by providing incentives) to examine relations of mothers' friendships with youth adjustment in an even more representative sample.

The present study also considered sex and developmental differences. Consistent with past research, girls' friendships and relationships with mothers were defined by greater positive

qualities than were boys (see Rose, Smith, Glick, & Schwartz-Mette, 2012) and girls reported greater internalizing symptoms than boys (see Hankin & Abramson, 2001). Fifth-graders also had relationships with mothers that were higher in positive quality than eighth- or eleventh-graders. Eighth-graders' relationships with mothers were higher in negative qualities than fifth- or eleventh-graders. These developmental differences also fit with past research (De Goede, Branje, & Meeus, 2009; Furman & Buhrmester, 1992). Yet, despite mean differences, relations of mothers' friendship quality with adolescents' friendship quality or internalizing symptoms did not differ by sex or grade. This was somewhat surprising, especially for internalizing symptoms given that the "costs of caring" are thought to be especially pronounced for girls (Gore et al., 1993; Smith & Rose, 2011). Given the relatively small samples of girls and boys within each grade, replicating these findings with a design with even greater power will be useful.

Also, although the current study places the associations between mothers' friendships and youths' development in the context of ecological systems theory (i.e. Bronfenbrenner, 1979) additional explanations may account for these links. For instance, it may be that the relationships between negative qualities in mothers' friendships and adolescents' adjustment are influenced by genetic factors. If negative friendship quality is driven by personal characteristics of mothers that are, in part, accounted for by genetic factors, it may be that children inherit some of these characteristics from their mothers. This would then represent a *passive gene-environment correlation*, whereby adolescents' exposure to mothers' negative friendship quality, driven in part by genetic underpinning rather than characteristics of adolescents themselves, help explain adolescents' social and emotional maladjustment (see Brendgen, 2012).

However, longitudinal data would be needed to test whether mothers' friendship quality actually predicts changes in adolescents' adjustment over time. It is possible that such data would support the other direction of effect as well, or that youths' friendship or emotional problems also lead to increases in mothers' friendship problems. This would be analogous to the idea that there are child-driven effects on family processes (Bell & Chapman, 1986; Ge, Conger, Lorenz, Shanahan, & Elder, 1995). For instance, studies indicate that adolescent depression predicts increases in marital problems (Cui, Donnellan, & Conger, 2007; Wymbs, 2011). Similarly, parenting youth with social or emotional adjustment problems might be stressful and deplete the emotional resources that mothers need to build healthy friendships.

The assessment of friendships and friendship quality also could be expanded in future studies. The present study only considered same-sex friendships between adolescents in the same grade. Whether these findings replicate in different friendship contexts (e.g. cross-sex friendships, friendships outside of the school context, friendships between youth of different ages) is important to examine. Also, in the current study, youth were allowed to nominate only three friends, which may have reduced the number of reciprocal friendships identified. Replicating the current findings with an unlimited friendship nominations approach would be useful. In addition, in terms of friendship quality, the current study relied on a single score for negative friendship quality, whereas past research highlights the importance of more nuanced assessments, such as considering the frequency of conflicts, affect expressed during conflicts, and how conflicts are resolved (see Laursen & Hafen, 2010). Future studies might consider utilizing these more detailed methods of assessing friendship quality. Furthermore, the current study also relied on mothers' and adolescents' self-reports of friendship quality and future studies could employ a multi-method assessment by obtaining reports from the friends as well.

Finally, fathers also should be considered in future research. Research is needed to test whether the quality of fathers' friendships also predicts their adolescent children's friendship qualities and internalizing symptoms. Considering the mother's relationship with the father may be important too. For example, the association of mothers' negative friendship quality with adolescents' adjustment may be especially pronounced when mothers have conflictual or unsupportive relationships with fathers.

In conclusion, although friendships across all life stages are generally considered to be a positive source of support, the present study suggests that conflict and antagonism in mothers' friendships may be linked with maladjustment among their adolescent children. Although mothers' friendships may initially seem too distal to impact their children, the current findings highlight the importance of future work considering whether mothers' experience of negative friendship quality predicts increases in adolescents' friendship and emotional problems over time. If this is the case, then mothers' friendships could provide an important and understudied point of prevention and intervention efforts aimed at improving the lives of adolescents.

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Table 1

Descriptive Statistics and Correlations Among Study Variables

(<i>N</i> = 172)	1.	2.	3.	4.	5.	6.	7.
1. Mothers' positive friendship quality <i>M</i> = 2.78 (<i>SD</i> = 0.81)							
2. Mothers' negative friendship quality <i>M</i> = 1.25 (<i>SD</i> = 0.38)	-.29***						
3. Adolescents' positive friendship quality <i>M</i> = 3.48 (<i>SD</i> = 0.89)	-.02	.06					
5. Adolescents' internalizing symptoms <i>M</i> = 0.43 (<i>SD</i> = 0.29)	.07	.32***	-.06	.26***			
6. Positive mother-child quality <i>M</i> = 3.55 (<i>SD</i> = 0.50)	.08	.02	.25***	.00	-.04		
7. Negative mother-child quality <i>M</i> = 1.94 (<i>SD</i> = 0.72)	.12	.21**	.14	.26***	.16*	-.23**	
8. Mothers' internalizing symptoms <i>M</i> = 1.33 (<i>SD</i> = 0.50)	.11	.15*	-.07	.01	.12	-.04	.12

Notes.

*
p < .05;

**
p < .01;

p < .001.

Mean Comparisons by Sex and Grade: Friendship Quality, Mother-Child Relationship Quality, and Internalizing Symptoms

Table 2

	Sex		Grade				
	Females <i>M</i> (<i>SD</i>)	Males <i>M</i> (<i>SD</i>)	<i>F</i> value	5 th grade <i>M</i> (<i>SD</i>)	8 th grade <i>M</i> (<i>SD</i>)	11 th grade <i>M</i> (<i>SD</i>)	<i>F</i> value
(<i>N</i> = 172)							
Positive friendship quality	3.59 (0.84)	3.32 (0.93)	3.93*	3.40 (1.02)	3.68 (0.83)	3.36 (0.80)	2.17
Negative friendship quality	1.75 (0.76)	1.64 (0.67)	0.60	1.67 (0.72)	1.77 (0.77)	1.67 (0.68)	0.29
Internalizing symptoms	0.51 (0.31)	0.31 (0.21)	21.88***	0.51 (0.37)	0.42 (0.25)	0.37 (0.25)	2.45
Positive mother-child quality	3.61 (0.52)	3.46 (0.47)	4.28*	3.77 (0.46)	3.49 (0.55)	3.44 (0.44)	5.12**
Negative mother-child quality	1.98 (0.65)	1.88 (0.60)	0.21	1.78 (0.55)	2.16 (0.69)	1.88 (0.57)	5.35**

Notes.

* $p < .05$;

** $p < .01$;

*** $p < .001$. *F* values are from 2 (sex) X 3 (grade) ANOVAs computed for each study variable. Interactions of sex and grade were tested though none were significant.

Table 3

Associations Between Friendship Qualities of Mothers' and Their Adolescents

Adolescents' positive friendship quality			
(<i>N</i> = 172)	β	<i>t</i> value	<i>R</i> ²
Sex (0 = male, 1 = female)	-.12	1.46	.124**
Grade	.03	0.36	
Positive mother-child quality	.27	3.30**	
Negative mother-child quality	.21	2.60**	
Adolescents' internalizing symptoms	-.12	1.42	
Mothers' positive friendship quality	-.02	0.30	
Mothers' negative friendship quality	.03	0.31	
Adolescents' negative friendship quality			
(<i>N</i> = 172)	β	<i>t</i> value	<i>R</i> ²
Sex (0 = male, 1 = female)	.04	0.53	.176***
Grade	.07	0.84	
Positive mother-child quality	.05	0.67	
Negative mother-child quality	.17	2.27*	
Adolescents' internalizing symptoms	.16	2.06*	
Mothers' positive friendship quality	.09	1.01	
Mothers' negative friendship quality	.26	2.91**	

*Notes.**
p < .05;**
p < .01;***
p < .001

Table 4

Associations Between Mothers' Friendship Qualities and Adolescents' Internalizing Symptoms

(N = 172)	Adolescents' internalizing symptoms		
	β	<i>t</i> value	<i>R</i> ²
Sex (0 = male, 1 = female)	-.30	4.39 ^{****}	.276 ^{***}
Grade	-.17	2.28 [*]	
Mothers' internalizing symptoms	.05	0.74	
Positive mother-child quality	-.11	1.41	
Negative mother-child quality	.02	0.28	
Youths' positive friendship quality	-.09	1.07	
Youths' negative friendship quality	.15	1.90	
Mothers' positive friendship quality	.08	1.67	
Mothers' negative friendship quality	.25	3.05 ^{**}	

*Notes.**
 $p < .05$;**
 $p < .01$;***
 $p < .001$;****
 $p < .0001$.