

THE ROLES OF PARENTS AND CLOSE FRIENDS  
AS INFORMATION SOURCES REGARDING  
CHILDREN'S AND ADOLESCENTS' ADJUSTMENT

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of the Requirements for the Degree  
Doctor of Philosophy

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by  
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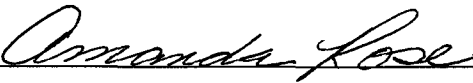
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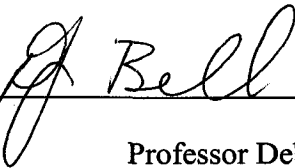
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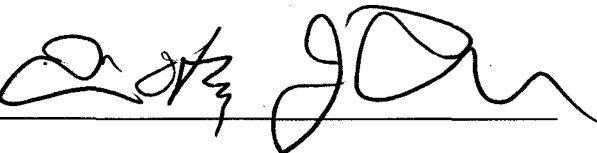
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## DEDICATION

To my beautiful wife and daughter.

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ABSTRACT

Others' reports of youth distress (e.g., parent, aggregated peer reports) typically evidence small to moderate agreement with youth self-reports (e.g., Achenbach et al., 1987). Recent findings demonstrate that children's and adolescents' close friends also may be knowledgeable of youth psychological adjustment (i.e., depressive symptoms; Swenson & Rose, 2003). The present research extends prior findings on friends' knowledge of youth adjustment by (a) directly comparing self-friend agreement to self-mother agreement, (b) expanding the domains of adjustment considered to include behavioral as well as emotional adjustment, and (c) examining the moderating influences of relationship quality and self-disclosure on self-other agreement. Relations between friend- and self-reported externalizing problems were stronger than for internalizing symptoms. Significant relations also emerged between mother- and self-reports of both internalizing and externalizing symptoms. When friend- and mother-reports were considered simultaneously, only mother-reported distress significantly predicted youth self-reported internalizing adjustment. For externalizing adjustment, however, both friend- and mother-reported distress uniquely predicted self-reported symptoms. Relations were moderated by qualities of the relationship and by self-disclosure. Implications for the assessment of at-risk youth are discussed.

## INTRODUCTION

Multi-informant approaches to the study of childhood psychopathology help address problems associated with self-report data (e.g., social desirability biases) and enhance the validity and sensitivity of assessment protocols (Achenbach, 2006; Achenbach, McConaughy, & Howell, 1987; Campbell & Fiske, 1959; Cole, Hoffman, Tram, & Maxwell, 2000; Faraone & Tsuang, 1994). Acquiring multiple perspectives also enhances understanding of the degree to which children and adolescents manifest symptoms and behaviors differently in diverse settings (Achenbach, 1995, 2006; Cantwell, Lewinsohn, Rohde, & Seely, 1997; Mash & Terdal, 1988).

With regard to *specific* informants, parents are often considered crucial sources of information regarding children's functioning due to their prominent role in children's lives (Achenbach, 1999; Duhig, Renk, Epstein, & Phares, 2000; Kazdin, 1994). Significant relations are found between parent-reports and youth self-reports of emotional (e.g., Epkins, 1996) and behavioral (e.g., Cantwell et al., 1997) distress. However, concordance between parent- and self-reports is typically modest (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005). This small-to-moderate agreement may negatively impact epidemiological research, as reports from various informants can result in significantly different prevalence estimates (e.g., Cantwell et al., 1997; Jensen, Salzberg, Richters, & Watanabe, 1993; Offord et al., 1996; Sawyer, Baghurst, & Clark, 1992). In addition, correlates of youth functioning may depend upon the source of information used and may not generalize across informants (for related discussions see De Los Reyes & Kazdin, 2005; Kolko & Kazdin, 1993).

Recent findings suggest that children's and adolescents' close friends may be valuable informants regarding youth psychological adjustment (Swenson & Rose, 2003). In this study, the first to examine close friends' reports of children's and adolescents' emotional distress, significant positive relations were found between friend- and youth self-reported depression (i.e.,  $r = .21$ ). Relations were similar in magnitude to those typically found between youth- and parent-reports (e.g., the meta-analytic review by Achenbach and colleagues [1987] found an average correlation of .25 between parent- and self-reported adjustment).

However, several limitations of this initial study are worth noting. First, adjustment was limited to depressive symptoms, and the generalizability of the findings to broader indices of adjustment (e.g., internalizing problems, externalizing behavior) is uncertain. Second, although there is certainly great variation in interactional patterns (i.e., self-disclosure) among friendships, these patterns were not assessed. In addition, no developmental differences in relations between friend- and self-reports were found, possibly because friends become more knowledgeable with age and the oldest participants in this research were only early adolescents. Finally, the study did not include a parent sample; comparisons of congruence between self- and friend-reports versus self- and parent-reports could not be conducted. The lack of a parent sample also made it impossible to determine whether friends' knowledge contributes to the understanding of youth depressive symptoms over and above information that could have been obtained from primary caregivers. The present study was conducted to address these limitations.

### Parents as Reporters of Emotional and Behavioral Functioning

Children are highly dependent upon their parents for meeting their biological and socialization needs (Parke & Buriel, 1998). Beginning in infancy and continuing throughout adolescence, the parent-child relationship has a profound effect on children's social, emotional, and behavioral adjustment (e.g., Belsky, Fish, & Isabella, 1991; Collins, Maccoby, Steinberg, Heatherington, & Bornstein, 2000; Doyle & Markiewicz, 1996; Maccoby, 1992). For example, parental warmth and control is consistently found to influence social competence, achievement, and emotional and behavioral adjustment for both young children (e.g., Maccoby, Snow, & Jacklin, 1984) and adolescents (e.g., Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). In addition, children rate their parents as important sources of affection, alliance, enhancement of self-worth, and assistance (Furman, 1989; Furman & Buhrmester, 1985).

With these considerations in mind, it is not surprising that parents are often considered necessary informants when assessing youth emotional and behavioral adjustment (Achenbach, 2006; Achenbach et al., 1987; Duhig et al., 2000; De Los Reyes & Kazdin, 2005). The preference for parent reports of distress in part reflects the fact that parents are often responsible for obtaining psychological services for at risk youth (Achenbach, 1999; Clarizio, 1994; Treutler & Epkins, 2003). The weight placed upon parents' perceptions also recognizes the important roles parents fulfill in the lives of children and adolescence.

In terms of observing their children's distress, parents may be advantaged due to the significant amount of time they spend with their children (Achenbach, 1999; Duhig et al., 2000; Kazdin, 1994). As adults, parents' cognitive capabilities and their life

experience observing the functioning of others also should help them gauge the degree to which youth are having difficulties (McConaughy & Achenbach, 1989). In addition, parents are in unique positions to observe their children over an extended period of time, thus allowing for recognition of both normative and problematic changes in adjustment.

There may be differences in which parent has the greatest insight. Researchers and clinicians are more likely to obtain information from mothers than fathers (Phares, 1992; Phares & Compas, 1992). Parents themselves identify mothers as more accurate informants of youth functioning than fathers (Phares, 1997), possibly because of the greater amount of time mothers spend with children compared to fathers (Buhrmester, Camparo, Christensen, Gonzalez, & Hinshaw, 1992; Treutler & Epkins, 2003; for a related discussion see Richters, 1992).

The present research evaluates whether mothers' reports of their children's internalizing and externalizing adjustment are related to youth self-reported adjustment for the purpose of replicating prior findings (e.g., Achenbach et al., 1987) and for comparisons between self-mother and self-friend agreement. Mother-reports of youth adjustment are expected to be significantly related to self-reported internalizing and externalizing symptoms.

#### Close Friends as Reporters of Emotional and Behavioral Functioning

Friendships are highly valued by children, adolescents, and adults (Bukowski, Newcomb, & Hartup, 1996; Hartup & Stevens, 1997). Importantly, friendships are voluntarily selected and maintained (Aboud & Mendelson, 1996), which differs from children's relationships with teachers, family members, and classmates. In addition, close friendships are often considered essential to children and adolescents' socioemotional



development (Berndt, 2002; Newcomb & Bagwell, 1996; Rubin, Bukowski, & Parker, 1998).

According to Sullivan's theory of interpersonal psychiatry (1953), with age children's social needs (e.g., need for intimacy, companionship, and acceptance) are increasingly met within their close friendships (see Furman, 1989; Rubin et al., 1998). Decades of research on children's and adolescents friendships support Sullivan's theory. For example, research consistently demonstrates that friends fulfill important roles as companions and confidants (Asher & Parker, 1989; Bukowski et al., 1996; Rose & Asher, 2000). In addition, having friends is associated with positive outcomes such as enhanced socialization and social competence, higher self-esteem, and academic adjustment (e.g., Hartup & Stevens, 1997; Newcomb & Bagwell, 1995; Parker & Asher, 1993).

Although parents have been shown to be valuable informants of youth functioning, the low level of agreement between self- and parent-reports of youth distress warrants identifying alternative informants. Surprisingly, the literature has largely failed to consider close friends as information sources regarding children's and adolescents' adjustment. This is unfortunate given the significant functions friendships fulfill in the lives of youth (Rubin et al., 1998).

Members of children's and adolescent's peer network are in unique positions to observe symptoms of youth distress. Peers are advantaged in terms of access to subtle behaviors and social interactions within peer groups that may be difficult for adults to observe (Crick & Grotpeter, 1995; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976). For example, peers are able to observe symptoms related to social contexts, such as

withdrawing or exhibiting a lack of pleasure when associating with the peer group. In fact, aggregate peer-report indices of distress based on classmate nominations evidence significant relations with self-reported symptoms (e.g., Lefkowitz & Tesiny, 1980; Weiss, Harris, & Catron, 2002).

Close friends, however, may be especially knowledgeable of youth distress compared to acquaintances or other peers. Friendships are characterized by more extensive and intensive interactions than acquaintance relationships (Hartup, 1996; Hartup & Stevens, 1997; Newcomb & Bagwell, 1996). For example, dyadic friendship partners are found to exhibit more positive engagement (e.g., greater communication) compared to children and adolescents who are not friends (Newcomb & Bagwell, 1995). In addition, during middle childhood and adolescence youth spend almost one-third of their time awake with friends (Larson & Bradney, 1988), which should provide friends with numerous opportunities to observe symptoms of distress. Taken together, these findings suggest that children's and adolescents' friends may have unique opportunities to learn of and observe problematic adjustment in a variety of settings compared to parents or other persons in youth's lives. However, to date only a few studies have investigated children's knowledge about a best friend. This research has found that youth are relatively aware of friends' preferences and personality characteristics (Diaz & Berndt, 1982) and also of friends' academic involvement and performance (Berndt & Keefe, 1995).

Our prior work found evidence suggesting that children's and adolescents' close friends are knowledgeable of youth depressive symptomatology (Swenson & Rose, 2003). This prior study was designed to examine friend-reports of depressive symptoms

and thus employed the Children's Depression Inventory (CDI; Kovacs, 1992). However, the findings also suggest that friends may be aware of youth externalizing problems. In this study, a factor analysis of the CDI indicated two factors, one characterized by emotional distress and somatic symptoms (e.g., "I am sad all the time") and one characterized by conduct and school-related problems (e.g., "I get into fights all the time"). Importantly, the magnitude of self-friend agreement was significant for conduct/school related problems as well as for emotional/somatic problems. To replicate and extend these findings, the present research tests whether friend-reports of adjustment are related to self-reported adjustment using measures specifically designed to assess broader indices of internalizing and externalizing symptoms (i.e., the Achenbach Checklists; Achenbach & Rescorla, 2001). We anticipate that friend-reports of youth adjustment will be significantly related to self-reports for both internalizing and externalizing symptoms. In addition, and consistent with our prior research (Swenson & Rose, 2003), relations between self- and friend-reported adjustment are anticipated to be similar in magnitude to relations observed between self- and mother -reported adjustment (e.g., Achenbach et al., 1987).

#### Moderating Influences on Self-Other Agreement

Potential moderators affecting concordance between self- and other-reports (i.e., mothers, close friends) will also be tested in this research. Specifically, the gender and grade of the target youth, relationship qualities, patterns of self-disclosure, and the other-informants' own symptoms of distress are anticipated to influence agreement between self- and other-reports of child symptomatology. In the following section, each of these potential moderators is considered.

*Gender Differences*

Gender is expected to be a significant moderator of relations between self- and other-reports of adjustment, such that associations between reports are expected to be stronger for girls than for boys. Consistent gender differences are found in both mother-child and in peer interactions. With regard to mother-child dyads, research has shown that girls exhibit greater emotional self-disclosure and intimacy with their parents than do boys (Furman & Buhrmester, 1985, 1992; Papini, Farmer, Clark, Micka, & Barnett, 1990). Relatedly, mothers tend to engage in conversations about problems more with daughters than with sons (e.g., Reese & Fivush, 1993). Considering gender differences in friendships, girls spend more time in friendship dyads than do boys (e.g., Benenson, Apostoleris, & Parnass, 1997) whereas boys spend more time with groups of peers and in structured activities than do girls (e.g., Moller, Hymel, & Rubin, 1992). In addition, girls report higher levels of intimacy within their friendships than do boys (e.g., Furman & Buhrmester, 1985, 1992). Cumulatively, these considerations suggest that agreement between self- and other reports of distress should be greater among girls' relationships than among boys. This is supported by some of the findings from prior research on parent-child agreement (e.g., Jensen, Xenakis, Davis, & Degroot, 1988; but see De Los Reyes & Kazdin, 2005) and from the literature on friend's knowledge of youth characteristics (Berndt & Keefe, 1995; Diaz & Berndt, 1982) and depressive symptoms (Swenson & Rose, 2003).

*Developmental Differences*

Developmental differences are also expected in the concordance between self- and other-reports of child psychopathology. For mother-child agreement, associations

between the self- and mother-reports of youth adjustment are anticipated to be stronger for younger children than for middle and older adolescents. Prior research has shown that younger children spend more time with and self-disclose more to parents than do older youth (Buhrmester & Furman, 1987; Furman & Buhrmester, 1992; Hartup, 1996). Consistent with this hypothesis, agreement between youth self-reports and reports obtained from parents for both internalizing and externalizing symptomatology has been found to be stronger for younger than older youth (e.g., Achenbach et al., 1987; Cantwell et al., 1997). However, other research has not found developmental differences in the level of agreement between parents and their children (e.g., Berg-Nielsen, Vika, & Dahl, 2003; Edelbrock, Costello, Dulcan, Conover, & Kala, 1986) or found that agreement increases with age (e.g., Grills & Ollendick, 2003).

For self-friend agreement the opposite pattern is anticipated; self-friend agreement is hypothesized to be stronger for older adolescents than for younger children. Children's friendships become increasingly important with age (Bukowski et al., 1996). For example, as youth get older, time spent in the company of friends and self-disclosure to friends increases (Buhrmester & Furman, 1987; Furman & Buhrmester, 1992; Hartup, 1996) as does the value placed upon intimacy within the friendship (Berndt, 1982; Furman & Buhrmester, 1992). Thus, friends of older youth may be particularly advantaged with regard to obtaining knowledge of their friends' distress. Age has been found to be positively related to friends' knowledge of personality characteristics (Diaz & Berndt, 1982). It should be noted, however, that developmental differences were not found in relations between self- and friend-reports of youth depressive symptoms (Swenson & Rose, 2003). In this prior study, the oldest participants were only early

adolescents (i.e., ninth-graders). The sample for the current study includes older adolescents (i.e., eleventh-graders) in addition to youth in middle childhood (i.e., fifth-graders) and early adolescents (i.e., eighth-graders). It may be that friends do not become especially knowledgeable about youths' distress until later adolescence.

### *Relationship Quality*

Relationship quality is often operationalized as having two distinct dimensions: positive quality (which includes features such as intimacy, validation and support, and companionship) and negative quality (which includes features such as conflict, rivalry, and betrayal; Berndt, 1996, 2002; Furman, 1996; Hartup, 1996). The two dimensions are generally weakly correlated (Berndt, 1996; Furman, 1996; Furman & Buhrmester, 1992). Because individuals in relationships with higher levels of positive relationship qualities experience enhanced intimacy, increased responsiveness, and more time together compared to those in relationships with lower positive relationship quality, members of relationships high in positive relationship quality should have more opportunities to witness their partners' distress. Thus, positive relationship quality may be related to greater concordance between self- and other-reports of distress. In contrast, individuals in relationships high in negative qualities experience increased discord and relationship instability, which may reduce opportunities to observe a partner's distress.

Previous findings with maternal informants are consistent with these expectations. Higher concordance between mother- and self-reports of externalizing symptoms (but not internalizing symptoms) has been observed among mother-child relationships high in maternal acceptance (Kolko & Kazdin, 1993; Treutler & Epkins, 2003). Also, mother-child conflict has been found to negatively influence self-mother concordance for both

internalizing (e.g., Grills & Ollendick, 2003) and externalizing (e.g., Treutler & Epkins, 2003) behaviors.

For friends a somewhat differing picture emerges. Although maternal acceptance did not influence mother-child agreement in terms of internalizing symptoms (e.g., Treutler & Epkins, 2003), agreement between self- and friend-reports of depressive symptoms was moderated by positive friendship quality (Swenson & Rose, 2003). In addition, positive relationship quality has been found to moderate knowledge of preferences and personality characteristics of a close friend (Diaz & Berndt, 1982). Also, although mother-child conflict affected mother-child agreement for both internalizing and externalizing symptoms (Grills & Ollendick, 2003; Treutler & Epkins, 2003), negative friendship quality was not found to influence friends' knowledge of depressive symptoms (Swenson & Rose, 2003).

In the present research, both positive and negative relationship qualities are tested as moderators of self-other agreement. Consistent with the previously discussed findings, positive relationship quality is hypothesized to moderate self-parent agreement for externalizing symptoms but perhaps not for internalizing symptoms. Negative quality is hypothesized to moderate self-parent agreement for both internalizing and externalizing symptoms. Positive relationship quality is also expected to moderate relations between friend- and self-reports of internalizing and externalizing symptoms. It less clear, however, whether negative quality will moderate concordance between self- and friend-reported psychopathology.

The moderating influences of positive and negative relationship quality on agreement also may depend upon whose perceptions are being considered. For example,

Treutler and Epkins (2003) found that *child*-reported mother-child relationship measures, but not *mother*-reported mother-child relationship measures, were related to agreement between mother- and child-reports of youth internalizing and externalizing symptoms. In the current study each informant's perceptions of relationship quality will be considered. Specifically, for the mother-child relationship, both the target youth's perceptions and the mother's perceptions of positive and negative relationship quality will be examined as moderators of agreement between self- and mother-reported adjustment. Similarly, when considering friendships, both the target youth's and the friend's perspectives on positive and negative friendship quality will be evaluated.

### *Self-Disclosure*

Although intimate self-disclosure is often included as a component of relationship quality, it may be a particularly important influence on agreement. Therefore, self-disclosure receives additional attention in the current research. Self-disclosure involves sharing personal thoughts and feelings with others. Children and adolescents consistently rate parents, particularly mothers, as important confidants (e.g., Furman & Burhmester, 1985; Malecki & Demaray, 2002). In addition, an important characteristic of friendships is that they provide a context for self-disclosure (Berndt & Hanna, 1995; Rose & Asher, 2000). For example, youth self-disclose more to friends than to same-age acquaintances (Newcomb & Bagwell, 1995).

Given the personal nature of psychological distress, it may be that the greatest concordance between self- and other-reports of youth adjustment will be evident among dyadic relationships characterized by high levels of self-disclosure. Specifically, self-disclosure may be an important mechanism through which relationship partners learn of



each other's thoughts and feelings. This may result in self-disclosure moderating self-other concordance for internalizing distress. However, because symptoms of externalizing distress are more easily observed, self-disclosure is not expected to moderate self-other concordance for externalizing behaviors.

Surprisingly, the multi-informant literature concerning child psychopathology has generally not considered the potential influences of self-disclosure on agreement. With regard to maternal knowledge, one study found that the number of topics mothers and their children discussed was related to mother-child agreement for internalizing and externalizing symptoms (Treutler & Epkins, 2003). However, the number of topics discussed was assessed by children indicating whether or not they had discussed each topic on a list of 36 specific topics within the past two weeks, and this list included topics of a relatively non-personal nature (e.g., "cleaning up bedroom"). With regard to close friends, our prior research considered relationship quality as a moderator of self-friend agreement and included items about self-disclosure in the relationship quality measure; however, the moderating influence of self-disclosure was not tested separately as self-disclosure was assessed with only three items (Swenson & Rose, 2003). In addition, the items did not specify whether the problem being discussed was the target child's or the friends'.

The current study extends prior research by using a measure specifically designed to assess self-disclosure. In addition, whose problem is being discussed (i.e., the target child's or the relationship partner's) is specified. It is expected that self-disclosure about the target child's problems will moderate self-other agreement for both friend- and mother-reports of internalizing symptoms. In contrast, the other-reporters' self-disclosure

about their own problems is not expected to influence associations. Lastly, for mother-child self-disclosure both the mother's perspective and their child's perspective will be examined separately. For self-disclosure within friendships, both the target child's and the friend's perceptions of self-disclosure will be tested as moderators of relations between self- and friend-reported adjustment.

### *Length of Friendship*

Friendships differ in their stability, with some friendships lasting while others terminate relatively quickly (Berndt & Hoyle, 1985; Newcomb & Bagwell, 1995). As the length of the friendship increases, opportunities to observe behavior and functioning in a variety of settings should also increase. Therefore, friendship length could be expected to influence knowledge of or awareness of friends' emotional and behavioral functioning. Consistent with this hypothesis, stable friendships are associated with greater affective reciprocity and enhanced understanding between the members of the friendship dyad compared to unstable friendships (Newcomb & Bagwell, 1995). The current study extends prior research on close friends' knowledge of youth adjustment (Swenson & Rose, 2003) by testing whether the length of the friendship influences self-friend concordance. Specifically, friendships of longer duration are expected to evidence stronger relations between self- and friend-reports of both internalizing and externalizing symptoms than are friendships of shorter duration. Given that the majority of mother-child relationships are lifelong, the moderating influence of the length of the mother-child relationship on self-mother agreement is not examined in the present study.

*Informant's Own Adjustment*

The role of the informants' own adjustment also is considered. Prior research has found that mothers and their children (e.g., Goodman & Gotlib, 2002; Usmiani & Daniluk, 1997) and members of dyadic friendships (e.g., Hogue & Steinberg, 1995; Swenson & Rose, 2003) are similar in terms of their symptomatology. This could result in projection errors artificially inflating agreement between self- and other-reports of adjustment (see Epkins, 1994). That is, the other informants (i.e., mothers, friends) may base their reports of a target youth's functioning more on assumed similarity between themselves and the youth than on objective knowledge of the youth's functioning. This could result in significant relations between self- and other-reports of child functioning if the informants and the youth exhibit similar levels of symptomatology. Consistent with this idea, parents' ratings of youth's emotional and behavioral problems are found to be related to their own self-reported symptomatology (e.g., Renouf & Kovacs, 1994; Youngstrom, Izard, & Acherman, 1999; but see Richters, 1992). In addition, in our prior work (Swenson & Rose, 2003), agreement between self- and friend-reports of depressive symptoms was reduced, yet remained significant, when the friends' depressive symptoms were controlled. With these considerations in mind, agreement between self- and friend-reported adjustment and between self- and mother reported adjustment is evaluated both with and without controlling for the other-informants' own symptoms (i.e., maternal symptoms, friends' symptoms).

It is also possible that the other-informants' own symptoms of distress may moderate agreement between self- and other-reports of youth emotional and behavioral symptoms. For example, evidence suggests that maternal psychopathology is related to

larger discrepancies between maternal ratings of child symptomatology compared to their children's self-reported adjustment (e.g., Najman et al., 2001; Youngstrom, Loeber, & Stouthamer-Loeber, 2000) and compared to teacher reports of youth adjustment (Chi & Hinshaw, 2002; Youngstrom et al., 2000). With regards to friend-reporters, self-friend agreement for youth depressive symptoms was not moderated by the friend-reporters' own symptoms (Swenson & Rose, 2003). However, other research has found that distressed children overestimate the amount of distress being experienced by their peers compared to their peers' self-reports (e.g., Epkins, 1994). In the current study, the moderating influence of the other-informants' own adjustment (i.e., maternal symptoms, friends' symptoms) on agreement between self- and mother-reports and between self- and friend-reports also is tested. It is anticipated that concordance for both internalizing and externalizing adjustment will be negatively influenced when the other-informant is experiencing elevated levels of distress.

#### Simultaneously Considering Parents and Friends as Informants

Although concordance between self- and other-reports of youth emotional and behavioral problems has received considerable attention in the literature on child psychopathology (Achenbach, 1999; Achenbach et al., 1987; Kazdin, 1990), little attention has been paid to the *unique* predictive ability of different informants (e.g., parents and teachers; Achenbach et al., 1987; Cole et al., 2000). Comparing levels of agreement between self- and others' reports provides some indication of reporters' relative awareness of a particular youth's adjustment. Yet these comparisons do not clarify whether each reporter is providing information that the other reporters do not have. For example, although parents are in a unique position to observe some aspects of

distress (e.g., sleeping patterns), friends have access to contexts from which adults, siblings, and other peers generally do not (e.g., isolated activities outside of the school setting). Accordingly, even if relations between parent and youth reports and between friend and youth reports are similar in magnitude, the specific symptoms of distress each informant is aware of may differ. Therefore, parents' and friends' reports may provide unique information about youth functioning. A major extension of the present study is that this research evaluates whether parents and friends each provide *unique* information regarding child and adolescent dysfunction in comparison to the youth's own self report.

The proposed research, then, tests whether parent- and friend-reports of internalizing and externalizing distress significantly add to the prediction of youth self-reported distress over and above information provided by the other. It is anticipated that parents and friends will provide unique information regarding youth internalizing and externalizing adjustment. In addition, the potential moderating influences of gender, grade, relationship quality, self-disclosure, and friendship length on the unique relations between self- and mother-reported adjustment and between self- and friend-reported adjustment will be evaluated.

#### The Present Research

The current study examines whether youth self-reported internalizing and externalizing symptoms are related to mothers' reports of youth adjustment and to close friends' reports of youth adjustment. This research also examines whether relations between self- and mother-reports and between self- and friend-reports hold while controlling for the other-informants' (i.e., mothers' or friends') own distress. In addition, potential moderating influences of gender, grade, relationship quality, self-disclosure,

friendship length, and the other-reporters' own adjustment on agreement between self- and other-reported adjustment are evaluated. Finally, this research examines whether mother- and friend-reports uniquely predict self-reported internalizing and externalizing adjustment when both mother- and friend-reports are considered simultaneously.

## METHOD

### Sample

#### *Youth Participants*

A total of 743 children and adolescents in fifth-, eighth-, and eleventh-grades from eight local schools were invited to participate in the current research. Active parental consent was obtained through the following procedure. First, trained graduate research assistants visited the classrooms of potential participants and explained the study. Parental consent forms were sent home with instructions to return the forms to school by a specified date once parents have indicated whether or not they would like their child to participate (i.e., by checking either "Yes" or "No"). After the initial return date had passed, the forms that had been returned were picked up from the schools. Two dated reminder letters were then sent to parents who had not yet returned their forms. Following each reminder letter, classrooms were visited by graduate research assistants to collect returned consent forms, remind students to return forms, and provide extra copies of the consent forms as needed. In a final attempt to obtain consent, a third reminder letter was hand-delivered to students at school; the students were asked to deliver the letter to their parents. A self-addressed stamped envelope was included with the third reminder letters so parents could mail the form directly to the researchers rather than returning it to school.

Using this procedure, 623 (84%) of the 743 youth who were invited to participate received parental consent. Thirteen students who received consent did not participate in the research because of special needs ( $n = 2$ ), relocation out of the district ( $n = 6$ ) or repeated absence ( $n = 5$ ). The final sample  $N = 610$  (82% of recruited youth) included 176 fifth-grade (90 boys, 86 girls), 226 eighth-grade (105 boys, 121 girls), and 208 eleventh-grade (95 boys, 113 girls) participants. Twenty-four participants (4%) did not provide information regarding their racial or ethnic background. Of those who did, 86% were European American, 5% were African American, 4% were Native American, 1% were Asian American, 1% were Hispanic or Latino, and 3% were other (i.e., biracial).

#### *Parent Participants*

Recruitment of primary female caregivers (referred to hereafter as “mothers”) as participants followed that of their children. Once the final sample of youth was obtained, a separate letter was sent to mothers of the youth who received active parental consent for participation. The letter explained what the mothers’ participation would entail and made clear that participation was voluntary. A consent form, the questionnaire packet, and a self-addressed stamped envelope were included with the letter. Mothers who wanted to participate were instructed to check “Yes” and sign the consent form, complete the enclosed questionnaires, and return the completed documents in the self-addressed stamped envelope. Mothers who did not wish to participate were asked to check “No” on the consent form and return the form in the self-addressed stamped envelope. A first reminder letter was sent to mothers who did not respond to the initial mailing by the requested date. A second reminder letter with an extra set of questionnaires was then sent to mothers who did not respond to the initial mailing or the first reminder. Both the first

and second reminder letter included self-addressed stamped envelopes so mothers could return the form directly to the researchers.

For one school, only one reminder letter was sent to mothers of participants. At this school, all materials were sent home through the students, and there was not sufficient time to send two reminders to the mothers before the end of the school year. For this school, the single reminder letter included an extra set of questionnaires along with the reminder letter and a self-addressed stamped envelope.

A total of 232 mothers chose to participate (38% of the 610 youth participants in the present research). This participation rate is comparable to rates found in prior school-based studies in which parental participation was sought by mail (e.g., Pomerantz, 2001). The 232 mother participants included mothers of 65 fifth-grade students (29 boys, 36 girls), 80 eighth-grade students (36 boys, 44 girls), and 87 eleventh-grade students (40 boys, 47 girls).

The sample of participating mothers ( $n = 232$ ) was 95% European American, 2% African American, 2% Hispanic or Latino, and 1% other (i.e., one mother was Native American, and one mother was biracial). The average age of the participating mothers was 42 years old. The majority of mothers (82%) reported that they were currently living with a spouse or partner. In terms of maternal education, 5% did not graduate from high school, 26% graduated from high school, 6% attended trade or vocational schools, 53% attended or graduated from college, and 9% earned graduate or professional degrees. In terms of total yearly household incomes, 7% of families earned less than \$20,000; 12% earned \$20-30,000; 10% earned \$30-40,000; 21% earned \$40-60,000; 18% earned \$60-80,000, and 22% earned greater than \$80,000. Missing data for parent demographic items



was low (i.e., fewer than four mothers skipped any given item) except for the item regarding family income (i.e., 21 mothers [9%] chose not to provide information).

The youth participants reported on the identity of their primary female caregivers. For the subsample of youth for whom mother-report data was also obtained ( $n = 232$ ), responses indicated that 91% of the primary female caregivers were biological mothers, 2% were step-mothers, and 2% were adoptive mothers. Just over 1% were maternal grandmothers ( $n = 3$ ) or foster mothers ( $n = 1$ ). Data for seven participants were missing for this item. Additionally, youth were given the option of indicating that there is not an adult woman who helps to take care of them. However, no participants with mother-report data ( $n = 232$ ) indicated that their father figure is the only person who has responsibility for their care.

Lastly, if primary male caregivers were interested in participating they were also provided questionnaires. Fathers elected to participate for seven youth participants (1% of the sample). Due to the low number of fathers who participated and the focus on maternal participants, the data provided by fathers for these youth were excluded from all analyses.

#### Management of Missing Data

For some participants, data were not available for each measure either due to absence or due to participants electing not to complete certain measures/items. If participants skipped more than 20% of the items on any scale of any measure used in this study, then their data for that particular scale was excluded from analyses. If they skipped fewer than 20% of the items on a scale, their mean score across the other scale items was used in the place of the missing item(s). This criterion was chosen because this method for dealing with missing data has been found to be effective when at least 80% of the

items are completed (Downey & King, 1998; see also Little & Rubin, 1987, for a more general discussion regarding methods for dealing with missing data). Further information about the number of participants excluded from analyses due to missing data is presented in Results section.

#### Data Collection Procedures

The youth participants completed questionnaires during group-administered classroom sessions. Youth with parental permission and who desired to participate were asked to sign an assent form prior to the questionnaire administration. Two separate data collection sessions were held which were approximately 45 minutes long and occurred approximately two weeks apart. For one fifth-grade class, a third session was needed. All questionnaires were read aloud by trained graduate or undergraduate research assistants to assure participant understanding. Additional trained research assistants were available in each classroom to assist with any individual questions. Administrators returned to all of the schools on an additional date to attempt to collect data from participants who were absent during initial administrations.

Concurrent with youth data collection, mothers were asked to complete questionnaires. The questionnaires were mailed to their homes or, at two schools, sent home with the students in sealed envelopes addressed to the mothers. Mothers were instructed to complete the questionnaires apart from their children in an attempt to ensure that parents and youth would provide independent information. As mentioned previously, a self-addressed stamped envelope was included for mothers to return the completed questionnaires directly to the researchers.

## Measures

The Measures section is divided into six major sections. First, the demographic questionnaires completed by the youth participants and by the mother participants are presented. Next, the friendship nominations measure used to identify the friend-reporters is presented. In the third section, the measures of youth adjustment (i.e., self-, mother-, and friend-reported internalizing and externalizing adjustment) and the measure of maternal adjustment are discussed. Fourth, the youth and mother versions of the relationship quality measures are presented. Fifth, the youth and mother versions of the measure assessing self-disclosure are described. Lastly, the measure of friendship length is presented. Table 1 includes all variables of interest to the current study. Copies of all measures are included in the Appendices.

### *Demographic Measures*

#### *Youth Demographics*

Participants were asked to answer a brief questionnaire regarding basic demographic information. Specifically, they were asked to respond to three items assessing their gender, age, and racial/ethnic background. This was followed by an item for which participants were instructed to indicate the identity of their primary female caregiver (see Sample section for additional information). They were instructed to think about this person when answering all questions about “Mom” in subsequent questionnaires (i.e., the Network of Relationships Inventory, the Self-Disclosure Questionnaire). This measure is presented in Appendix A.

*Parent Demographics*

Mothers participating in the current research were asked to complete a brief questionnaire regarding family demographic/background information. Questions on this measure included the parent's age, racial/ethnic background, maternal education, yearly household income, and whether or not they were living with a spouse/partner. This measure is presented in Appendix B. The information obtained with this questionnaire was used to compute the descriptive statistics regarding sample composition which were previously presented (see Sample section).

*Friendship Nominations Measure*

The youth participants answered a series of questions about their best or close friends. A friendship nomination measure (e.g., Parker & Asher, 1993; Rose & Asher, 1999) was used to determine the friends about whom participants would answer questions. Because youth in grade five were in self-contained elementary school classrooms, fifth-grade students were asked to circle the names of their three best friends on their class roster. Eighth- and eleventh-grade students, on the other hand, switched classes during the day and could interact with any grademate. Therefore, they were asked to circle the names of their three best friends on their grade roster. This method of administering two different types of rosters has been used in similar prior studies (e.g., Rose, 2002). Participants were asked to circle the names of their three best friends and to put a star next to the name of the student who is their “very best friend.” Students who circled each other’s names were considered to have a reciprocal friendship. This measure is presented in Appendix C.

Participants were assigned specific friends to report on for the friend-reported measure of internalizing and externalizing symptoms and for the measures assessing friendship quality, self-disclosure, and friendship length (these measures are discussed in subsequent sections of the Methods). Similar to prior research (e.g., Parker & Asher, 1993; Rose, 2002), friends to be reported on were chosen based on the following priority: (a) participant and friend both “star” each other, (b) participant “stars” friend but friend only circles participant, (c) participant only circles friend but friend “stars” participant, and (d) participant and friend only circle each other. Only same-sex friendships were considered to facilitate comparisons between girls’ and boys’ friendships; over 95% of reciprocal friendships identified were same-sex friendships.

Specifically, at least one same-sex reciprocated friend was identified for 459 participants (75%), which is consistent with prior research (e.g., Parker & Asher, 1993; Rose, 2002). Of these 459 participants, 255 were girls and 204 were boys,  $\chi^2(1) = 7.13, p < .01$ . Participants with a reciprocal friend did not differ from participants without a reciprocal friend with regard to grade,  $\chi^2(2) = 4.63, p = .10$ , or race/ethnicity,  $\chi^2(5) = 2.30, p = .81$ . The remaining 151 students for whom a reciprocal friendship was not identified (25%) reported on friends they selected. However, as in past research (e.g., Parker & Asher, 1993; Rose, 2002; Rose & Asher, 1999), their data was excluded from analyses. These youth were not informed that the friendships were not reciprocated.

For measures in which youth reported on their friendships (i.e., the Youth Self-Report: Friend Report, the Network of Relationships Inventory, and the Self-Disclosure Questionnaire; see following sections), participants were given customized questionnaires with the friends’ name inserted into each item. In the Appendices and in

the item examples in the Measures section, the name inserted into the customized questionnaires is represented as “(FRIEND).”

### *Measures of Adjustment*

#### *Youth Adjustment*

*Youth Self-Report.* Self-reported internalizing and externalizing symptomatology was assessed using the Age 6 – 18 Form of the Youth Self-Report Version of the Child Behavior Checklist (YSR; Achenbach & Rescorla, 2001). The YSR includes 104 problem items, one item for youth to enter “other” problems, and 14 social desirability items. The 104 problem items assess broad-band (i.e., internalizing, externalizing) and narrow-band (i.e., aggressive behavior, anxious/depressed, attention problems, rule-breaking behaviors, social problems, somatic complaints, thought problems, withdrawn/depressed, and “other” problems) symptoms of distress. For each item, youth are asked to rate how well the item describes their adjustment in the prior six months on a three-point Likert scale ranging from 0 (“*Not True*”) to 2 (“*Very True/Often True*”).

Agreement between informants can be adversely affected when the reports are obtained using nonparallel items (see Kazdin, 1990; Treutler & Epkins, 2003). Therefore, the items on the YSR that also appear on the parent-report Child Behavior Checklist (CBCL) were of interest. Of the 104 items on the YSR, 57 also appear on the CBCL. These include 30 cross-informant internalizing adjustment items from three subscales (i.e., *anxious/depressed* [13 items; e.g., “I cry a lot”], *somatic complaints* [nine items; e.g., “I feel dizzy”], and *withdrawn/depressed* [eight items; e.g., “I would rather be alone than with others”]). The 57 items that appear on the YSR and the CBCL also include 27 cross-informant externalizing adjustment items from two subscales (i.e., *aggressive*

*behavior* [16 items; e.g., “I am mean to others”] and *rule-breaking behaviors* [11 items; e.g., “I lie or cheat”]). The cross-informant indices of internalizing and externalizing adjustment have demonstrated adequate internal consistency in community samples ( $\alpha = .90$  for both indices; Achenbach & Rescorla, 2001). In addition, one-week test-retest reliability correlations are high for the cross-informant internalizing and externalizing indices ( $r = .80$  and  $r = .89$  respectively, Achenbach & Rescorla, 2001).

Of the 57 items that appear on the cross-informant internalizing and externalizing indices, 53 were used in the present study. As in related research with the Children’s Depression Inventory (e.g., Crick & Grotpeter, 1995), one cross-informant item from the internalizing index that assesses suicidality (i.e., “I think about killing myself”) was not administered. This reduced the number of items for the cross-informant internalizing index from 30 to 29 items. Similarly, because of concerns expressed by school personnel, two items assessing substance abuse (i.e., “I use drugs for nonmedical purposes [don’t include alcohol or tobacco] [describe],” “I smoke, chew, or sniff tobacco”) and one item pertaining to sex (i.e., “I think about sex too much”) from the externalizing index were not administered. Thus, the cross-informant externalizing index used in the present research included 24 of the 27 original items. Participants were assigned scores for internalizing and externalizing symptoms that were the mean of the relevant items for each broad-band index of distress.

For some participants, data were not available for the YSR either due to absence or due to participants electing not to complete certain measures/items. For the 574 youth with complete self-report YSR data, the sample means, standard deviations, and ranges for the cross-informant internalizing and externalizing scales of the YSR are presented in

Table 2. To facilitate comparison of this research to other studies, total internalizing symptoms scores (the sum of the relevant 29 items) and externalizing symptoms scores (the sum of the relevant 24 items) are also presented in Table 2. Similar to other community samples (e.g., Achenbach & Rescorla, 2001), the internalizing and externalizing scores were indicative of mild-to-moderate distress (see Table 2). These scores had acceptable internal reliability ( $\alpha = .89$  for internalizing symptoms,  $\alpha = .88$  for externalizing; see Table 2).

*Child Behavior Checklist.* Mothers' perceptions of their child's internalizing and externalizing symptoms were assessed using the Age 6 – 18 Form of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). The 57 cross-informant internalizing and externalizing items of the CBCL assess the same broad- and narrow-band syndromes using the same response scale (i.e., a three-point Likert scale ranging from 0 ["*Not True*"] to 2 ["*Very True/Often True*"]) as the YSR described previously. The cross-informant internalizing and externalizing indices have demonstrated adequate internal consistency in community samples ( $\alpha \geq .90$  for both scales; Achenbach & Rescorla, 2001). One-week test-retest reliability correlations are high for both internalizing ( $r = .91$ ) and externalizing ( $r = .92$ ) symptoms (Achenbach & Rescorla, 2001).

As with the YSR described previously, one item assessing suicidality (i.e., "Talks about killing self"), two items assessing substance abuse (i.e., "Uses drugs for nonmedical purposes," "Smokes, chews, or sniffs tobacco"), and one item pertaining to sex (i.e., "Thinks about sex too much") were not administered. Therefore, the current analyses were limited to the 53 items of the cross-informant internalizing (29 items) and externalizing (24 items) broad-band scales that were included on the YSR and the YSR-F



used in the present research. Participants were assigned scores for mothers' perceptions of internalizing and externalizing symptoms that were the mean of the relevant items for each broad-band index of distress.

Of the 232 participants whose mothers chose to participate in the current study, one participant was excluded because the mother-reporter did not provide complete data on the CBCL, and three participants were excluded because the mother-reporters did not provide complete self-report data on the Brief Symptom Inventory (this measure is discussed in a subsequent section of the Methods). In addition, 12 participants were excluded because the target child did not provide self-report YSR data or had too much missing self-report data (i.e., < 80% complete). This resulted in a final sample of 216 participants for whom CBCL data could be retained (61 fifth-grade students [28 boys, 33 girls], 74 eighth-grade students [31 boys, 43 girls], and 81 eleventh-grade students [39 boys, 42 girls]). Figure 1 delineates the steps involved in determining the sample of youth for the analyses involving mother-reported internalizing and externalizing symptoms.

For the 216 youth with complete self- and mother-reported symptoms, the sample means, standard deviations, and ranges for the cross-informant internalizing and externalizing scales of the CBCL are presented in Table 2. These scores had acceptable internal reliability ( $\alpha = .80$  &  $.86$ , respectively) and were indicative of mild-to-moderate distress (e.g., Achenbach & Rescorla, 2001; see Table 2). For comparison, for these 216 youth the sample means, standard deviations, and ranges for the YSR cross-informant broad-band scales are also provided.

*Youth Self-Report: Friend Report.* Youths' perceptions of a friend's internalizing and externalizing adjustment were obtained using a modified version of the Age 6 – 18

Form of the Youth Self-Report (YSR-F; Achenbach & Rescorla, 2001). The instrument was modified so that the name of a friend is inserted into each item. For example, the original item “I cry a lot” has been revised to read “(FRIEND) cries a lot.” Participants with a best or close reciprocal friend reported on their highest priority friendship. Participants with no reciprocal friends reported on one of the friends they nominated, but these data were not used.

Similar to the self-report YSR, participants were instructed to choose the response that best describes their perception of how true each item is for their identified friend, using the three-point response scale ranging from 0 (“*Not True*”) to 2 (“*Very True/Often True*”). The current analyses were limited to the same 53 items of the cross-informant internalizing (29 items) and externalizing (24 items) indices assessed with the self-report YSR. Scores for youth’s perceptions of their friend’s internalizing and externalizing symptoms were the mean of the relevant items for each broad-band index of distress.

These scores became the data for the friend. For example, if Participant A reported on the adjustment of Participant B, the data became friend-reported adjustment data for Participant B. However, not all youth with a reciprocal friend had friend-reported adjustment data. Specifically, of the 459 participants with a reciprocal friend, 313 (68% of the friended youth; 51% of the total sample) were reported on by a reciprocal friend and, therefore, had friend-report adjustment data. Reciprocal friend-report data were not available for 146 of the 459 friended participants (32% of the friended youth). Fourteen of these participants lacked friend-report data because the reciprocal friend was repeatedly absent and did not complete the measures. For the remaining 132 participants with a reciprocated friendship but without friend-report data, the friends of these youth

reported on a higher-status friendship from the *friends'* perspective. Consider, for example, if Participant A only had one reciprocal friendship, which was with Participant B. If Participant B had a friendship that was of higher status than the friendship with Participant A, then Participant B would report on that friendship and there would be no one to report on Participant A.

Of the 313 participants who had reciprocal friendships and friend-reported data on their internalizing and externalizing adjustment, 97 youth were reported on by more than one reciprocal friend. For the 97 youth with multiple friend-reports, the friend report-data from the highest-priority friendship were used. If the reports came from friends of equal priority, the friend data retained for analyses were chosen at random.

The data for 15 of the 313 participants were excluded from the analyses because the YSR-F had too much missing data (i.e., < 80% complete), and 13 participants were excluded from the analyses because the friends' self-reported symptoms were < 80% complete. Furthermore, an additional 15 participants with friend-reported adjustment data were excluded because the target child did not provide self-report YSR data or had too much missing self-report data. This resulted in a final sample of 270 participants for whom YSR-F data could be retained (86 fifth-grade students [37 boys, 49 girls], 95 eighth-grade students [37 boys, 58 girls], and 89 eleventh-grade students [41 boys, 48 girls]). Figure 2 presents a flowchart delineating the steps involved in determining the sample available for analyses examining self- and friend-reported internalizing and externalizing symptoms.

For the sample of youth with complete self- and friend-reported symptoms ( $n = 270$ ), the sample means, standard deviations, and ranges for the cross-informant

internalizing and externalizing scales of the YSR and the YSR-F are presented in Table 2. These scores had acceptable internal reliability ( $\alpha$ s ranging from .84 - .91) and were indicative of mild-to-moderate distress (e.g., Achenbach & Rescorla, 2001; see Table 2).

### *Maternal Adjustment*

*Brief Symptom Inventory.* Mothers' own psychological adjustment was assessed with the Brief Symptom Inventory (BSI; Derogatis, 1993). Mothers' were asked to rate how much distress the problem described in each item caused them in the prior week on a five-point Likert scale ranging from 0 ("Not At All") to 4 ("Extremely"). The BSI yields three global adjustment indices (i.e., global severity index, positive symptom distress total, positive symptom total) as well as nine symptom scales (i.e., somatization, obsessive/compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism). The global severity index (GSI) representing overall maternal adjustment is of interest for the current research. Two-week test-retest reliability correlations for the GSI have been found to be adequate ( $r = .90$ ; Derogatis, 1993).

For the present study, the item assessing suicidality (i.e., "Thoughts of ending your own life") was not administered. Participants were assigned a score for mothers' GSI that was the mean of the remaining 52 items. Scores observed for the sample retained for analyses ( $n = 213$ ) were indicative of mild-to-moderate distress ( $M = .35$ ,  $SD = .40$ ). In addition, the scale demonstrated high internal reliability in this research ( $\alpha = .96$ ).

*Relationship Quality Measures**Network of Relationships Inventory: Youth Version*

Youth-reported relationship quality with mothers, two friends, and a romantic relationship partner was assessed with the Network of Relationships Inventory (NRI; Furman, 1996, 2003; see also Furman & Buhrmester, 1985). Only data associated with the mothers and friends were of interest for the present study. For each participant, the first friendship reported on with the NRI was her/his highest status reciprocal friend (i.e., the same friend that the participant reported on with the YSR-F). The second friend was a second reciprocal friend for youth with two or more reciprocal friendships. For youth with zero or one reciprocal friend, the second friendship reported on with the NRI was a non-reciprocal friendship. Data regarding non-reciprocal friendships were excluded from all analyses.

Participants were asked to report on 14 features of their relationships with their mother and friends. The 14 features include eight social provisions (i.e., affection, admiration, companionship, instrumental aid, intimacy, nurturance, reliable alliance, and support), four negative interactions (i.e., antagonism, conflict, criticism, and dominance) as well as overall satisfaction with the relationship and relative power within the relationship. Three items are used to assess each of the features [e.g., “How much does this person have a strong feeling of affection (liking or loving) toward you?” from the affection scale]. This results in a total of 42 items for each relationship partner. Items are rated on a five-point Likert scale ranging from 1 (“*Little or None*”) to 5 (“*The Most*”). For the relative power items, participants indicate who has the most power on a five-point Likert scale ranging from 1 (“*They almost always do*”) to 5 (“*I almost always do*”).

Principal components analyses have revealed a three-factor structure for the NRI (see Furman, 1996, 2003). The eight social provisions and satisfaction ratings combine as a factor of positive relationship quality. The four negative interactions combine as a negative relationship quality factor, and the relative power scale loads separately on a third factor. In prior research the factors have demonstrated adequate internal consistency ( $\alpha > .90$ ), and one month test-retest reliability correlations have been found to be moderate ( $r_s = .66 - .70$ ; see Furman, 1996).

The scores for positive relationship quality (27 items) and negative relationship quality (12 items) are of interest for the present research. These scores were computed by calculating the mean across the relevant items for each relationship partner (i.e., mother, first friend, second friend).

These scores served as self-report data for positive friendship quality and for negative friendship quality with mothers. Regarding the sample available for analyses, 200 (93%) of the 216 participants with self- and mother-reported internalizing and externalizing adjustment data also had complete self- and mother-reported relationship-quality data. Thirteen participants were missing self-report mother-child relationship quality data, and three participants were missing mother-report relationship quality data (see next section for information about the mother-report relationship quality measure). Sample means, standard deviations, and ranges for self-reported positive and negative relationship quality with mothers are presented in Table 3. The scores for self-reported positive and negative relationship quality with mothers had acceptable internal reliability ( $\alpha \geq .86$ ) and were similar in magnitude to those observed in prior research examining mother-child (e.g., Stocker, 1995) relationship quality (see Table 3).

For analyses involving friendship quality, the sample of interest included youth with both self- and friend-reported friendship quality data. Of the 270 participants for whom self- and friend-reported adjustment data could be retained, 234 participants were assigned to report on a friend for the first of two friend slots in the NRI (and in the YSR-F) who was also assigned to report on them for the YSR-F and the first slot in the NRI (i.e., the two participants were each other's highest priority friendship). According to this assignment, these youth would have self-report friendship quality data on the youth who is providing friend-reported adjustment data about them and would also have friend-reported friendship-quality data about their friendship.

The previous text describes the 234 youth who were assigned to report on one another for the YSR-F and the first-friend slot on the NRI because they were each other's highest priority friendship. This was not the case for the remaining 36 of the 270 youth with self- and friend-report adjustment data. These 36 participants were assigned to report on a friend for the YSR-F and the first friend slot of the NRI who was *not* assigned to report on them (because the friend had a higher priority friendship). However, for these 36 youth, one of their other reciprocal friends was assigned to report on them for the YSR-F and the first slot of the NRI. These 36 youth reported on this friendship in the *second* friend slot of the NRI. Accordingly, these youth also had both self- and friend-report friendship quality data. Had the NRI used in the present research only included ratings for one friendship, it is likely that both self- and friend-reported friendship quality data would not be available for these 36 youth.

Based on these assignments, it was possible for all 270 youth with self- and friend-reported adjustment data to also have both self- and friend-reported friendship

quality data. However, due to missing data, sufficient self- and friend-reported friendship quality data were available for 237 youth (88% of the 270 participants with self- and friend-reported adjustment data). Nine of the 270 participants were excluded due to missing (i.e., < 80% complete) friend-report NRI data, and 24 participants were missing self-report NRI data. For these 237 participants, the sample means, standard deviations, and ranges for self-reported positive and negative friendship quality are presented in Table 3. These scores had acceptable internal reliability ( $\alpha \geq .89$ ) and were similar to those observed in prior research examining child-friend (e.g., Furman & Buhrmester, 1992) relationship quality.

*Network of Relationships Inventory: Mother-Version*

Similar to youth participants, mothers reported on the quality of their relationships with their child and with a close friend with the Network of Relationships Inventory (NRI; Furman, 2003). Only data associated with their child were of interest to the present study. Mothers were asked about 14 features of their relationships with their child. As previously described, the 14 features include eight social provisions (i.e., companionship, instrumental aid, intimacy, nurturance, affection, admiration, support and reliable alliance) and four negative interactions (i.e., conflict, antagonism, criticism, and dominance) as well as overall satisfaction with the relationship and relative power. Three items are used to assess each of the features resulting in a total of 42 items for each relationship partner. Items are rated on a five-point Likert scale ranging from 1 (“*They almost always do*”) to 5 (“*I almost always do*”). As with youth responses to the youth version of the NRI, for the present research the scores for positive relationship quality and negative relationship quality are of interest.



Prior research using a similar parent-report measure of the NRI has found parent-reports of relationship quality to be reliable and valid (W. Furman, personal communication, April 25, 2005). In the current study, youth participants were assigned separate scores for mothers' perceptions of positive relationship quality (i.e., the mean across the 27 relevant items of the eight social provisions and satisfaction) and for negative relationship quality (i.e., the mean across the 12 relevant items of the four negative interactions).

For the 200 participants with self- and mother-reported adjustment and complete self- and mother-reported relationship quality data, the sample means, standard deviations, and ranges for mother-reported positive and negative relationship quality are presented in Table 3. These scores had acceptable internal reliability ( $\alpha \geq .90$ ; see Table 3). For positive relationship quality, the mother-reported sample means were at the upper-end of the five-point Likert scale; for mother-reported negative relationship quality, the sample means were at the lower-end of the five-point Likert scale (see Table 3).

#### *Measures of Self-Disclosure*

##### *Self-Disclosure: Youth Version*

Youth's perceptions of self-disclosure with mothers and with two close friends were assessed with a revised version of the Self-Disclosure Questionnaire (Rose, 2002; adapted from Parker & Asher, 1993). For this measure, youth reported on the same two friends evaluated with the NRI. The original self-disclosure questionnaire included five items assessing self-disclosure with same-sex friends in general and has demonstrated adequate reliability ( $\alpha = .85$ ; Rose, 2002).

For the current study, the Self-Disclosure Questionnaire was revised and expanded to assess self-disclosure specifically with a mother figure and with two specific friends. In addition, the measure was revised to make items specific to whether the target youth or the partner is self-disclosing. For example, with these revisions the original item “We tell each other about our problems” has been revised as six distinct items: (a) “I tell Mom private things a lot,” (b) “Mom tells me private things a lot,” (c) “I tell [FRIEND] private things a lot,” (d) “[FRIEND] tells me private things a lot,” (e) “I tell [FRIEND2] private things a lot,” (f) “[FRIEND2] tells me private things a lot.” This resulted in a 30-item measure (10 items for the mother, the first friend, and the second friend). Each item was rated on a 5-point Likert scale ranging from 1 (“*not at all true*”) to 5 (“*really true*”). This measure is presented in Appendix D.

Using this measure, two scores were calculated for each relationship partner. Specifically, for self-disclosure to mother and to each friend, one score represented the extent to which the target youth self-discloses to the specific relationship partner (i.e., the mean rating of the five relevant items). The second score represents the extent to which the specific relationship partner self-discloses to the target participants (i.e., the mean rating of the five relevant items). These scores served as self-report scores regarding self-disclosure within the mother-child relationship. They served as both self- and friend-report scores regarding self-disclosure within the friendship.

Regarding self-disclosure with mothers, 203 (94%) of the 216 participants with self- and mother-reported adjustment data had complete self- and mother-reported self-disclosure data. Of the 13 participants without sufficient data, eight participants were excluded due to missing self-report self-disclosure data and five participants were

excluded due to missing mother-report self-disclosure data (see next section for information about the mother-report self-disclosure measure). Sample means, standard deviations, and ranges for self-reported self-disclosure with mothers are presented in Table 4 for these 203 participants. These scores had acceptable internal reliability ( $\alpha \geq .90$ ), and the sample means are near the midpoint of the five-point Likert Scale (see Table 4).

Given the assignment of friendships to report on (described in the preceding discussion of the NRI), it was possible for all 270 youth with complete self- and friend-reported adjustment data to have self- and friend-reported self-disclosure data. However, due to missing data, self- and friend-reported self-disclosure data could be retained for 244 (90%) of the 270 participants with self- and friend-reported adjustment. Five participants were excluded from these analyses due to missing friend-reported self-disclosure data, and 21 participants were excluded due to missing self-report self-disclosure data. For the 244 participants with complete data for self- and friend-reported adjustment and for self- and friend-reported self-disclosure, the sample means, standard deviations, and ranges for self-reported self-disclosure with friends are presented in Table 4. Friend-reported self-disclosure with the target youth are also presented in Table 4. These scores had acceptable internal reliability (all  $\alpha$ s = .94), and the sample means were at the upper-end of the five-point Likert scale (see Table 4).

#### *Self-Disclosure: Mother Version*

Similar to the youth participants, mothers completed a revised version of the Self-Disclosure Questionnaire (Rose, 2002) to assess self-disclosure with their child participating in the study and with a close friend. Only the data pertaining to self-

disclosure with their child was of interest to the present study. Similar to the youth version of the Self-Disclosure Questionnaire used in the present research (see above), five items refer to mothers self-disclosing to their children (e.g., “I tell my child about my problems”), and five items refer to children self-disclosing to their mothers (e.g., “My child tells me about his/her problems”). Items are rated on a five-point Likert scale ranging from 1 (“not at all true”) to 5 (“really true”). Using this measure, the youth participants were assigned a score for mothers’ perceptions of the extent to which they typically self-disclose to their child (i.e., the mean across the relevant five items), and a score mothers’ perceptions of the extent to which their child self-discloses to them (i.e., the mean across the relevant five items). This measure is presented in Appendix E.

For the 203 participants with self- and mother-reported adjustment data and complete self- and mother-reported self-disclosure data, the sample means, standard deviations, and ranges for mother-reported self-disclosure with the target youth are presented in Table 4. These scores had acceptable internal reliability ( $\alpha = .87$ ). In addition, the mother-reported sample means are near the midpoint of the five-point Likert Scale (see Table 4).

#### *Measure of Friendship Length*

In order to assess the length of the friendship, one item (i.e., “How long have you been friends with (FRIEND)?”) was added to the end of the NRI. Participants were asked to endorse the response best depicting the length of their friendship for each of their identified friends by selecting one of nine options ranging from 0 (“*less than 1 yr.*”) to 9 (“*more than 9 yrs.*”). For the 237 youth with complete data for self- and friend-reported adjustment and for self- and friend-reported friendship quality, participants were given a

score representing friendship length for the friendships reported on in the NRI. These data served as both self- and friend-report scores regarding friendship length. Table 3 includes the descriptive statistics regarding self- and friend-reported friendship length. For both self- and friend-reported friendship length, the sample means are near the midpoint of the 9-point Likert scale.

## RESULTS

The Results section is divided into three major sections. The first section presents analyses testing relations between mother- and self-reported internalizing and externalizing adjustment. These analyses include all participants with complete self- and mother-reported adjustment data. Second, analyses testing relations between friend- and self-reports of internalizing and externalizing adjustment for the participants with complete self- and friend-reported adjustment data are presented. The third section presents analyses testing unique associations between self- and other-reported adjustment when simultaneously considering both mother- and friend-reports. For these analyses, only youth with complete self-, mother-, and friend-reported symptomatology data are considered.

The descriptive statistics discussed previously and the analyses examining the representativeness of the sample were conducted on uncentered variables (i.e., the mean ratings of the items for each construct). For the analyses examining self-other agreement and the moderator analyses testing the influence of gender, grade, the other-reporters' adjustment, relationship qualities, self-disclosure, and friendship length on agreement, all continuous variables (i.e., internalizing and externalizing adjustment, positive and negative relationship qualities, self-disclosure, and friendship stability) were standardized

prior to analysis (i.e.,  $M = 0$ ;  $SD = 1$ ). These variables were standardized to minimize multicollinearity between constructs and to aid the interpretation of significant interactions (Aiken & West, 1991).

#### Correspondence between Self- and Mother-Reported Symptoms

The section on associations between mother- and self-reports of internalizing and externalizing adjustment is divided into three subsections. First, the representativeness of the sample with self- and mother-report data is examined. Second, analyses testing associations between self- and mother-reports of adjustment are presented. In the third subsection, the moderating influences of gender, grade, the mother's own symptoms, positive and negative relationship quality, and self-disclosure on associations between self- and mother-reported adjustment are examined.

##### *Assessing the Representativeness of Participants with Mother-Report Data*

Analyses tested for differences between participants with complete self- and mother-reported adjustment data ( $n = 216$ ) and the participants who were excluded because they lacked mother-report data or due to missing data ( $n = 394$ ). Participants with complete self- and mother-reported data did not differ from excluded participants in terms of sex ( $\chi^2 [1] = .31, p = .58$ ) or grade ( $\chi^2 [2] = 2.81, p = .25$ ). European American/Caucasian participants were more likely to have complete self- and mother-report data than were participants of other ethnic backgrounds,  $\chi^2 (5) = 13.68, p < .05$ . Specifically, 41% of the European American/Caucasian participants had self- and mother-report data compared to 20% of the non-European American/Caucasian groups (ranging from 13% of the African American participants to 33% of the Hispanic/Latino participants). Included and excluded participants did not differ for self-reported

internalizing ( $t [574] = 1.72, p = .09 [M = .42 \text{ included}; M = .47 \text{ excluded}]$ ), or externalizing ( $t [574] = 1.41, p = .16 [M = .45 \text{ included}; M = .49 \text{ excluded}]$ ) symptoms.

#### *Relations between Self- and Mother-Reported Symptoms*

The analyses examining relations between mother- and self-reported adjustment included all participants with complete self- and mother-reported adjustment data ( $n = 216$ ). Agreement was evaluated using two metrics of association. First, Pearson product-moment correlations ( $r$ ) between self- and mother-reports were calculated. The Pearson  $r$  is commonly used in the literature on informant agreement (e.g., Achenbach et al., 1987). However, Pearson  $r$  only reflects the degree to which two raters rank order a group of targets similarly – the metric does not take into account mean-level differences in the amount of distress reported by the raters (Richters, 1992). The intraclass correlation (ICC), on the other hand, takes into account both the magnitude of differences between raters as well as the rank order of overall symptom level (McGraw & Wong, 1996). Thus, ICC is a more sensitive test of agreement between multiple ratings of a single target's behavior in situations such as the present research (i.e., raters assessing the same behaviors using the same metric; McGraw & Wong, 1996; Shrout & Fleiss, 1979). Based on these considerations, ICCs between self- and mother-reported adjustment were also computed.

#### *Pearson Correlations*

Separate correlations were computed between self- and mother-reported internalizing and externalizing adjustment. These results revealed significant positive correlations between mother- and self-reports for both internalizing and externalizing

adjustment (see Table 5). These relations were similar to one another and moderate in magnitude.

As mentioned previously, prior research examining maternal ratings of youth distress found evidence that mother's own symptoms of distress are related to their ratings of their children's adjustment (e.g., Najman et al., 2001; Youngstrom et al., 2000). In the current sample, moderate relations were evident between mothers' own symptoms (i.e., the Global Severity Index) and the reports they provided about their children's symptoms for both internalizing ( $r = .41$ ) and externalizing ( $r = .42$ ;  $ps < .0001$ ) adjustment. Accordingly, it was also important to examine relations between self- and mother-reported adjustment while controlling for mothers' own symptoms. Separate partial correlations between mother- and self-reported internalizing and externalizing adjustment were computed while controlling for mothers' own symptoms (see Table 5). The magnitude of relations between mother- and self-reported adjustment were largely unaffected by controlling for mothers' distress.

#### *ICC Correlations*

Intraclass correlations (ICC) between self- and mother-reported adjustment were calculated using equations discussed by McGraw and Wong (1996; see also Shrout & Fleiss, 1979). Table 6 presents the results of ICCs between self- and mother-reported adjustment for internalizing and externalizing adjustment and the partial ICCs controlling for mothers' own self-reported symptoms. Consistent with the Pearson  $r$  findings (see Table 5), moderate agreement between self- and mother-reported adjustment was evident. Importantly, the associations remained significant after controlling for the mothers' own symptoms.



*Testing for Moderating Effects of Gender, Grade, Mothers' Own Symptoms,  
Relationship Quality, and Self-Disclosure*

Regression analyses were next conducted to examine whether gender, grade, mothers' own symptoms, mother-child relationship quality, and self-disclosure moderated relations between self- and mother-reported adjustment. Self reports were predicted from mother-reports, the moderator (e.g., gender) and the interaction between mother-reports and the moderator. Mothers' own symptoms were controlled in all analyses.

*Gender*

The interaction between gender and mother-reports was not significant for internalizing symptoms,  $F(1, 215) = 1.11, p = .29$ , or for externalizing symptoms,  $F(1, 215) = 1.56, p = .21$ . *Grade*

The grade by mother-reported symptoms interaction was not significant for internalizing adjustment,  $F(2, 215) = .38, p = .68$ . For externalizing adjustment, however, the interaction between grade and mother-reports significantly predicted self-reported symptoms,  $F(2, 215) = 5.40, p < .01$ . Procedures outlined by Aiken and West (1991) for graphing interactions and for testing the slopes of the regression lines were followed to explore the grade by mother-reported externalizing adjustment interaction (see Figure 3; these procedures were implemented for all subsequent significant interactions). Unexpectedly, the magnitude of the association between self- and mother-reported externalizing adjustment was larger for eleventh-grade participants ( $\beta = .78, p < .0001$ ) compared to fifth- and eighth-grade participants ( $\beta = .29$  and  $\beta = .23$  respectively,  $ps < .05$ ).

*Mothers' Own Symptoms*

The interaction between mother-reports and mothers' own symptoms was not a significant predictor of self-reported symptoms for internalizing ( $F [1, 215] = .23, p = .63$ ) or externalizing ( $F [1, 215] = 2.97, p = .09$ ) adjustment.

*Mother-Child Relationship Quality*

The analyses examining the moderating influence of relationship quality on associations between self and mother-reported adjustment included the 200 participants with self- and mother-reported internalizing and externalizing adjustment data who also had complete self- and mother-reported relationship-quality data. For both self- and mother-reported mother-child relationship qualities, separate regression equations were conducted examining the moderating influence of positive and negative relationship quality on associations between self- and mother-reported adjustment (while controlling for mothers' own adjustment).

*Self-reported relationship quality.* For internalizing adjustment, positive relationship quality did not moderate relations between self- and mother-reported adjustment,  $F (1, 199) = .06, p = .81$ . Negative relationship quality also did not moderate relations between self- and mother-reported internalizing adjustment,  $F (1, 199) = 2.26, p = .13$ . Similarly, for externalizing adjustment, self-reported relationship quality indices did not moderate associations between self- and mother-reported adjustment (i.e., for positive relationship quality,  $F [1, 199] = .66, p = .42$ ; for negative relationship quality,  $F [1, 199] = .98, p = .32$ ).

*Mother-reported relationship quality.* For internalizing adjustment, mother-reported relationship quality indices did not moderate associations between self- and

mother-reported adjustment (i.e., for positive relationship quality,  $F [1, 199] = .60, p = .44$ ; for negative relationship quality,  $F [1, 199] = .22, p = .64$ ). For externalizing adjustment, relations between self- and mother-reported adjustment were not moderated by mother-reported negative relationship quality,  $F (1, 199) = 2.25, p = .14$ . However, mother-reports of positive relationship-quality significantly moderated relations associations between self- and mother-reported externalizing symptoms,  $F (1, 199) = 4.01, p < .05$  (see Figure 4). For mother-child relationships characterized by high and average levels of mother-reported positive quality, the magnitude of associations between self- and mother-reported externalizing adjustment was larger ( $\beta = .49$  and  $\beta = .35$  respectively,  $ps < .001$ ) compared to mother-child relationships low in mother-reported positive qualities ( $\beta = .20, p < .05$ ). These findings indicate that there was less agreement observed for mother-child relationships lacking in positive relationship features.

#### *Self-Disclosure*

The analyses examining the moderating influence of self-disclosure on associations between self and mother-reported adjustment included the 203 participants with self- and mother-reported internalizing and externalizing adjustment data who also had complete self- and mother-reported self-disclosure data. Separate regressions were conducted examining the moderating influence of each index of self-reported self-disclosure with mothers (i.e., self-disclosure with the mother about the child's problems, self-disclosure with the mother about the mother's problems) on relations between self- and mother-reported internalizing and externalizing symptoms (while controlling for mothers' own adjustment). Parallel regressions were conducted to examine the

moderating influence of mother-reported self-disclosure on agreement between youth and their mothers.

*Self-reported self-disclosure.* Self-reported self-disclosure about the child's problems significantly moderated relations between self- and mother-reports of both internalizing ( $F [1, 202] = 4.19, p < .05$ ) and externalizing ( $F [1, 202] = 6.61, p < .01$ ) adjustment (see Figure 5). Self-reported self-disclosure about the mother's problems, on the other hand, did not significantly moderate relations between self- and mother-reports of either internalizing ( $F [1, 202] = .80, p = .37$ ) or externalizing ( $F [1, 202] = .63, p = .43$ ) adjustment.

For the self-reported self-disclosure about the child's problems, similar patterns emerged for internalizing and externalizing symptoms. For mother-child relationships characterized by high and average levels of self-disclosure about the child's problems, the associations between self- and mother-reported internalizing adjustment were larger ( $\beta = .49$  and  $\beta = .35$  respectively,  $ps < .0001$ ) compared to mother-child relationships low in self-reported self-disclosure about the child's problems ( $\beta = .22, p < .05$ ). For externalizing adjustment, analyses revealed significant associations between self- and mother-reports for the high and average self-disclosure groups ( $\beta = .44$  and  $\beta = .29$  respectively,  $ps < .0001$ ) but not for mother-child relationships characterized by low levels of self-disclosure about the child's problems ( $\beta = .15, p = .08$ ). These findings indicate that agreement about youth adjustment was enhanced by increased self-disclosure about the child's problems.

*Mother-reported self-disclosure.* Mother-reported self-disclosure about the child's problems did not moderate relations between self- and mother-reported internalizing ( $F$

[1, 202] = .25,  $p = .62$ ) or externalizing ( $F [1, 202] = .12, p = .72$ ) adjustment. Similarly, mother-reported self-disclosure about mothers' problems did not moderate relations for internalizing ( $F [1, 202] = 1.21, p = .27$ ) or externalizing ( $F [1, 202] = .25, p = .62$ ) adjustment.

### *Higher-Order Interactions*

Regression analyses next tested the higher-order interactions among mother-reported adjustment, gender, grade, mothers' own symptoms, self- and mother-reported relationship qualities, and self- and mother-reported self-disclosure in predicting self-reported adjustment. The mothers' own symptoms were controlled in these analyses. Only the higher-order interaction terms that included mother-reported adjustment were evaluated. With regards to the relationship qualities and self-disclosure, self- or mother-reported constructs were separately.

For both internalizing and externalizing adjustment, 228 higher-order interaction terms (i.e., 37 three-, 67 four-, 68 five-, 40 six-, 14 seven-, and 2 eight-way interaction terms) were examined. A Bonferroni correction was implemented prior to interpreting significance in order to reduce the probability of Type I errors (Maxwell & Delany, 2000). Specifically, the critical  $p$ -value for these analyses was set to  $p < .0002$  (i.e.,  $.05/228$ ). For externalizing adjustment, none of the higher-order interaction terms were significant at  $p < .0002$ . For internalizing adjustment, the four-way interaction among mother-reported internalizing symptoms, mother-reported positive relationship quality, mother-reported negative relationship quality, and grade significantly predicted self-reported internalizing symptoms,  $F (2, 194) = 11.26, p < .0001$ . Attempts to interpret the

four-way interaction did not reveal substantively meaningful patterns. Accordingly, no further information about this interaction is presented.

### *Summary*

Moderate agreement between self- and mother-reported internalizing and externalizing adjustment were evident and held after controlling for mothers' own symptoms of distress. Relations between self- and mother-reports of both internalizing and externalizing adjustment increased in strength as the level of self-disclosure about the child's problems (from the youths' perspective) increased. In addition, for externalizing adjustment agreement between self- and mother-reports was higher: (a) for the oldest participants compared to younger youth, and (b) for mother-child relationships characterized by higher levels of positive relationship qualities (from the mothers' perspective).

### Correspondence between Self- and Friend-Reported Symptoms

Similar to the previous section concerning mother reports, the section on associations between friend- and self-reports of internalizing and externalizing adjustment is divided into three subsections. First, the representativeness of the sample with friend-report data ( $n = 270$ ) is examined. Second, analyses testing relations between friend- and self-reports of adjustment are presented. Third, the moderating influences of gender, grade, positive and negative friendship quality, self-disclosure, and friendship length on associations between friend- and self-reported adjustment are examined.

#### *Assessing the Representativeness of Participants with Friend-Report Data*

Analyses next tested for differences between participants with complete self- and friend-report data ( $n = 270$ ) and participants who were excluded because they did not

have a friend, did not have friend-report data, or due to missing data ( $n = 340$ ). Girls were more likely to have complete self- and friend-report data than were boys (i.e., 48% of the girls compared to 40% of the boys were retained for analyses,  $\chi^2 [1] = 4.76, p < .05$ ).

Participants with friend-report data did not differ from excluded participants in terms of grade ( $\chi^2 [2] = 2.15, p = .34$ ), race/ethnicity, ( $\chi^2 [5] = 5.02, p = .41$ ), self-reported internalizing symptoms ( $t [574] = .88, p = .38 [M = .44$  included;  $M = .46$  excluded]), or self-reported externalizing symptoms ( $t [575] = .96, p = .34 [M = .46$  included;  $M = .48$  excluded]).

Although few significant differences were evident between included and excluded participants, it is possible that aggregating both the friended youth without complete friend-report data and the friendless youth into one group for the representativeness analyses masked important differences between these groups. Therefore, additional analyses were conducted directly comparing the adjustment of the included participants ( $n = 270$ ) to the adjustment of the friended youth who were excluded because they did not have friend-report data or due to missing data ( $n = 169$ ) and to the adjustment of the friendless youth ( $n = 151$ ).

Included participants and friended participants without friend-report data did not differ in terms of gender ( $\chi^2 [1] = .39, p = .53$ ), grade ( $\chi^2 [2] = 1.08, p = .58$ ), or race/ethnicity ( $\chi^2 [5] = 5.81, p = .33$ ). Included participants and friended participants without friend-report data did not differ for self-reported internalizing ( $t [432] = .05, p = .96; M = .44$  included;  $M = .44$  excluded) or externalizing ( $t [432] = 1.27, p = .20; M = .46$  included;  $M = .50$  excluded) symptoms.

The gender composition of the included participants did differ significantly from the gender composition of the friendless participants,  $\chi^2(1) = 7.05, p < .01$ . Girls were more likely to have a reciprocal friend and to be included in the analyses than were boys. Importantly, included participants did not significantly differ from the friendless participants in terms of grade ( $\chi^2 [2] = 2.84, p = .24$ ), race/ethnicity ( $\chi^2 [5] = 4.70, p = .46$ ), self-reported internalizing symptoms ( $t [412] = 1.60, p = .11; M = .44$  included;  $M = .49$  excluded), or self-reported externalizing symptoms ( $t [412] = .28, p = .78; M = .46$  included;  $M = .47$  excluded).

#### *Relations between Self- and Friend-Reported Symptoms*

##### *Pearson Correlations*

Separate correlations were computed between self- and friend-reported internalizing and externalizing adjustment. Significant positive correlations between self- and friend-reports of both internalizing and externalizing adjustment were evident and were small-to-moderate in magnitude (see Table 5). The relation for externalizing adjustment was slightly stronger than the relation for internalizing adjustment. In addition, partial correlations between friend- and self-reported adjustment were tested controlling for the relevant index of the friend reporters' own symptoms (see Table 5). This was important because friends' own symptoms were related to friend-reports of youth internalizing and externalizing adjustment ( $r = .45$  and  $r = .46$  respectively,  $ps < .0001$ ). The magnitude of relations between friend- and self-reports was somewhat reduced yet remained significant for each index.

##### *Intraclass Correlations*



ICC correlations (ICC) between self- and friend-reported adjustment were also examined. Table 6 presents the results of ICCs between self- and friend-reported adjustment for internalizing and externalizing adjustment and the partial ICCs controlling for friends' own self-reported symptoms. Consistent with the Pearson  $r$  findings (see Table 5), small-to-moderate agreement between self- and friend-reported adjustment was evident. The associations remained significant after controlling for the friends' own symptoms.

*Testing for Moderating Effects of Gender, Grade, Friends' Own Symptoms,  
Relationship Quality, Self-Disclosure, and Friendship Length*

Regression analyses were next conducted to examine whether gender, grade, friends' own symptoms, friendship quality, self-disclosure, and friendship length moderated relations between self- and friend-reported adjustment. Self reports were predicted from friend-reports, the moderator (e.g., gender) and the interaction between friend-reports and the moderator. The relevant index of the friend reporters' own symptoms were controlled in all analyses.

*Gender*

For internalizing adjustment, the gender by friend-reports interaction approached but did not reach significance,  $F(1, 269) = 3.24, p = .07$ . The interaction between gender and friend-reports was not significant for externalizing adjustment,  $F(1, 269) = .38, p = .54$ .

*Grade*

The interaction between grade and friend-reports was not significant for internalizing symptoms,  $F(2, 269) = .93, p = .40$ , or for externalizing adjustment,  $F(2, 269) = .54, p = .59$ .

*Friends' Own Symptoms*

The interaction between friend-reports and reporters' own symptoms approached but did not reach significance for externalizing adjustment,  $F(1, 269) = 3.08, p = .08$ . For internalizing adjustment, however, the interaction between friend-reports and reporters' own symptoms significantly predicted self-reported symptoms at  $p = .05$  ( $F[1, 269] = 3.79$ ; see Figure 6). When friends self-reported average or low levels of internalizing distress, relations between friend- and self-reported internalizing adjustment were significant ( $\beta = .21$  and  $\beta = .31$  respectively,  $ps < .01$ ). For youth whose friends self-reported high levels of internalizing distress, relations between self- and friend-reported internalizing symptoms were not significant ( $\beta = .10, p = .18$ ). These findings indicate that there was less agreement between friend- and self-reported internalizing symptoms when the friend-reporter was experiencing elevated levels of internalizing distress.

*Friendship Quality*

The analyses examining the moderating influence of relationship quality on associations between self and friend-reported adjustment included the 237 participants with self- and friend-reported internalizing and externalizing adjustment data who also had complete self- and friend-reported relationship-quality data. For self-reported friendship qualities, separate regression analyses were conducted examining the moderating influence of positive and negative friendship quality on relations between

self- and friend-reported adjustment while controlling for the relevant index of the friend-reporter's own adjustment. Parallel regression equations were conducted examining the moderating influence of friend-reported positive and negative friendship quality.

*Self-reported friendship quality.* For internalizing adjustment, positive friendship quality did not moderate relations between self- and friend-reported adjustment,  $F(1, 236) = 1.27, p = .26$ . Negative friendship quality also was not a significant moderator,  $F(1, 236) = .02, p = .89$ . Similarly, for externalizing adjustment, self-reported friendship quality indices did not moderate associations between self- and friend-reported adjustment (i.e., for positive friendship quality,  $F[1, 236] = 1.29, p = .26$ ; for negative friendship quality,  $F[1, 236] = .57, p = .45$ ).

*Friend-reported friendship quality.* Friend-reported positive friendship quality significantly moderated relations between self- and friend-reported internalizing adjustment,  $F(1, 236) = 6.87, p < .01$ . Friend-reported negative quality also significantly moderated relations between self- and friend-reported internalizing adjustment,  $F(1, 236) = 6.11, p < .05$ .

The graph depicting the interaction between friend-reported positive friendship quality and friend-reported internalizing adjustment is presented in Figure 7. For friendships with high and average levels of positive friendship quality, self- and friend-reported internalizing adjustment were significantly related ( $\beta = .34$  and  $\beta = .22$  respectively,  $ps < .01$ ). For friendships with low levels of friend-reported positive friendship quality, self- and friend-reported internalizing symptoms were not significantly related,  $\beta = .10, p = .17$ . These findings indicate that there was less agreement observed for friendships lacking in positive friendship features.

The interaction between friend-reported negative relationship quality and friend-reported internalizing symptoms was also examined (see Figure 8). Relations between self- and friend-reported internalizing symptoms were significant at all levels. However, associations were larger for friendships with low and average levels of friend-reported negative quality ( $\beta = .38$  and  $\beta = .28$  respectively,  $ps < .01$ ) compared to friendships high in negative quality ( $\beta = .19$ ,  $p < .05$ ). These results suggest that agreement regarding youth internalizing symptoms is negatively impacted by higher levels of negative features within the friendship.

With regards to externalizing adjustment, relations between self- and friend-reported adjustment were not moderated by friend-reported positive friendship quality,  $F(1, 236) = 1.59$ ,  $p = .21$ . However, friend-reports of negative friendship quality significantly moderated associations between self- and friend-reported externalizing adjustment,  $F(1, 236) = 7.07$ ,  $p < .01$  (see Figure 9). For friendships characterized by low and average levels of friend-reported negative quality, the magnitude of associations between self- and friend-reported externalizing adjustment was larger ( $\beta = .62$  and  $\beta = .52$  respectively,  $ps < .0001$ ) compared to friendships high in friend-reported negative quality ( $\beta = .41$ ,  $p < .0001$ ). Similar to the results observed for internalizing adjustment, these findings suggest that agreement between self- and friend-reported externalizing symptoms is diminished by higher levels of negative friendship quality features.

### *Self-Disclosure*

The analyses examining the moderating influence of self-disclosure on associations between self and friend-reported adjustment included the 244 participants with self- and friend-reported internalizing and externalizing adjustment data who also

had complete self- and friend-reported self-disclosure data. As mentioned previously in the Methods, two subscales were initially created for the youth self-disclosure measure, including (a) self-disclosure within the friendship about the target child's problems and (b) self-disclosure within the friendship about the friend's problems. The subscales were highly correlated for both self- and friend-reported self-disclosure ( $r = .93$  for self-reported self-disclosure,  $r = .92$  for friend-reported self-disclosure,  $ps < .0001$ ). In addition, the moderating influences of self-disclosure on associations between self- and friend-reported symptoms did not differ depending on whose problems were being discussed. Therefore, for the following analyses, each participant was assigned a total self-reported self-disclosure score that was the mean of all 10 self-disclosure items ( $\alpha = .97$ ;  $M = 3.72$ ,  $SD = 1.30$ ) and a total friend-reported self-disclosure score that was the mean of all 10 items ( $\alpha = .97$ ;  $M = 3.56$ ,  $SD = 1.21$ ). Separate regression equations were conducted to examine the moderating influence of self-reported total self-disclosure and friend-reported total self-disclosure on relations between self- and friend-reported adjustment for internalizing and externalizing symptoms (while controlling for the friends' own adjustment). Also, recall that separate scores were used for the analyses involving mother-reported data for self-disclosure (i.e., scores were computed for disclosure about the child's problems and scores were computed for disclosure about the mother's problem). In that case, separate scores were used because the pattern of the moderating effects differed depending on whose problem was being discussed. In addition, children's reports of disclosure about the child's problems and about the mother's problems were only moderately correlated, and mother's reports of disclosure

about the child's problems and about the mother's problems also were only moderately correlated ( $r = .44$  and  $r = .27$  respectively,  $ps < .0001$ ).

*Self-reported self-disclosure.* Self-reported self-disclosure was not a significant moderator of relations between self- and friend-reported internalizing ( $F [1, 243] = 3.16$ ,  $p = .08$ ) or externalizing ( $F [1, 243] = .30$ ,  $p = .58$ ) symptoms.

*Friend-reported self-disclosure.* Friend-reported self-disclosure significantly moderated associations between self- and friend-reported internalizing ( $F [1, 243] = 5.94$ ,  $p < .05$ ) but not externalizing ( $F [1, 243] = .57$ ,  $p = .45$ ) symptoms. The friend-reported self-disclosure by friend-reported internalizing symptoms interaction is graphically depicted in Figure 10. For friendships high and average in friend-reported self-disclosure, self- and friend-reported internalizing symptoms were significantly related ( $\beta = .31$  and  $\beta = .18$  respectively,  $ps < .05$ ). For friendships low in friend-reported self-disclosure, self- and friend-reported internalizing symptoms were not related,  $\beta = .05$ ,  $p = .49$ . These findings suggest that agreement between self- and friend-reports of internalizing symptoms increases as self-disclosure within the friendship increases.

#### *Friendship Length*

As mentioned previously in the Methods section, self- and friend-reports of friendship length were available for all of the 237 youth with complete self- and friend-reports of adjustment and positive and negative friendship quality. Moderation analyses were conducted separately for internalizing and externalizing adjustment first for self-reported friendship length and then for friend-reported friendship length.

*Self-reported friendship length.* Self-reported friendship length significantly moderated relations between self- and friend-reported internalizing symptoms ( $F [1, 236]$

= 4.28,  $p < .05$ ) but not for externalizing adjustment ( $F [1, 236] = .08, p = .77$ ). The graph depicting the interaction between friendship length and friend-reported internalizing symptoms is presented in Figure 11. For friendships of high and average length, self- and friend-reported internalizing adjustment were significantly related ( $\beta = .32$  and  $\beta = .17$  respectively,  $ps < .05$ ). For friendships of shorter duration, self- and friend-reports of internalizing adjustment were not related,  $\beta = .03, p = .70$ . These findings indicate that the magnitude of relations between self- and friend-reports of internalizing symptoms increases as the length of the friendship increases.

*Friend-reported friendship length.* Similar to the findings regarding self-reported length, friend-reported friendship length significantly moderated relations between self- and friend-reported internalizing adjustment,  $F (1, 236) = 2.17, p < .05$  (see Figure 12). Friend-reported friendship length was not found to moderate agreement between self- and friend-reports of externalizing symptoms,  $F (1, 236) = .06, p = .80$ .

For friendships of high and average friend-reported length of friendship, self- and friend-reports of internalizing adjustment were significantly related ( $\beta = .32$  and  $\beta = .18$  respectively,  $ps < .05$ ). Friendships with low levels of friend-reported friendship length evidenced no relations between self- and friend-reports of internalizing adjustment,  $\beta = .04, p = .64$ . Consistent with the findings with self-reported friendship length, the analyses examining friend-reported friendship length suggest that agreement between self- and friend-reports of internalizing symptoms increases as the stability or length of the friendship increases.

*Higher-Order Interactions*

Regression analyses next tested the higher-order interactions among friend-reported adjustment, gender, grade, friend reporters' own symptoms, self- and friend-reported friendship qualities, self- and friend-reported length of friendship, and self- and friend-reported self-disclosure in predicting self-reported adjustment. The relevant index of the friends' own symptoms were controlled in these analyses. Only higher-order interaction terms that included friend-reported adjustment were evaluated. In addition, with regards to the friendship qualities, friendship length, and self-disclosure, self- or friend-reported constructs were tested separately.

For internalizing adjustment and for externalizing adjustment, 228 higher-order interaction terms (i.e., 37 three-, 67 four-, 68 five-, 40 six-, 14 seven-, and 2 eight-way interaction terms) were examined. A Bonferroni correction was implemented prior to interpreting significance in order to reduce the probability of Type I errors (i.e., the critical  $p$ -value was set to  $p < .0002$  [ $.05/228$ ]). None of the higher-order interactions were significant predictors of self-reported internalizing or externalizing adjustment at  $p < .0002$ .

*Summary*

Small- to moderate- agreement between self- and friend-reported internalizing and externalizing adjustment were evident and held after controlling for the friend-reporters' own symptoms. For internalizing adjustment, agreement between self- and friend-reports was greater when: (a) the friend-reporter was experiencing few symptoms of distress, (b) the friendship was characterized by high levels of positive qualities and low levels of negative qualities (from the friends' perspective), (c) higher levels self-



disclosure (from the friends' perspective) occurred within the friendship, and (d) the friendship were of longer duration (from both the target participants' and the friends' perspectives). For externalizing adjustment, agreement between self- and friend-reported externalizing symptoms was greater for friendships characterized by lower levels of friend-reported negative friendship quality.

#### Unique Correspondence between Self- and Mother- and between Self- and Friend-Reported Symptoms

The next section examines unique associations between self- and other-reported adjustment when both friend- and mother-reports are considered simultaneously. To be included in these analyses, youth were required to have self-, mother-, and friend-reported adjustment data. A total of 107 youth had self-, mother-, and friend-report adjustment data. However, the data for two participants were excluded because the target participant had too much missing self-report data on the YSR (i.e., < 80% complete). Of the remaining 105 participants, 11 participants were excluded because their friends had too much missing self- ( $n = 3$ ) or friend-report data ( $n = 8$ ). This resulted in a final sample of 94 participants available for analyses examining friends' and mothers' knowledge of youth internalizing and externalizing adjustment when both friend- and mother-reports are considered simultaneously (32 fifth-grade students [11 boys, 21 girls], 27 eighth-grade students [10 boys, 17 girls], and 35 eleventh-grade students [16 boys, 19 girls]).

The following information regarding the results for this sample of youth is divided into four subsections. First, the representativeness of the sample with complete self-, mother-, and friend-reported adjustment data ( $n = 94$ ) is discussed. The second

section tests the bivariate relations between self- and mother-reported internalizing and externalizing adjustment and between self- and friend-reported internalizing and externalizing adjustment for this smaller sample of youth with complete self-, mother-, and friend-reported adjustment data. These associations were computed to compare relations for this subsample to relations evident for all youth with mother-report data ( $n = 216$ ) and for all youth with friend-report data ( $n = 270$ ). Third, the unique associations of mother- and friend-reports with self-reports are tested (e.g., evaluating relations between self- and friend-reported internalizing adjustment after controlling for mother-reported internalizing adjustment). In the fourth section, moderating influences on the unique associations of mother- and friend-reported adjustment with self-reported adjustment are evaluated.

*Assessing the Representativeness of Participants with Mother- and Friend-Report Data*

Analyses next tested for differences between participants with complete self-, mother-, and friend-report data ( $n = 94$ ) and participants who were excluded because they did not have complete self-, mother-, and friend-report data ( $n = 516$ ). The included participants did not differ from excluded participants in terms of gender ( $\chi^2 [1] = 2.89, p = .08$ ), grade ( $\chi^2 [2] = 3.44, p = .18$ ), or race/ethnicity ( $\chi^2 [5] = 4.70, p = .45$ ). Importantly, the included participants with complete self-, mother-, and friend-report data also did not differ from the excluded participants for self-reported internalizing,  $t (574) = .08, p = .94$  ( $M = .43$  included;  $M = .43$  excluded) or externalizing symptoms,  $t (574) = 1.61, p = .11$  ( $M = .43$  included;  $M = .49$  excluded).

*Correlations Between Self-, Mother-, and Friend-Reported Internalizing and Externalizing Symptoms*

For descriptive purposes, Table 7 presents the full correlation matrix between self-, mother-, and friend-reported internalizing and externalizing adjustment for the sample with complete self-, mother-, and friend-report adjustment data. As expected, monomethod correlations (i.e., self-report only, mother-report only, and friend-report only) between measures of internalizing and externalizing were moderate to large in magnitude. These correlations ranged from  $r = .33$  for the self-reported adjustment to  $r = .66$  for mother-reported adjustment. In addition, monotrait-multimethod correlations (e.g., the correlation between self-reported and mother-reported internalizing adjustment) were generally larger than the multitrait-multimethod correlations (e.g., the correlation between self-reported internalizing adjustment and mother-reported externalizing adjustment). However, there was one exception to this trend; the negative correlation between friend-reported externalizing adjustment with self-reported internalizing adjustment was significant and larger in magnitude compared to the nonsignificant correlation between self- and friend-reported internalizing adjustment.

*Replicating Previously Found Associations of Mother- and Friend-Reported Adjustment with Self-Reported Adjustment*

Partial Pearson  $r$  and partial ICC correlations between self- and mother-reported adjustment (controlling for mothers' own adjustment) and between self- and friend-reported adjustment (controlling for the friends' own adjustment) were computed. These results are presented in Table 8. As with the larger sample, relations between mother reports and child reports of internalizing and externalizing symptoms were significant. Also, similar to the larger sample, relations between friend reports and child reports of externalizing symptoms were significant. Relations were similar in magnitude to relations

evident for the larger samples of participants with either mother-report data or friend-report data. However, the associations between self- and friend-reported internalizing symptoms were not significant for the reduced sample ( $n = 94$ ). This finding contrasts with the significant but relatively modest agreement evident when considering the full sample of youth with self- and friend-reported internalizing adjustment ( $n = 270$ ; see Tables 5 and 6).

*Unique Associations of Mother- and Friend-Reported Adjustment*

*With Self-Reported Adjustment*

Next, the unique associations between self- and mother-reported adjustment (controlling for friend-reported adjustment) and between self- and friend-reported adjustment (controlling for mother-reported adjustment) were tested.

*Unique Associations between Self- and Mother-Reported Adjustment*

To examine associations between mother- and self-reported adjustment, regression analyses were conducted in which self-reported symptoms were predicted by: (a) friend-reported symptoms (as a control variable), (2) mothers' own self-reported symptoms of distress (as a control variable), and (3) mother-reported symptoms. Separate regressions were conducted for internalizing and externalizing symptoms.

Mother-reported internalizing adjustment significantly predicted self-reported adjustment after controlling for mothers' own symptoms and for friend-reported internalizing adjustment,  $\beta = .34$ ,  $F(1, 93) = 9.64$ ,  $p < .01$ . Similar results were obtained for mother-reported externalizing adjustment,  $\beta = .38$ ,  $F(1, 93) = 9.18$ ,  $p < .01$ . In order that these results can be directly compared with the results for the larger samples, the Pearson  $r$  and ICC correlations between self- and mother-reported adjustment after

controlling for both friend-reported symptoms and for mothers' own symptoms were computed and are presented in Table 9. Notably, the magnitude of the relations is very similar regardless of whether or not friend-reported adjustment is controlled. The findings indicate that mothers' are providing unique information regarding youths' internalizing and externalizing problems that would not be evident if only friend-reported adjustment was considered.

*Unique Associations between Self- and Friend-Reported Adjustment*

For internalizing adjustment, friend-reported symptoms did not predict self-reported symptoms after controlling for the friends' own symptoms and for mother-reported internalizing adjustment,  $\beta = -.04$ ,  $F(1, 93) = .12$ ,  $p = .73$ . This finding was not surprising given that in this subsample friend-report internalizing symptoms were not related to self-reported internalizing symptoms when only the friend-reporters own adjustment was controlled. Friend-reported externalizing adjustment, on the other hand, significantly predicted self-reported adjustment after controlling for the friends' own symptoms and for mother-reported externalizing adjustment,  $\beta = .31$ ,  $F(1, 93) = 6.65$ ,  $p < .05$ . For comparison purposes, the Person  $r$  and ICC correlations for these associations also were computed and are presented in Table 9. As can be seen, the relations were only slightly reduced when mother reports of adjustment were controlled in addition to the friend reporter's own adjustment. These findings indicate that friends provided unique information about youths' externalizing problems that would not be evident if considering mother-reported adjustment in isolation.

*Testing for Moderating Effects of Gender, Grade, Other-Reporters' Own Symptoms, Relationship Quality, Self-Disclosure, and Friendship Length*

Regression analyses were conducted to evaluate potential moderators of the relations between self- and mother-reported adjustment (while controlling for friend-reported adjustment and for mothers' own symptoms). Parallel regressions were conducted to examine potential moderation of the associations between self- and friend-reported adjustment (while controlling for mother-reported adjustment and for the relevant index of the friend-reporters' own symptoms). The higher-order interactions (i.e., the 37 three-, 67 four-, 68 five-, 40 six-, 14 seven-, and 2 eight-way interaction terms) are not tested because of the smaller sample available for these analyses ( $n = 94$ ).

*Moderation of the Unique Relations between Self- and Mother-Reported Adjustment*

For agreement between self- and mother-reported adjustment, separate regressions tested moderation by gender, grade, the friend-reporters' own symptoms, self- and mother-reported relationship quality, and self- and mother-reported self-disclosure while controlling for the mothers' own symptoms. The relevant index of friend-reported adjustment was also controlled in order to test for moderation of unique relations between self- and mother-reported adjustment. Thus, these analyses are testing for moderation of the *unique* relations between self- and mother-reported adjustment.

The relevant statistics for each of the moderator effects (i.e., significance of the interaction term between the moderator and the relevant index of mother-reported adjustment) are presented in Table 10. For externalizing adjustment, no evidence of moderation was observed. For internalizing adjustment, gender significantly moderated relations between self- and mother-reported adjustment (see Figure 13). For girls, self-

and mother-reported internalizing adjustment were significantly positively related after controlling for friend-reported internalizing adjustment and for mothers' own distress,  $\beta = .41, p < .01$ . For boys, however, self- and mother-reported internalizing symptoms were not related after controlling for friend-reported internalizing adjustment and for mothers' own symptoms,  $\beta = -.03, p = .85$ .

*Moderation of the Unique Relations between Self- and Friend-Reported Adjustment*

For agreement between self- and friend-reported adjustment, separate regressions tested the moderating influence of gender, grade, the friend-reporters' own symptoms, self- and friend-reported friendship quality, self- and friend-reported friendship length, and self- and friend-reported self-disclosure. Friends' own symptoms were controlled in all analyses. In addition, the relevant index of mother-reported adjustment was also controlled.

The relevant statistics for each of the moderator effects (i.e., significance of the interaction term between the moderator and the relevant index of friend-reported adjustment) are presented in Table 11. For internalizing adjustment, only the friend-reporters' own symptoms moderated relations between self- and friend-reported adjustment (see Figure 14). When friends self-reported low levels of internalizing distress, the magnitude of associations was larger ( $\beta = .25, p = .20$ ) compared to the agreement observed for youth whose friends self-reported average ( $\beta = .05, p = .71$ ) or high ( $\beta = -.15, p = .28$ ) levels of internalizing distress. Consistent with the findings for the full sample with self- and friend-reported adjustment, these results suggest indicate that agreement between friend- and self-reported internalizing symptoms is adversely affected by the friend-reporters' own internalizing distress. However, none of these

relations were significant likely due to the small sample available for these analyses ( $n = 94$ ).

For externalizing adjustment, friend-reported negative friendship quality moderated relations between self- and friend-reported adjustment (see Figure 15). For friendships characterized by low and average levels of friend-reported negative quality, the magnitude of associations between self- and friend-reported externalizing adjustment was larger ( $\beta = .62$  and  $\beta = .48$  respectively,  $ps < .001$ ) compared to friendships high in friend-reported negative quality ( $\beta = .33$ ,  $p < .05$ ). Consistent with the findings for the full sample with self- and friend-reported adjustment, these results suggest that agreement between self- and friend-reported externalizing symptoms is lessened by higher levels of negative friendship quality features.

#### *Summary*

Analyses with the sample with complete self-, mother-, and friend-reported adjustment data suggest that both friends and mothers possess *unique* knowledge of youth symptoms. Specifically, mother-reports of both internalizing and externalizing symptoms were significantly associated with self-reported symptoms after controlling for mothers' own symptoms and for friend-reported symptoms. Friend-reports of externalizing symptoms were related to self-reported externalizing symptoms after controlling for the friend-reporters' own externalizing symptoms and for mother-reported externalizing symptoms. However, for the sample of youth with complete self-, mother-, and friend-reported adjustment data, friend-reported internalizing symptoms were not related to self-reported internalizing symptoms either when only the friend-reporters' own internalizing



symptoms were controlled or when both the friend-reporters' own internalizing symptoms and mother-reported internalizing symptoms were controlled.

Moderation of relations was also observed. However, relatively few significant moderating influences were identified for the sample with complete self-, mother-, and friend-reported adjustment data ( $n = 94$ ) compared to the sample with self- and mother-reported adjustment data ( $n = 216$ ) or to the sample with self- and friend-reported adjustment data ( $n = 270$ ). This may be due to the reduced power of the smaller sample. When considering mother-reports, gender moderated the unique relations between self- and mother-reported internalizing adjustment. Specifically, self- and mother-reported internalizing adjustment was significantly positively related for girls but not boys. For friend-reports, agreement between self- and friend-reported internalizing adjustment was larger in magnitude, but not statistically significant, when the friend-reporter was experiencing few symptoms of distress. Also, agreement between self- and friend-reported externalizing symptoms was greater when the friendship was characterized by low levels of negative qualities (from the friends' perspective).

## DISCUSSION

The current research examined whether youth self-reported internalizing and externalizing symptoms were related to mothers' reports of youth adjustment and to close friends' reports of youth adjustment in a school-based sample of children and adolescents. In doing so, this research joins the larger multi-informant literature concerning child psychopathology. Multi-informant approaches for the assessment and study of youth adjustment have the potential to enhance understanding of child psychopathology by addressing problems associated with self-report data (e.g., social

desirability biases) and by assessing whether symptoms manifest differently in diverse settings (e.g., Achenbach, 1995, 2006; Cole et al., 2000). The present study aimed to replicate and extend the findings of the literature on maternal awareness of youth distress (e.g., Treutler & Epkins, 2003) by examining whether self-disclosure and qualities of the mother-child relationship affect agreement between self- and mother-reported adjustment. In addition, this research adds to prior work on friendship knowledge of depressive symptoms (Swenson & Rose, 2003) by expanding the domains of distress considered to include both internalizing and externalizing adjustment and by considering the influences of self-disclosure and friendship length in addition to friendship quality.

A few strengths and unique aspects of this investigation are worth noting. First, equivalent instruments were used to obtain self-, friend-, and mother-reports of youth internalizing and externalizing adjustment (i.e., the YSR, YSR-F, and CBCL). Agreement between reporters is adversely affected when nonparallel items are used to assess the same construct (Achenbach, 2006; Crowley & Worchel, 1993; Epkins & Meyers, 1994; Phillips, Lonigan, Driscoll, & Hooe, 2002). By using parallel instruments across informants, the present study eliminates concerns about methodological variation when considering differences in self-mother versus self-friend agreement.

A second strength of the current research is that each informant's perceptions of relationship qualities and self-disclosure were considered when potential relationship-level moderating variables were examined. For example, for self-mother agreement, both the mother's perceptions and the target youth's perceptions of self-disclosure occurring within the mother-child relationship were tested as potential moderators of agreement. This was important, as recent evidence suggests that moderating influences of

relationship-level variables may differ depending upon whose perception is considered (Treutler & Epkins, 2003). This also represents a significant extension of our prior work on friends' knowledge, in which only the friends' perspective of relationship quality was examined as an influence on self-friend agreement (Swenson & Rose, 2003)

A third strength of the present research is that *unique* relations between self- and mother-reported adjustment and between self- and friend-reported symptomatology were investigated. Relations between multiple informants, such as parents and teachers, are commonly considered in single studies (e.g., Youngstrom et al., 2000). Surprisingly, the literature to date has largely ignored whether a single informant's report (e.g., teacher report) continues to predict youth self-reports when similar information obtained from others (e.g., parents) is controlled. By examining unique relations between self- and mother-reported adjustment and between self- and friend-reported adjustment, the present research provides some evidence regarding whether including both close friends' and mothers' perspectives provides unique information about youth's adjustment compared to utilizing either informant in isolation.

#### Maternal Reports of Emotional and Behavioral Functioning

As expected, maternal ratings of youth internalizing and externalizing symptoms were significantly related to their children's self-reported adjustment. Similar to prior research on parental knowledge (e.g., Cantwell et al., 1997; see Achenbach et al., 1987), the observed relations were moderate in magnitude. Importantly, relations between self- and mother-reported adjustment were largely unaffected when the mothers' own symptoms of distress were controlled in the analyses, despite the fact that mothers' self-reported distress was significantly related to their ratings of their children's internalizing

and externalizing adjustment ( $r_s = .41$  &  $.42$ , respectively). These results suggest that relations were not due to projection of maternal distress onto their children (for a related discussion, see Richters, 1992).

#### *Moderating Influences on Self-Mother Agreement*

Significant moderation of relations was evident, suggesting that not all mothers were equally knowledgeable informants. However, decidedly fewer than expected moderating influences were observed. Recall that a total of 11 potential moderators of self-mother agreement (i.e., gender, grade, mother's self-reported distress, mother- and self-reports of positive and negative relationship quality, mother- and self-reports of child self-disclosure, and mother and self-reports of maternal self-disclosure) were examined in separate regressions separately for internalizing adjustment and for externalizing adjustment. Of these, only children's self-disclosure (according to children's reports) moderated the relation between mother and youth reports of internalizing problems. The relations between mother and youth reports of externalizing problems were only moderated by grade, positive relationship quality (according to mother's reports), and children's self-disclosure (according to children's reports).

Notably, youth's reports of their self-disclosure within the mother-child relationship significantly moderated self-mother agreement for both internalizing and externalizing symptoms. For both internalizing and externalizing symptoms, mothers' reports of symptoms were more strongly (and significantly) related to youth's reports of symptoms when youth reported high levels of disclosure to their mothers. In contrast, child-reports of *mothers'* self-disclosure and maternal reports of both child self-disclosure and mothers' self-disclosure within the mother-child relationship were not found to

influence agreement between self- and mother-reports of either internalizing or externalizing symptoms.

These findings are consistent with prior research demonstrating that child-reported *but not mother-reported* number of topics discussed with mothers was negatively related to discrepancies between maternal- and youth-reports of both internalizing and externalizing distress (Treutler & Epkins, 2003). One possible explanation for the differing influences of child-reported self-disclosure compared to mother-reported self-disclosure in the current research is that children are more accurate reporters of their own self-disclosure because only they have access to their internal thoughts and feelings. For example, mothers may report that their children engage in relatively high levels of disclosure to them if their children discuss topics such as the events of the child's day with them. However, if their children know that they are holding back more personal thoughts and feelings from their mothers, they would more accurately rate their disclosure to their mothers as lower.

As mentioned previously, self-mother agreement for externalizing adjustment also was moderated by the target youth's grade and by maternal perceptions of positive relationship quality. With regard to grade, agreement between self- and mother-reported externalizing adjustment was greatest for the oldest youth (i.e., eleventh-grade) compared to the younger children and early adolescents (i.e., fifth- and eighth-grade) (recall that self-mother agreement for externalizing adjustment was significant for all three grades). Although contrary to hypotheses, this result is consistent with other research finding that agreement between parents and their children increases with age (e.g., Grills & Ollendick, 2003). Recently, De Los Reyes & Kazdin (2005) hypothesized that low

parent-child agreement may primarily result from young children not perceiving their maladaptive behavior as problematic and thus not endorsing symptoms of distress on self-report measures of adjustment. Consistent with this hypothesis, the greater agreement evident between older adolescents and their mothers for externalizing symptoms in the present research may reflect the fact that with age adolescents increasingly recognize that their problem behavior is maladaptive (e.g., Rubio-Stipec, Fitzmaurice, Murphy, & Walker, 2003).

With regard to mothers' perceptions of mother-child positive relationship quality, it was hypothesized that positive mother-child relationship quality would be related to greater agreement between self- and mother-reported adjustment. The current findings indicated greater agreement for externalizing symptoms when mothers perceived the mother-child relationship as involving higher levels of positive quality. These findings are consistent with prior research observing greater agreement specifically for externalizing adjustment among mother-child relationships high in maternal acceptance (Kolko & Kazdin, 1993; Treutler & Epkins, 2003). Perhaps mothers who are accepting of their children and view their relationship with their children as high quality spend more time with their children and so have more opportunities to become knowledgeable of their children's behavior than do other mothers. Alternatively, it is also possible that mothers' awareness of their children's emotional and behavioral adjustment fosters a stronger, higher quality relationship with their children. As this study was cross-sectional, the direction of effects could not be ascertained.

It is important to note, however, that this effect was not replicated with child-report data. That is, youth's reports of positive relationship quality with mothers did not

moderate self-mother agreement regarding externalizing symptoms. This finding, similar to the findings for child-reported self-disclosure, again highlight the importance of considering each relationship partner's perspective when examining potential influences on agreement between children and their parents (De Los Reyes & Kazdin, 2005). Also, negative mother-child relationship quality from either reporter was not found to moderate self-mother agreement for internalizing or externalizing adjustment (i.e., agreement for both internalizing and externalizing symptoms was significant and similar in magnitude regardless of whether the relationship was high, average, or low in mother-child conflict), suggesting that negative qualities such as conflict is less important than positive qualities such as affection and intimacy for self-mother agreement regarding child adjustment.

Other potential moderators were considered but not found to affect relations between self- and mother-reported symptoms for either internalizing or externalizing adjustment. First, gender differences in self-mother agreement were not observed. This was contrary to hypotheses and theoretical considerations, which suggest that agreement between mothers' and their daughters' would be greater than agreement between mothers and their sons due to enhanced intimacy within mother-daughter relationships (e.g., Furman & Buhrmester, 1992). However, it should be noted that the lack of gender differences in agreement is consistent with the larger multi-informant literature (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005; but for an exception see Jensen et al., 1988). Second, maternal ratings of their own distress were not found to influence self-mother agreement for either internalizing or externalizing adjustment. Maternal psychopathology has been found to be related to discrepancies between maternal ratings of child psychopathology and others' ratings of child adjustment (e.g., Youngstrom et al.,

1999). However, findings in prior literature are mixed, and observed relations seem specific to mother's mood lability (i.e., depression, anxiety) (De Los Reyes & Kazdin, 2005; Richters, 1992). In the current research, a global index of maternal psychopathology was employed (i.e., the Global Severity Index of the Brief Symptom Inventory [Derogatis, 1993]), which may explain why moderating effects did not emerge. Alternatively, it should be noted that the mothers who participated in the current research generally evidenced low levels of distress; perhaps maternal adjustment only influences mothers' perceptions of their children's functioning when the mothers themselves are experiencing significant distress.

#### Close Friend Reports of Emotional and Behavioral Functioning

Our previous work found that children's close friends were knowledgeable of youth depressive symptoms for both emotional/somatic depressive symptoms and conduct-related depressive symptoms (Swenson & Rose, 2003). Consistent with these findings, in the present study, agreement between self- and friend-reported adjustment was observed for both internalizing and externalizing symptoms. Importantly, relations between self- and friend-reported adjustment held after controlling for the friend-reporter's own symptoms of distress. This is consistent with our prior research, which found that relations between self- and friend-reported depressive symptoms remained after controlling for the friends' own symptoms. Cumulatively, these findings indicate that friends' knowledge of youth adjustment is not an artifact of friend-reporters projecting their own distress onto their friend (which could artificially inflate relations between self- and friend-reported distress due to homophily among friendships [Hogue & Steinberg, 1995]).



*Moderating Influences on Self-Friend Agreement*

In contrast to the previously discussed moderating influences of self-mother agreement, more moderating influences were observed for self-friend agreement. In particular, a number of moderators emerged for internalizing adjustment. Self-friend agreement for internalizing adjustment was moderated by (a) the friend-reporters own internalizing adjustment, (b) positive and negative friendship quality (from the friend's perspective), (c) self-disclosure (from the friend's perspective), and (d) the length of the friendship (from both the target youth's and the friend's perspective). In contrast, self-friend agreement for externalizing adjustment was only moderated by friend-reported negative friendship quality.

First, consider the moderating effect of the friend-reporters' own symptoms of adjustment on self-friend agreement for internalizing adjustment. Self-friend agreement was significant only when the friend-reporter was experiencing relatively few symptoms of distress. These findings contradict the results of our prior work on friend's knowledge of depressive symptoms (Swenson & Rose, 2003). In this earlier study, the friend-reporter's own depressive symptoms did not moderate relations between friend- and self-reported depressive symptoms. However, finding nonsignificant relations between self- and friend-reported internalizing symptoms when the friend-reporter was experiencing elevated internalizing pathology as evident in the present study is consistent with the depression-distortion hypothesis, which proposes that depression negatively affects or distorts other-informants' assessments of youth functioning (Richters, 1992). Alternatively, it is also possible that the distressed friends are *accurately* reporting elevated rates of internalizing distress experienced by, but not reported by, the target

youth (for related discussions see Richter, 1992; Richters & Pellegrini, 1989). This alternative interpretation could not be tested in the current research, as self-reported symptoms were the only criterion considered (this limitation is discussed more fully in a subsequent section). In addition, this moderating influence also may have been more easily detected among friend reporters compared to mother reporters because the friend's psychopathology was assessed using the same index of adjustment as considered for the youth (i.e., the internalizing scale from the YSR), whereas a global index of maternal adjustment was evaluated as a potential moderator of relations between self-mother agreement.

Additionally, self-friend agreement for internalizing adjustment was moderated by several features of friendships. These included that friends' reports of positive and negative friendship quality and of self-disclosure moderated agreement between self- and friend-reports of internalizing adjustment such that relations were significant and larger in magnitude when the friend perceived the relationship as involving high levels of positive quality, low levels of negative quality, and high levels of self-disclosure. Unexpectedly, the target youth's perspectives regarding friendship qualities and self-disclosure were not found to influence self-friend agreement. These results are similar to the findings for self-mother agreement that indicated that the moderating influences differed depending upon the perspective was being considered. Perhaps youth who perceive their friendship positively may be especially attuned to their friends' internalizing symptoms. Illustratively, positive perceptions of the friendship may cause youth to be more sensitive to or be more cognizant of a friend's actions and disclosures in an effort to be supportive of their friend. However, as mentioned previously, the direction

of effects could not be ascertained in the present research. It is also possible that having more knowledge of a friend's emotional and behavioral adjustment contributes to more positive perceptions of the friendship (e.g., greater feelings of intimacy).

In this light, it is interesting that the only friendship feature that moderated self-friend agreement for internalizing symptoms according to both youth and friend report was friendship length. In particular, relations between friend reports and youth reports of internalizing symptoms were stronger when the friends and the youth themselves reported that their relationship had been longer. Unlike more subjective relationship indicators like positive and negative friendship functioning, it makes sense to think that youth and their friends would be more likely to share the same perspective and agree on the length of their friendship. It may then be that friendships which are stable and longer lasting provide more opportunities over time for youth to become aware of a friend's feelings and concerns.

Although a number of moderators emerged for internalizing adjustment, self-friend agreement of externalizing adjustment was only moderated by friend-reported negative friendship quality. It is interesting that many more moderators emerged for internalizing adjustment than for externalizing adjustment. These findings suggest that, compared to obtaining knowledge of a friend's internalizing adjustment, obtaining knowledge of a friend's externalizing symptoms may be more straight-forward and less influenced by personal and relationship characteristics. Due to their internal nature, problematic thoughts and feelings are not easily observed by external viewers (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005). Thus, knowledge of a youth's mood and feelings may be highly dependent upon relationship qualities and processes

that provide greater opportunity to learn of a youth's internal state of mind. Relationships that are high quality and characterized by high levels of self-disclosure could provide such opportunities. Knowledge of a youth's externalizing adjustment, on the other hand, may be more easily obtained by close friends due to their more blatant or easily observed nature, and thus may not be as easily influenced by aspects of the friendship (e.g., friendship quality). That is, friendships that are lack high levels of self-disclosure or positive qualities such as intimacy and affection may still provide opportunities to observe problematic behavior (e.g., aggression) evident in the external environment.

It should also be noted that the hypothesized gender and developmental differences in self-friend agreement were not supported by the data of the current research. In the present study, agreement between self- and friend-reports of internalizing and externalizing adjustment was similar for girls and for boys. This was unexpected, as our prior research found self- and friend-reports of affective depressive symptoms were significant for girls but not boys (Swenson & Rose, 2003). However, the lack of gender differences in self-friend agreement is consistent the findings concerning self-mother agreement in the current study and with the larger multi-informant literature, which consistently fails to find gender differences in self-other agreement (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005). In addition, relations between self- and friend-reports of internalizing and externalizing adjustment were not found to be stronger among older participants compared to the younger children. Although unexpected, this is consistent with the lack of developmental differences evident in our prior research on friends' knowledge of depressive symptoms (Swenson & Rose, 2003). Self-friend agreement may be expected to increase with age due to friendships becoming

increasingly important with age and due to age-related increases in the time spent with friends compared to parents (Bukowski et al., 1996; Hartup, 1996). However, older adolescence is also marked by an increased emphasis on additional interests, such as romantic relationships (Collins, 2003), which could reduce amount of time spent with friends and thus opportunities for friends to become aware of youth emotional and behavioral adjustment. When taken together, the cumulative effect of these competing processes may neutralize developmental differences in relations between self- and friend-reported adjustment.

### Unique Relations

As mentioned previously, the findings of the present research indicate that both mothers' and close friends' possess knowledge of youth internalizing and externalizing adjustment. Although the results regarding self-mother agreement are consistent with the larger literature on maternal informants, finding significant relations between self- and friend-reported adjustment is relatively novel and could indicate that including friend-reports of youth adjustment may be an important future direction for understanding child psychopathology. However, considering these informants separately fails to identify whether each informant possesses *unique* knowledge of youth adjustment. An important contribution of the present study is that the unique relations between self- and mother-reported adjustment (controlling for the relevant index of friend-reported adjustment) and between self- and friend-reported adjustment (controlling for mother-reported adjustment) were examined. Surprisingly, prior research that has obtained information from multiple sources (e.g., parents, teachers, classmates) has failed to consider unique relations between the informants.

Importantly, the current study found that mother-reported internalizing and externalizing symptoms were significantly related to children's self-reported symptoms after controlling for both the mother's own symptoms and for the relevant index of friend-reported adjustment. Thus, these findings indicate that obtaining diagnostic information from mothers provides unique information regarding children's emotional and behavioral functioning that would not be evident if friend-reported symptoms were considered in isolation. In addition, friend-reported externalizing symptoms remained significantly related to youth self-reported symptoms after controlling for the friend-reporter's own externalizing symptoms and for mother-reported externalizing symptoms. This suggests that children and adolescents' close friends are aware of problematic acting-out behaviors (e.g., delinquency) that are not readily recognized by maternal informants. Cumulatively, *both* mothers *and* close friends appear to possess unique knowledge of youth behavioral adjustment.

Friend-reported internalizing adjustment was not uniquely related to children's self-reported symptoms when the friend-reporter's own symptoms and mother-reported internalizing adjustment were controlled. These results could be interpreted as demonstrating that close friends' knowledge of youth emotional functioning largely mirrors parental knowledge of children's adjustment. However, recall that the previously observed association between self- and friend-reported internalizing adjustment evident for the larger sample of youth with complete self- and friend-report adjustment data ( $n = 270$ ) was not replicated with the subsample of youth with complete self-, mother-, and friend-reported adjustment when mother-reported internalizing adjustment was *not* controlled. Thus, the failure to find unique relations between self- and friend-reported

internalizing adjustment in the current data may be an artifact of the reduced sample available for these analyses.

Moderation of unique relations also was observed. It should be noted, however, that relatively few significant moderating influences were identified, perhaps due to the small sample available for these analyses. In particular, three moderating effects were found. Consistent with the findings from the larger sample for considering self-friend agreement, self-friend agreement for internalizing adjustment was moderated by the friend reporters' own internalizing symptoms and self-friend agreement for externalizing adjustment was moderated by the friends' reports of negative friendship quality. When considering mother-reports, self- and mother-reported internalizing adjustment was significant for girls but not boys. However, gender did not moderate self-mother agreement in the larger sample used to examine the relations between self reports and mother reports of internalizing symptoms. Accordingly, this moderator effect should be interpreted with caution.

#### Limitations and Future Directions

Despite the contributions of this research, several limitations are worth noting. First, significant data reduction occurred as mother- and friend-reports of youth adjustment were not available for many participants. This was especially true for analyses considering mother and friend reports simultaneously. Importantly, though, the analyses examining the representativeness of the youth participants retained for analyses suggested few differences between included and excluded participants. When considering mother-reports of adjustment, European American/Caucasian participants were more likely to have complete self- and mother-report data than were participants of other ethnic

backgrounds. However, participants with mother-report data who were included in analyses did not differ from other participants in terms of gender, grade, self-reported internalizing adjustment, or self-reported externalizing adjustment. When considering friend-reports of adjustment, girls were more likely to be friended and to have complete self- and friend-report data compared to boys, yet the included participants did not differ from the excluded participants in terms of grade, race/ethnicity, or self-reported internalizing or externalizing adjustment. For the analyses in which the greatest amount of reduction occurred (i.e., the tests of unique relations between self-, mother-, and friend-reported adjustment), the included participants did not differ from the excluded participants in terms of demographic variables or self-reported adjustment indices.

These findings suggest that the participants retained for analyses were not better adjusted or less at-risk than the other participants. Nevertheless, the representativeness of the other-informant's reports (i.e., maternal-reports, friend-reports) could not be ascertained. Accordingly, it is possible that different relations would have emerged if more youth in the sample had mother-reported data and friend-reported data. Future research on the relations of interest to the current study should include more intensive recruitment strategies (e.g., financial incentives), particularly for maternal participation, and be conducted with larger samples to explore the generalizability of the findings of the present study.

A second limitation of the current research is that youth self-reported adjustment was the only criterion used to assess symptoms of emotional and behavioral adjustment. Although utilizing self-reported symptoms was particularly relevant to the aims of the present research (i.e., assessing agreement between self-, mother-, and friend-reported



symptoms), this limitation is noteworthy given that research on multiple informants of youth psychopathology has been largely conducted with the aim of addressing limitations with youth self-reported data (e.g., self-report biases). Utilizing additional, somewhat more objective indices of adjustment (e.g., academic performance, treatment utilization, arrest records) or alternative assessment strategies (e.g., structured diagnostic interviews) could address issues regarding the sensitivity and specificity of maternal- and close friend-reports of youth adjustment. Incorporating structured diagnostic interviews as an alternate criterion measure in particular represent an important avenue for future research; structured diagnostic interviews address the poor psychometric properties and associated with unassisted clinical diagnosis as well as biases common to self-report measures (Angold & Costello, 2000; Edelbrock & Costello, 1990). Importantly, the use of structured diagnostic interviews has repeatedly been shown to improve the effectiveness and diagnostic reliability of assessment batteries for children and adolescents (e.g., Hughes et al., 2000). However, it should also be noted that at present no “gold standard” exists by which to measure childhood psychopathology (Achenbach, 1995; Achenbach et al., 1987; De Los Reyes & Kazdin, 2005).

An additional limitation of the current research was its cross-sectional design. Therefore, and as mentioned previously, the direction of effects cannot be determined. For example, in the current study it was found that agreement between self- and mother-reports of externalizing adjustment was higher among mother-child relationships characterized by higher levels of positive relationship quality from the mothers’ perspective. This finding may suggest that parent-child relationships that are affectionate and supportive facilitate opportunities for mothers’ to learn of their child’s behaviors. On

the other hand, prior research suggests that parental knowledge promotes parent-child relationship quality by enhancing parental trust (Kerr, Stattin, & Trost, 1999). Similarly, regarding relations between self- and friend-reported adjustment, it is possible that the observed relations between self-disclosure and friendship knowledge of youth internalizing symptoms could be bidirectional in nature. Illustratively, self-disclosure could lead to increased friendship knowledge, which in turn could result in youth providing more social support to a friend in distress, which could lead to the friend disclosing more personal information and thus lead to even greater knowledge of a friend's internalizing symptoms. Longitudinal designs would greatly enhance efforts to establish the temporal ordering of relations, and could provide insight into specific individual- and relationship-level factors that facilitate the acquisition of knowledge regarding youth adjustment. Longitudinal designs would also clarify the extent to which mother- and/or friend-reports of youth distress are able to predict changes in youth adjustment over time. Finding that mother- and friend-reported adjustment are prospectively related to youth emotional and behavioral problems could enhance prevention and intervention efforts by facilitating the identification of psychiatrically at-risk youth.

In addition to these considerations, employing longitudinal designs would be informative regarding the impact of possessing knowledge of youth adjustment *on* youth adjustment. As alluded to earlier, having knowledge of youth internalizing and externalizing adjustment could produce positive as well as negative changes in the behaviors exhibited by the relationship partners of children and adolescents (e.g., mothers, friends). For example, mothers or close friends who are aware of a youth in

distress may enhance their own efforts to support the particular youth, which could result in reducing severity of symptomatology. On the other hand, mothers who become aware of particularly distressing emotional or behavioral problems (e.g., aggressive actions towards others, suicidal tendencies) may initially become overwhelmed and withdraw from their children, which could potentially harm the mother-child relationship and thus place youth at greater risk for adjustment problems. There are similar positive and negative implications for friendships. While it is tempting to believe that possessing knowledge of a friend's emotional and behavioral adjustment would lead to stronger, more intimate friendships, it is also possible that becoming aware of a friend's psychiatric symptoms could lead to the termination of a friendship, again placing youth at risk for future adjustment problems. This concern may be particularly evident among friendships of shorter duration, friendships which have not had the opportunity to build a foundation of trust and intimacy prior to the acquisition of potentially distressing knowledge of a friend's emotional and behavioral problems. These examples highlight just a few of the possible mechanisms by which relationship partners' knowledge of youth distress could promote either adaptive or maladaptive adjustment, mechanisms which could not be examined in the current study due to its cross-sectional design.

#### Summary and Applications

In conclusion, this study with a large school-based sample offers evidence that both mothers and close friends possess knowledge of youth internalizing and externalizing adjustment. This research also found evidence of significant moderation, indicating that not all mothers or friends were equally knowledgeable of youth functioning. These findings contribute to the larger literature on parental informants of

youth psychopathology (e.g., De Los Reyes & Kazdin, 2005) and add to the newly emerging literature examining the influences of parental and relationship characteristics on self-parent agreement (e.g., Treutler & Epkins, 2003). In addition, the present research builds upon the limitations of our prior study on close friends' knowledge of youth emotional and behavioral problems (Swenson & Rose, 2003) and thus provides further evidence indicating that children and adolescents' close friends may be particularly important sources of diagnostic information that could enhance understanding of childhood psychopathology.

Finally, it should be noted that the unique relations between mother- and child-reports and between child- and friend-reports of adjustment indices observed in the present research indicate that both research and applied settings could benefit from incorporating diagnostic information from both sources in a single assessment. With regards to research applications, mothers and close friends appear to be differentially sensitive to various aspects of youth adjustment. Thus, considering both mothers' and close friends' reports of youth adjustment should account for more variance in youth psychopathology than would be found if either source was considered in isolation. In addition, obtaining assessment information from mothers and from friends in a single study could facilitate greater recognition of the manner by which emotional and behavioral problems manifest across divergent contexts (e.g., within peer interactions, within family relationships).

The implications of the present research for applied contexts are less clear. Discrepancies between mother- and child-reported symptomatology have been found to negatively influence treatment processes and outcomes (Hawley & Weisz, 2003). While

it is possible that incorporating diagnostic information obtained from close friends could facilitate adaptive treatment outcomes for youth (e.g., by providing information consistent with child-reported distress, mother-reported distress, or both informants), several pragmatic concerns likely limit the utility of friend-reported distress in treatment contexts. These concerns include, but are not limited to, (a) obtaining permission from the client and the client's family to inform a close friend that the client was seeking psychological services, (b) obtaining consent from the friend's parents to allow the friend to participate in the assessment, thus extending the number of people who are made aware of the client's treatment status, (c) the length of time likely needed to obtain the friends' perspective, and (d) the potential for the information obtained from a friend to be discrepant with both mother- and child-reported adjustment, thus further hampering rather than facilitating clinical consensus. Should these obstacles be overcome, it is still unclear whether a close friend would be willing to share their perceptions of the client's adjustment. There are a number of reasons why close friends may be unwilling to discuss their friends' emotional and behavioral adjustment, potentially including concerns about betraying the target youth's trust, fear of getting the target child into trouble (e.g., by sharing aggressive or delinquent behavior such as stealing), and even concern about getting themselves into trouble (e.g., disclosing that they participated in theft with the target youth).

On the other hand, taking into account friend-reports of youth internalizing and externalizing adjustment in addition to mother-reported adjustment has the potential to facilitate the early identification of at-risk youth. Youth in distress primarily receive professional assistance after being identified by others, largely parents and teachers

(Clarizio, 1994). However, the relatively low agreement between adult- and youth-reported symptomatology may adversely impact the identification of youth in distress and impair efforts to obtain assistance for them (Achenbach et al., 1987; Cantwell et. al., 1997). Considering friend reports may assist in identifying youth who manifest symptoms primarily in peer contexts (e.g., withdrawal) or who share feelings of distress primarily with close friends and thus would be missed by relying on adult informants alone (Cole, Martin, & Powers, 1997; Windle, Miller-Tutzauer, Barnes, & Welte, 1991). The potential for close friends to assist in the identification of at-risk youth seems particularly relevant for prevention programs targeting adjustment outcomes which adults are largely unaware of, such as risk for suicidality (e.g., Walker, Moreau, & Weissman, 1990; Zimmerman & Asnis, 1991). Should efforts be made to obtain information from close friends for preventative purposes, significant attention should be placed upon gaining the trust of the youth involved (e.g., assuring them that the purpose is not to get anyone into trouble) and upon highlighting the unique knowledge close friends possess of children and adolescents' adjustment.

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Appendix A

Youth Demographic Questionnaire

**Basic Information**

1. I am (circle one)

- A. Male (a boy)
- B. Female (a girl)

2. The following category best describes my racial/ethnic background (circle one):

- A. Black / African American
- B. Native American
- C. Asian American
- D. White / European American
- E. Hispanic / Latino
- F. Other (please write what best describes you): \_\_\_\_\_

3. I am \_\_\_\_\_ years old.

4. Some of the questions you will answer today ask you to think about **your "Mom"** but we know that many different kinds of women help to take care of kids. When answering these questions please think about the woman who is responsible for taking care of you. Please answer about the same person every time, even if more than one woman cares for you. For example, if you have a mother and a step-mother please just pick the one who takes care of you MOST days to answer about. Please put a check next to ONE line below to tell us who you will be thinking about when you answer questions about your "Mom."

- \_\_\_\_\_ Mother who gave birth to me
- \_\_\_\_\_ Mother who adopted me
- \_\_\_\_\_ Step-mother
- \_\_\_\_\_ Foster-mother
- \_\_\_\_\_ Father's girlfriend
- \_\_\_\_\_ Grandmother on my Mom's side of the family
- \_\_\_\_\_ Grandmother on my Dad's side of the family
- \_\_\_\_\_ Other (who is she? \_\_\_\_\_)

Do you live with her? \_\_\_\_\_ Yes \_\_\_\_\_ No

If there is not a woman who has any responsibility for raising you please check here:

\_\_\_\_\_ There is NOT a woman who helps take care of me.

If there is not a woman who has any responsibility for raising you then please think about the man who is responsible for taking care of you, for example your Dad, when answering all questions.

Appendix B

Parent Demographic Questionnaire

**Demographic Information**

**Please fill out the following information about you and your family. Remember that you do not need to provide your name.**

My relation to the child participating in this study is:

- Birth Mother  
 Adoptive Mother  
 Step-mother  
 Foster-mother  
 Father's girlfriend  
 Maternal Grandmother  
 Paternal Grandmother  
 Other (I am the child's \_\_\_\_\_)

Does the child live with you?  Yes  No

I am \_\_\_\_\_ years old.

My current spouse/partner is \_\_\_\_\_ years old. (If applicable)

My racial/ethnic background is:

- White / European American  African-American  Asian-American  
 Hispanic/Latino  Native American  
 Other (please write what best describes you): \_\_\_\_\_

My current spouse/partner's racial/ethnic background is: (If applicable)

- White / European American  African-American  Asian-American  
 Hispanic/Latino  Native American  
 Other (please write what best describes your partner): \_\_\_\_\_

Marital status of birth parents of your child (check all that apply):  married

- not married  divorced (\_\_\_ yrs. ago)  living together  separated  
 one parent deceased  both parents deceased  mother remarried  
 father remarried

Your current marital status:  married (\_\_\_ yrs)  not married  
 divorced (\_\_\_ yrs. ago)

Total number of marriages: \_\_\_\_\_

My current living situation is:  living with a spouse/partner  living alone

If your child is not currently living with both birth parents, how many times per month does the child see the non-custodial parent?  times/month

My highest level of education is:  8<sup>th</sup> grade graduate or less  
 high school graduate/GED  trade or vocational school  some college  
 college graduate  graduate/professional degree (e.g., M.A., Ph.D., M.D.)

I am currently:  working full-time  working part-time  not working  
 retired

Occupation (please be specific): \_\_\_\_\_

My current spouse/partner's highest level of education is:  8<sup>th</sup> grade graduate or less  
 high school graduate/GED  trade or vocational school  some college  
 college graduate  graduate/professional degree (e.g., M.A., Ph.D., M.D.)  
 Not Applicable (no spouse/partner)

My current spouse/partner is:  working full-time  working part-time  
 not working  retired

My current spouse/partner's occupation: \_\_\_\_\_

Our total yearly household income is (please include salary/wages, child support/alimony, and government benefits):

< \$5,000  \$5,000 - \$10,000  \$10,000 - \$20,000  
 \$20,000 - \$30,000  \$30,000 - \$40,000  \$40,000 - \$60,000  
 \$60,000 - \$80,000  \$80,000 - \$100,000  > \$100,000

Below please list the following information about each person living in the home BESIDES yourself, your spouse/partner, and the child participating in this study:

Age Relationship to the child (e.g., step-brother, grandmother)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Do you have other children not living in your home?  Yes  No

If yes, what is his/her:  Age  Gender  
 Age  Gender

Appendix C

Friendship Nominations Measure

**Circle the names of your three best friends.**

(Id #) (Name)

Appendix D

Self-Disclosure Questionnaire: Youth Version



## Talking With Others

Circle the number for each of the following statements that best describes how you usually are with your Mom. These questions are about when you have a problem.

## 1. I tell my Mom about my problems.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 2. When I am mad about something that happened to me, I can talk to my Mom about it.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 3. I talk to my Mom about the things that make me sad.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 4. I tell my Mom private things a lot.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 5. I can think of lots of secrets I have told my Mom.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

Circle the number for each of the following statements that best describes how you usually are with your Mom. These questions are about when your Mom has a problem.

## 1. My Mom tells me about her problems.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 2. When my Mom is mad about something that happened to her, she can talk to me about it.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 3. My Mom talks to me about the things that make her sad.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 4. My Mom tells me private things a lot.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

## 5. I can think of lots of secrets my Mom has told me.

1	2	3	4	5
not at all true	a little true	somewhat true	pretty true	really true

Circle the number for each of the following statements that best describes how you usually are with (insert FRIEND's name here). These questions are about when you have a problem.

**1. I tell (FRIEND) about my problems.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**2. When I am mad about something that happened to me, I can talk to (FRIEND) about it.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**3. I talk to (FRIEND) about the things that make me sad.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**4. I tell (FRIEND) private things a lot.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**5. I can think of lots of secrets I have told (FRIEND).**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

Circle the number for each of the following statements that best describes how you usually are with (insert FRIEND's name here). These questions are about when (FRIEND) has a problem.

**1. (FRIEND) tells me about his/her problems.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**2. When (FRIEND) is mad about something that happened to him/her, he/she can talk to me about it.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**3. (FRIEND) talks to me about the things that make him/her sad.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**4. (FRIEND) tells me private things a lot.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

**5. I can think of lots of secrets (FRIEND) has told me.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true       really true

Circle the number for each of the following statements that best describes how you usually are with (insert FRIEND2's name here). These questions are about when you have a problem.

**1. I tell (FRIEND2) about my problems.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**2. When I am mad about something that happened to me, I can talk to (FRIEND2) about it.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**3. I talk to (FRIEND2) about the things that make me sad.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**4. I tell (FRIEND2) private things a lot.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**5. I can think of lots of secrets I have told (FRIEND2).**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

Circle the number for each of the following statements that best describes how you usually are with (insert FRIEND2's name here). These questions are about when (FRIEND2) has a problem.

**1. (FRIEND2) tells me about his/her problems.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**2. When (FRIEND2) is mad about something that happened to him/her, he/she can talk to me about it.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**3. (FRIEND2) talks to me about the things that make him/her sad.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**4. (FRIEND2) tells me private things a lot.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

**5. I can think of lots of secrets (FRIEND2) has told me.**

1                      2                      3                      4                      5  
not at all true   a little true            somewhat true   pretty true            really true

Appendix E

Self-Disclosure Questionnaire: Parent Version

## Talking With Others

Circle the number for each of the following statements that best describes how you usually are with your child who is participating in this study. These questions are about when you have a problem.

## 1. I tell my child about my problems.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 2. When I am mad about something that happened to me, I can talk to my child about it.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 3. I talk to my child about the things that make me sad.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 4. I tell my child private things a lot.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 5. I can think of lots of secrets I have told my child.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

Circle the number for each of the following statements that best describes how you usually are with your child who is participating in this study. These questions are about when your child has a problem.

## 1. My child tells me about his/her problems.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 2. When my child is mad about something that happened to him/her, he/she can talk to me about it.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 3. My child talks to me about the things that make him/her sad.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 4. My child tells me private things a lot.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

## 5. I can think of lots of secrets my child has told me.

1                      2                      3                      4                      5  
not at all true   a little true       somewhat true   pretty true       really true

Table 1

*Variables assessed in the current study by self-, mother-, and friend-report*

<i>Variable</i>	<i>Informant</i>		
	Self	Mother	Friend
<i>Demographic</i>			
Gender	Y	-	-
Grade	Y	-	-
<i>Adjustment</i>			
Target Child's Internalizing Symptoms	Y	Y	Y
Target Child's Externalizing Symptoms	Y	Y	Y
Mother's Own Symptoms (Global Severity Index)	-	Y	-
Friend's Own Internalizing Symptoms	-	-	Y
Friend's Own Externalizing Symptoms	-	-	Y
<i>Relationship Quality</i>			
Positive Mother-Child Relationship Quality	Y	Y	-
Negative Mother-Child Relationship Quality	Y	Y	-
Positive Friendship Quality	Y	-	Y
Negative Friendship Quality	Y	-	Y
<i>Self-Disclosure</i>			
Self-Disclosure about the Target's Problems	Y	Y	Y
Self-Disclosure about the Mother's Problems	Y	Y	-
Self-Disclosure about the Friend's Problems	Y	-	Y
<i>Friendship Stability</i>	Y	-	Y

*Note.* "Y" = variable is available from the particular informant. "-" = variable is not available from the particular informant.

Table 2

*Descriptive Statistics for Cross-Informant Indices of Internalizing and Externalizing Adjustment from the Youth Self-Report, the Child Behavior Checklist, and the Youth Self-Report: Friend Version*

	$\alpha$	<i>M</i> -Mean Score ( <i>SD</i> ) <sup>1</sup>	<i>M</i> -Summed Score ( <i>SD</i> )	Observed Range of Summed Scores	Possible Range of Summed Scores
<i>All Youth with Self-Reported Symptoms (n = 574)</i>					
Self-Reported Internalizing	.89	.45 (.30)	12.66 (8.59)	0 – 43	0 – 58
Self-Reported Externalizing	.88	.47 (.30)	11.02 (6.99)	0 – 40	0 – 48
<i>Youth with Self- and Mother-Reported Symptoms (n = 216)</i>					
Self-Reported Internalizing	.87	.42 (.28)	11.89 (8.05)	0 – 41	0 – 58
Self-Reported Externalizing	.86	.45 (.28)	10.53 (6.47)	0 – 34	0 – 48
Mother-Reported Internalizing	.80	.20 (.18)	5.57 (5.14)	0 – 24	0 – 58
Mother-Reported Externalizing	.86	.23 (.27)	5.32 (6.30)	0 – 34	0 – 48

(Table continues)

(Table 2 Continued)

	$\alpha$	<i>M</i> -Mean Score ( <i>SD</i> )	<i>M</i> -Summed Score ( <i>SD</i> )	Observed Range of Summed Scores	Possible Range of Summed Scores
<i>Youth with Self- and Friend-Reported Symptoms (n = 270)</i>					
Self-Reported Internalizing	.84	.44 (.28)	12.33 (7.93)	0 – 39	0 – 58
Self-Reported Externalizing	.87	.46 (.29)	10.72 (6.68)	0 – 40	0 – 48
Friend-Reported Internalizing	.91	.28 (.26)	7.73 (7.18)	0 – 50	0 – 58
Friend-Reported Externalizing	.91	.41 (.34)	9.49 (7.81)	0 – 44	0 – 48

*Notes.* For mother- and friend-reported symptoms the descriptive statistics include only participants with complete data (i.e.,  $\geq 80\%$ ) on self-reported, other-reported, and other-informants' own indices of adjustment. For the present research, one item from the cross-informant internalizing index (i.e., "I think about killing myself") was removed prior to administration. Three items from the cross-informant externalizing index (i.e., "I think about sex too much," "I smoke, chew, or sniff tobaccos", and "I use alcohol or drugs for nonmedical purposes") were removed prior to administration.

<sup>1</sup>Internalizing and externalizing symptom mean scores could range from 0 to 2.



Table 3

*Descriptive Statistics for the Network of Relationships Inventory and for Friendship Stability for the Participants with Complete Self- and Mother-Reported Symptoms and for Participants with Complete Self- and Friend-Reported Symptoms*

	<i>N</i>	$\alpha$	<i>M (SD)</i>	Observed Range
<i>Youth with Self- and Mother-Reported Symptoms</i>				
<i>Self-Reported Indices</i>				
Positive Quality w/ Mom	200	.94	3.74 (.77)	1.19 – 5
Negative Quality w/ Mom	200	.86	2.26 (.74)	1 – 4.42
<i>Mother-Reported Indices</i>				
Positive Quality w/ Child	200	.90	3.34 (.51)	1.92 – 4.56
Negative Quality w/ Child	200	.91	1.68 (.57)	1 – 4.42
<i>Youth with Self- and Friend-Reported Symptoms</i>				
<i>Self-Reported Indices</i>				
Positive Quality w/ Friend	237	.97	3.58 (.93)	1 – 5
Negative Quality w/ Friend	237	.89	1.75 (.66)	1 – 4.67
Length of Friendship	237	--	4.24 (3.08)	0 - 9

(Table continues)

(Table 3 Continued)

	<i>N</i>	$\alpha$	<i>M (SD)</i>	Observed Range
<i>Friend-Reported Indices</i>				
Positive Quality w/ Focal Youth	237	.97	3.55 (.93)	1 – 5
Negative Quality w/ Focal Youth	237	.89	1.78 (.67)	1 – 4.67
Length of Friendship	237	--	4.24 (3.01)	0 – 9

*Notes.* Positive and negative relationship quality mean scores could range from 1 to 5.

Responses to the length of friendship item could range from 0 (“*less than 1 yr.*”) to 9

(“*more than 9 yrs.*”). The descriptive statistics are limited to youth with complete (i.e.,  $\geq$

80%) self-reported, other-reported, and other informants’ own indices of adjustment and

to youth with complete self- and other-report relationship-quality data.

Table 4

*Descriptive Statistics for the Self-Disclosure Questionnaire for the Participants with Complete Self- and Mother-Reported Symptoms and for Participants with Complete Self- and Friend-Reported Symptoms*

	<i>N</i>	$\alpha$	<i>M (SD)</i>	Observed Range
<i>Youth with Self- and Mother-Reported Symptoms</i>				
<i>Self-Report</i>				
SD about Child's Problems	203	.91	3.01 (1.08)	1 – 5
SD about Mom's Problems	203	.90	2.36 (1.01)	1 – 5
<i>Parent-Report</i>				
SD about Child's Problems	203	.87	3.44 (.84)	1.20 – 5
SD about Mom's Problems	203	.87	2.08 (.79)	1 – 5
<i>Youth with Self- and Friend-Reported Symptoms</i>				
<i>Self-Report</i>				
SD about Target's Problems	244	.94	3.60 (1.25)	1 – 5
SD about Friend's Problems	244	.94	3.55 (1.24)	1 – 5
<i>Friend-Report</i>				
SD about Target's Problems	244	.94	3.55 (1.23)	1 – 5
SD about Friend's Problems	244	.94	3.58 (1.22)	1 – 5

*Note.* Self-disclosure mean scores could range from 1 – 5. The descriptive statistics are

limited to youth with complete (i.e.,  $\geq 80\%$ ) self-reported, other-reported, and other informants' own indices of adjustment and to youth with complete self-disclosure data.

Table 5

*Pearson Correlations (r) and Partial Correlations (pr) between Self- and Other-Reported Internalizing and Externalizing Adjustment*

<i>Self-Report</i>	<i>Mother-Report</i>		<i>Friend-Report</i>	
	<i>r</i>	<i>pr</i>	<i>r</i>	<i>pr</i>
Internalizing	.36 <sup>****</sup>	.33 <sup>****</sup>	.20 <sup>***</sup>	.16 <sup>**</sup>
Externalizing	.31 <sup>****</sup>	.30 <sup>****</sup>	.29 <sup>****</sup>	.27 <sup>****</sup>

*Note.* The partial correlations (*pr*) were conducted while controlling for the relevant index of the other-informants' self-reported symptoms of distress.

\*\*  $p < .01$ . \*\*\*  $p < .001$ . \*\*\*\*  $p < .0001$

Table 6

*Intraclass Correlations (ICC) and Partial Intraclass Correlations (partial ICC) between Self- and Other-Reported Internalizing and Externalizing Adjustment*

<i>Self-Report</i>	<i>Mother-Report</i>		<i>Friend-Report</i>	
	ICC	partial ICC	ICC	partial ICC
Internalizing	.36 <sup>***</sup>	.31 <sup>***</sup>	.20 <sup>***</sup>	.13 <sup>*</sup>
Externalizing	.31 <sup>***</sup>	.27 <sup>***</sup>	.29 <sup>***</sup>	.23 <sup>***</sup>

*Note.* The partial intraclass correlations (partial ICC) were conducted while controlling for the relevant index of the other-informants' self-reported symptoms of distress.

\*  $p < .05$ . \*\*\*  $p < .001$

Table 7

*Full Correlation Matrix Between Self-, Mother-, and Friend-Reported Internalizing and Externalizing Adjustment for the Youth with Complete Self-, Mother-, and Friend-Reported Symptoms*

<i>Adjustment Indices</i>	<i>Adjustment Indices</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
(1) Self-Reported Internalizing	----					
(2) Self-Reported Externalizing	.33**	----				
(3) Mother-Reported Internalizing	.33**	.31**	----			
(4) Mother-Reported Externalizing	.08	.35***	.66****	----		
(5) Friend-Reported Internalizing	.03	-.07	.09	.02	----	
(6) Friend-Reported Externalizing	-.21*	.25*	.03	.19*	.52****	----

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . \*\*\*\*  $p < .0001$ .

Table 8

*Partial Pearson r (pr) and Partial Intraclass Correlations (pICC) between Self- and Mother-Reported Adjustment (While Controlling for Mothers' Own Adjustment) and between Self- and Friend-Reported Adjustment (While Controlling for Friends' Own Adjustment) for the Youth with Complete Self-, Mother-, and Friend-Reported Symptoms*

<i>Self-Report</i>	<i>Mother-Report</i>		<i>Friend-Report</i>	
	<i>pr</i>	<i>pICC</i>	<i>pr</i>	<i>pICC</i>
Internalizing	.31**	.30**	.01	.00
Externalizing	.34***	.32***	.29**	.19*

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$



Table 9

*Partial Pearson r (pr) and Partial Intraclass Correlations (pICC) between Self- and Mother-Reported Adjustment (While Controlling both Friend-Reported Adjustment and Mothers' Own Adjustment) and between Self- and Friend-Reported Adjustment (While Controlling both Mother-Reported Adjustment and Friends' Own Adjustment) for the Youth with Complete Self-, Mother-, and Friend-Reported Symptoms*

<i>Self-Report</i>	<i>Mother-Report</i>		<i>Friend-Report</i>	
	<i>pr</i>	<i>pICC</i>	<i>pr</i>	<i>pICC</i>
Internalizing	.31**	.30**	-.04	.00
Externalizing	.30**	.29**	.26*	.17*

\*  $p < .05$ . \*\*  $p < .01$ .

Table 10

*Results from the Interaction Terms for Regression Analyses Testing the Moderating Influences of Gender, Grade, Mothers' Own Symptoms, Mother-Child Relationship Quality, and Self-Disclosure on Relations between Self- and Mother-Reported Adjustment for the Youth with Complete Self-, Mother-, and Friend-Reported Internalizing and Externalizing Symptoms (n = 94)*

*Moderator X Mother-Reported Internalizing Adjustment Predicting Self-Reported Adjustment*

<i>Moderator</i>	<i>F-value</i>	<i>p-value</i>
Gender	4.37	< .05
Grade	.67	.52
Mother's Own Symptoms	.21	.65
Self-Reported Positive Relationship Quality	.04	.85
Self-Reported Negative Relationship Quality	2.48	.12
Mother-Reported Positive Relationship Quality	.15	.70
Mother-Reported Negative Relationship Quality	.26	.61
Self-Reported Self-Disclosure about Child's Problems	.38	.54
Self-Reported Self-Disclosure about Mother's Problems	2.88	.09
Mother-Reported Self-Disclosure about Child's Problems	1.42	.24
Mother-Reported Self-Disclosure about Mother's Problems	.58	.45

(Table continues)

(Table Continued)

*Moderator X Mother-Reported Externalizing Adjustment Predicting Self-Reported Adjustment*

<i>Moderator</i>	<i>F-value</i>	<i>p-value</i>
Gender	2.66	.11
Grade	2.82	.07
Mother's Own Symptoms	1.04	.31
Self-Reported Positive Relationship Quality	.96	.33
Self-Reported Negative Relationship Quality	.08	.78
Mother-Reported Positive Relationship Quality	3.38	.07
Mother-Reported Negative Relationship Quality	.83	.37
Self-Reported Self-Disclosure about Child's Problems	.43	.51
Self-Reported Self-Disclosure about Mother's Problems	.12	.73
Mother-Reported Self-Disclosure about Child's Problems	1.45	.23
Mother-Reported Self-Disclosure about Mother's Problems	.08	.78

*Notes.* Each moderator was tested in a separate analysis (i.e., each line represents a separate regression). For regressions testing the moderating influence of mother-child relationship quality,  $n = 91$ . For regressions testing the moderating influence of self-disclosure,  $n = 89$ .

Table 11

*Results from the Interaction Terms for Regression Analyses Testing the Moderating Influences of Gender, Grade, Friends' Own Symptoms, Friendship Quality, Self-Disclosure, and Friendship Stability on Relations between Self- and Friend-Reported Adjustment for the Youth with Complete Self-, Mother-, and Friend-Reported Internalizing and Externalizing Symptoms (n =94)*

*Moderator X Friend-Reported Internalizing Adjustment Predicting Self-Reported Adjustment*

<i>Moderator</i>	<i>F-value</i>	<i>p-value</i>
Gender	1.44	.23
Grade	.12	.88
Friend's Own Symptoms	4.09	< .05
Self-Reported Positive Friendship Quality	2.30	.13
Self-Reported Negative Friendship Quality	.11	.74
Friend-Reported Positive Friendship Quality	1.35	.25
Friend-Reported Negative Friendship Quality	2.10	.15
Self-Reported Self-Disclosure	1.79	.18
Friend-Reported Self-Disclosure	1.09	.30
Self-Reported Friendship Stability	.84	.36
Friend-Reported Friendship Stability	2.18	.14

(Table continues)

(Table Continued)

*Moderator X Friend-Reported Externalizing Adjustment Predicting Self-Reported Adjustment*

<i>Moderator</i>	<i>F-value</i>	<i>p-value</i>
Gender	.71	.40
Grade	1.14	.32
Friend's Own Symptoms	3.05	.08
Self-Reported Positive Friendship Quality	.08	.78
Self-Reported Negative Friendship Quality	1.40	.24
Friend-Reported Positive Friendship Quality	.79	.38
Friend-Reported Negative Friendship Quality	4.15	< .05
Self-Reported Self-Disclosure	.42	.52
Friend-Reported Self-Disclosure	.09	.77
Self-Reported Friendship Stability	.08	.78
Friend-Reported Friendship Stability	.73	.40

*Notes.* Each moderator was tested in a separate analysis (i.e., each line represents a separate regression). For regressions testing the moderating influence of friendship quality and friendship stability,  $n = 88$ . For regressions testing the moderating influence of self-disclosure,  $n = 91$ .

## Figure Captions

*Figure 1.* Flowchart delineating the steps involved in identifying sample available for analyses involving relations between self- and mother-reported internalizing and externalizing symptoms.

*Figure 2.* Flowchart delineating the steps involved in identifying sample available for analyses involving relations between self- and friend-reported internalizing and externalizing symptoms.

*Figure 3.* Graphical representation of the interaction between grade and mother-reported externalizing symptoms in predicting self-reported externalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between a categorical and a continuous predictor.

*Figure 4.* Graphical representation of the interaction between mother-reported positive relationship quality and mother-reported externalizing symptoms in predicting self-reported externalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between mother- and self-reported externalizing symptoms for youth 1 SD above the mean for mother-reported positive relationship qualities. The ‘low’ group represents relations between self- and mother-reported externalizing symptoms for youth 1 SD below the mean for mother-reported positive relationship qualities. The ‘average’ group represents relations between self- and mother-reported externalizing symptoms for youth at the mean for mother-reported positive relationship qualities.

*Figure 5.* Graphical representation of the interactions between self-reported self-disclosure about the child’s problems and mother-reported symptoms in predicting self-

reported symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between self- and mother-reported symptoms for youth 1 SD above the mean for self-disclosure. The ‘low’ group represents relation between self- and mother-reported symptoms for youth 1 SD below the mean for self-disclosure. The ‘average’ group represents relations between self- and mother-reported symptoms for youth at the mean for self-disclosure. Relations are depicted for both internalizing and externalizing symptoms.

*Figure 6.* Graphical representation of the interaction between friends’ own internalizing symptoms and friend-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD above the mean for friends’ own internalizing symptoms. The ‘low’ group represents relations between self- and friend-reported internalizing symptoms for youth for 1 SD below the mean friends’ own internalizing symptoms. The ‘average’ group represents relations between self- and friend-reported internalizing symptoms for at the mean for whose friends’ own internalizing symptoms.

*Figure 7.* Graphical representation of the interaction between friend-reported positive friendship quality and friend-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between self- and friend-reported symptoms for youth 1 SD above the mean for

friend-reported positive relationship quality. The 'low' group represents relations between self- and friend-reported symptoms for youth 1 SD below the mean for friend-reported positive relationship quality. The 'average' group represents relations between self- and friend-reported symptoms for youth at the mean for friend-reported positive relationship quality.

*Figure 8.* Graphical representation of relations the interaction between friend-reported negative friendship quality and friend-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The 'high' group represents relations between self- and friend-reported symptoms for youth 1 SD above the mean for friend-reported negative relationship quality. The 'low' group represents relations between self- and friend-reported symptoms for youth 1 SD below the mean for friend-reported negative relationship quality. The 'average' group represents relations between self- and friend-reported symptoms for youth at the mean for friend-reported negative relationship quality.

*Figure 9.* Graphical representation of the interaction between friend-reported negative friendship quality and friend-reported externalizing symptoms in predicting self-reported externalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The 'high' group represents relations between friend- and self-reported externalizing symptoms for youth 1 SD above the mean for friend-reported negative friendship qualities. The 'low' group represents relations between self- and friend-reported externalizing symptoms for youth 1 SD below the mean for friend-reported negative friendship qualities. The 'average' group represents



relations between self- and friend-reported externalizing symptoms for youth at the mean for friend-reported negative friendship qualities.

*Figure 10.* Graphical representation of the interactions between friend-reported self-disclosure and friend-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between friend- and self-reported symptoms for youth 1 SD above the mean for friend-reported self-disclosure. The ‘low’ group represents relations between friend- and self-reported symptoms for youth 1 SD below the mean for friend-reported self-disclosure. The ‘average’ group represents relations between friend- and self-reported symptoms for youth at the mean for friend-reported self-disclosure.

*Figure 11.* Graphical representation of the interaction between self-reported friendship stability and friend-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD above the mean for self-reported friendship stability. The ‘low’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD below the mean for self-reported friendship stability. The ‘average’ group represents relations between self- and friend-reported internalizing symptoms for youth at the mean for self-reported friendship stability.

*Figure 12.* Graphical representation of the interaction between friend-reported friendship stability and friend-reported internalizing symptoms in predicting self-reported

internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD above the mean for friend-reported friendship stability. The ‘low’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD below the mean for friend-reported friendship stability. The ‘average’ group represents relations between self- and friend-reported internalizing symptoms for youth at the mean for self-reported friendship stability.

*Figure 13.* Graphical representation of the interaction between gender and mother-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between a categorical and a continuous predictor. Friend-reported internalizing symptoms were controlled in these analyses.

*Figure 14.* Graphical representation of the interaction between friends’ own internalizing symptoms and friend-reported internalizing symptoms in predicting self-reported internalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD above the mean for friends’ own internalizing symptoms. The ‘low’ group represents relations between self- and friend-reported internalizing symptoms for youth 1 SD below the mean for friends’ own internalizing symptoms. The ‘average’ group represents relations between self- and friend-reported internalizing symptoms for youth at the mean for friends’ own internalizing symptoms. Mother-reported internalizing symptoms were

controlled in these analyses.

*Figure 15.* Graphical representation of the interaction between friend-reported negative friendship quality and friend-reported externalizing symptoms in predicting self-reported externalizing symptoms following procedures outlined by Aiken and West (1991) for graphing interactions between continuous predictors. The ‘high’ group represents relations between friend- and self-reported externalizing symptoms for youth whose friend-reported negative friendship qualities are 1 SD above the mean. The ‘low’ group represents relations between self- and friend-reported externalizing symptoms for youth whose friend-reported negative friendship qualities are 1 SD below the mean. The ‘average’ group represents relations between self- and friend-reported externalizing symptoms for youth whose friend-reported negative friendship qualities are at the mean. Mother-reported externalizing symptoms were controlled in these analyses.

Figure 1

Identification of the Sample Available for Analyses Evaluating Agreement between Self- and Mother-Reported Symptoms

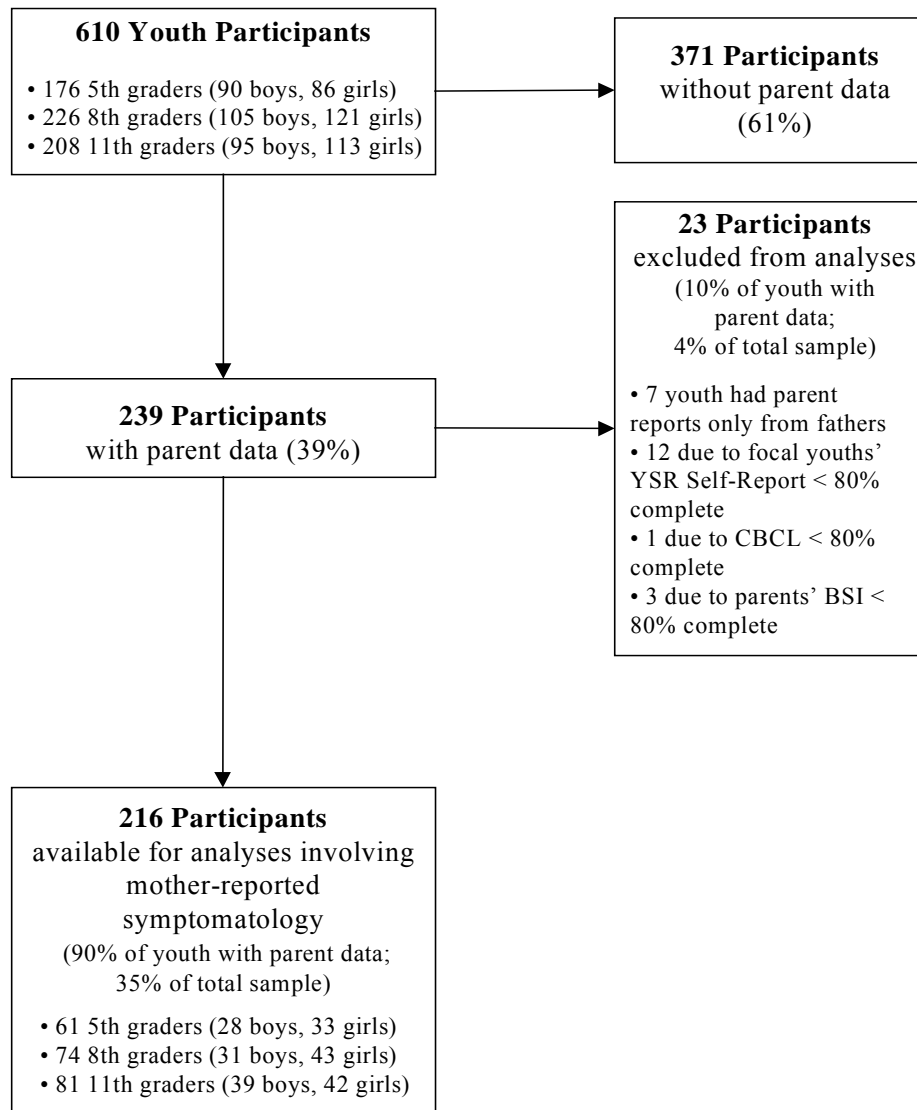


Figure 2

Identification of the Sample Available for Analyses Evaluating Agreement between Self- and Friend-Reported Symptoms

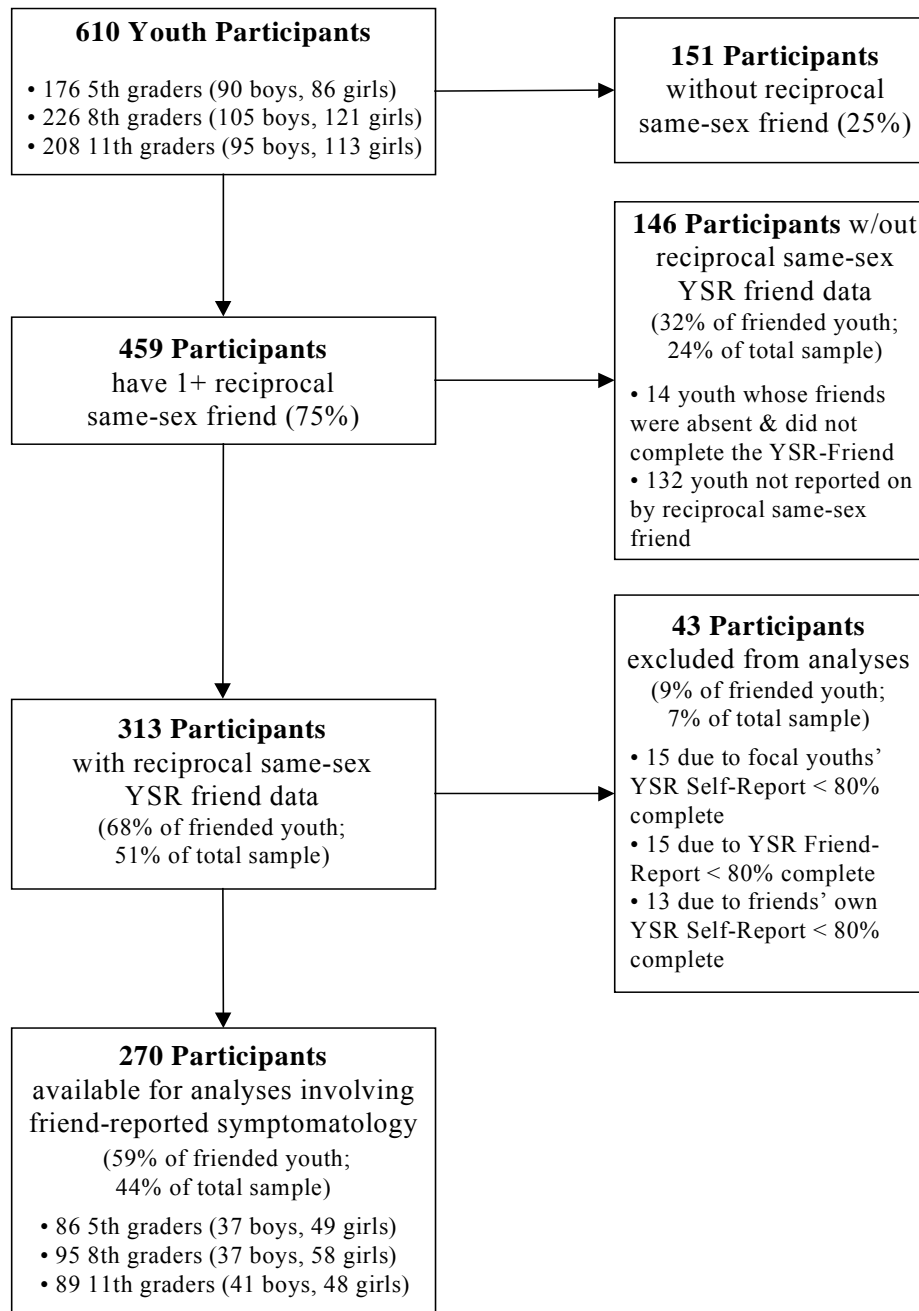


Figure 3

Moderating Influence of Grade on Relations between Self- and  
Mother-Reported Externalizing Symptoms

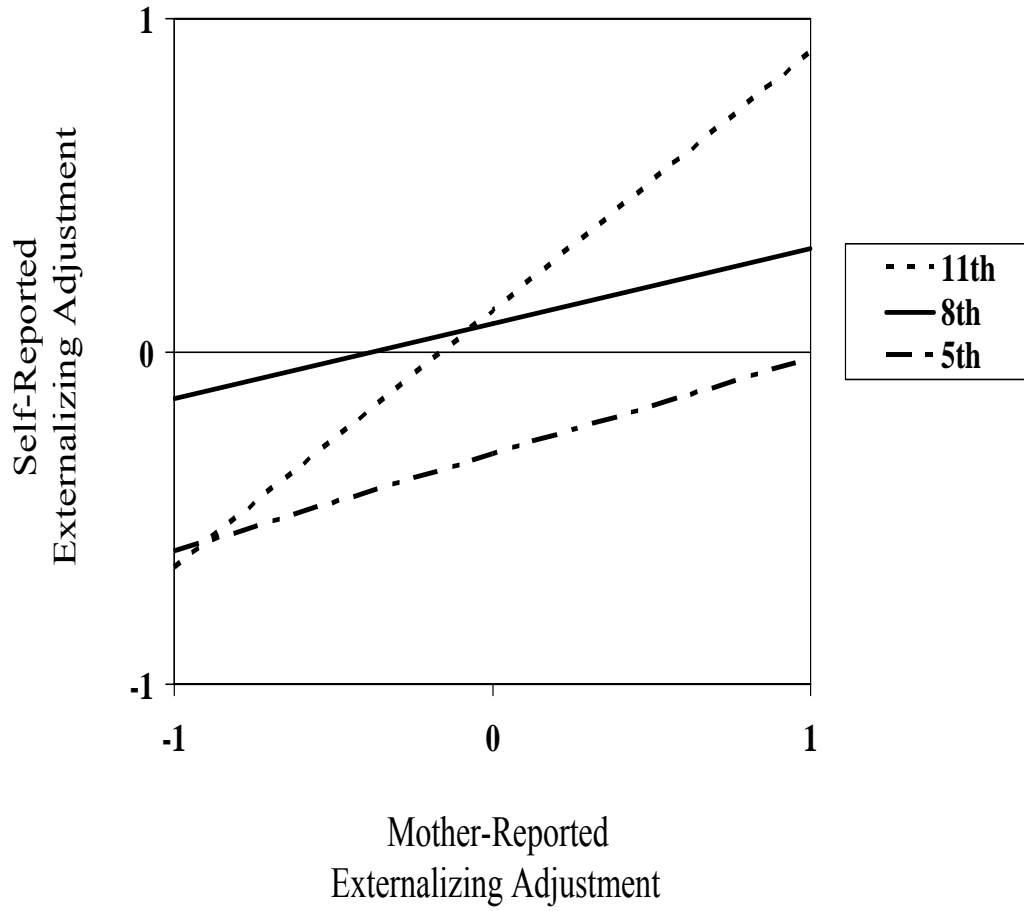


Figure 4

Moderating Influence of Mother-Reported Positive Relationship Quality  
on Relations between Self- and Mother-Reported Externalizing Symptoms

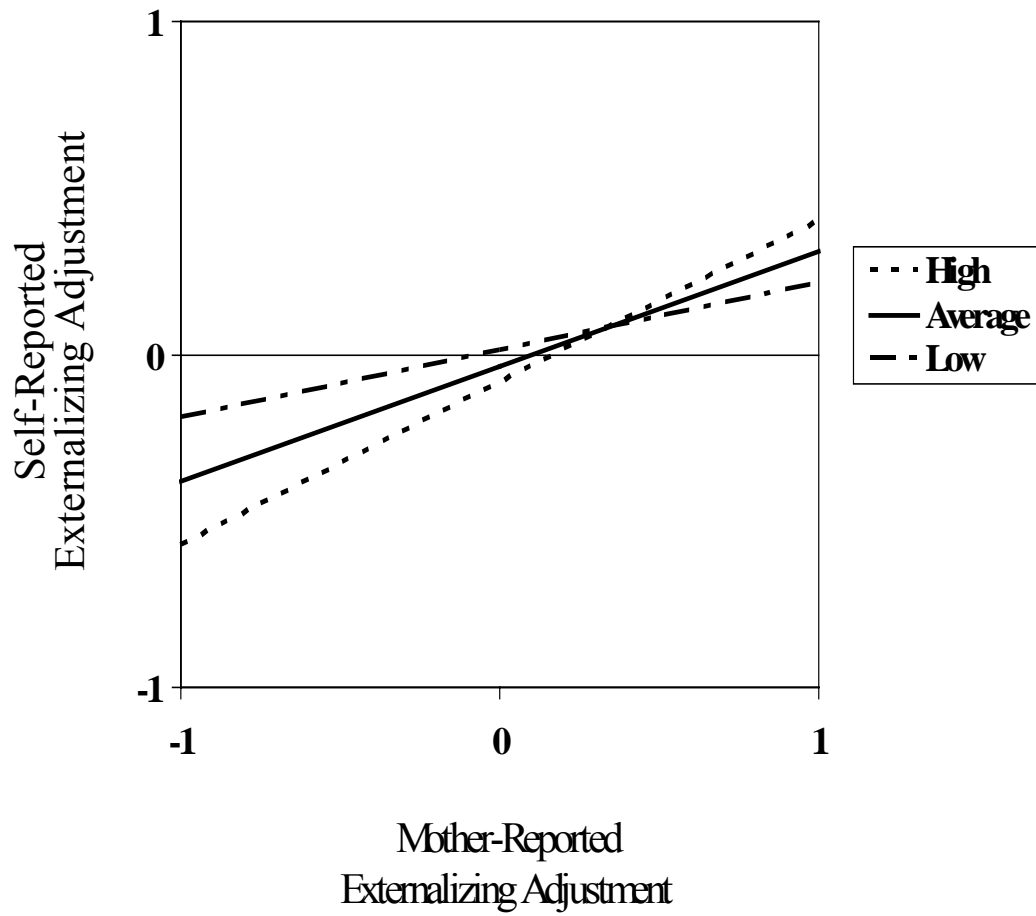


Figure 5

Moderating Influence of Self-Reported Self-Disclosure about the Child's Problems on Agreement between Self- and Mother-Reported Internalizing and Externalizing Symptoms

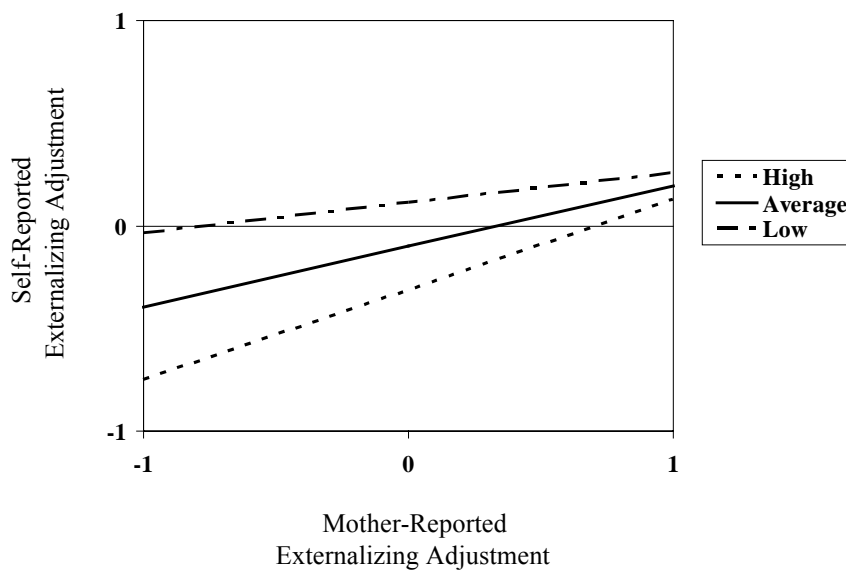
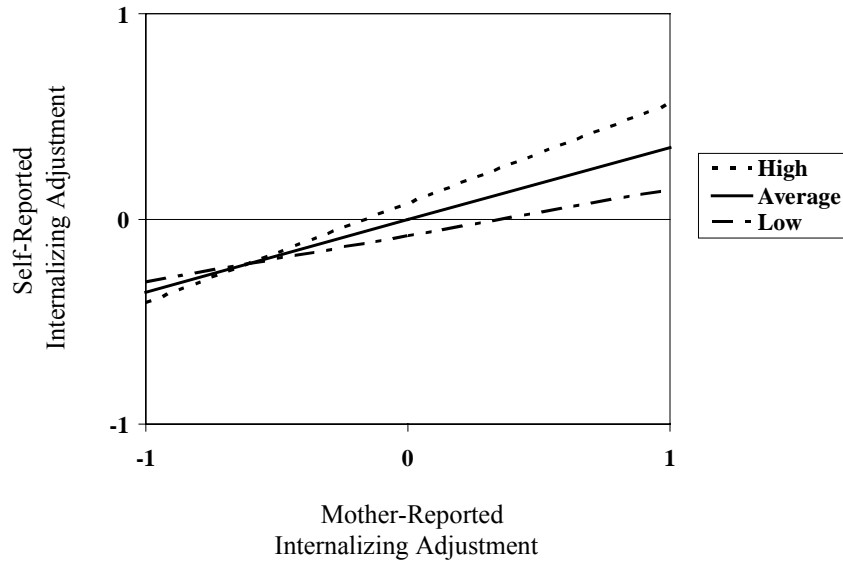




Figure 6

Moderating Influence of Friend's Own Internalizing Symptoms on Relations  
between Self- and Friend-Reported Internalizing Symptoms

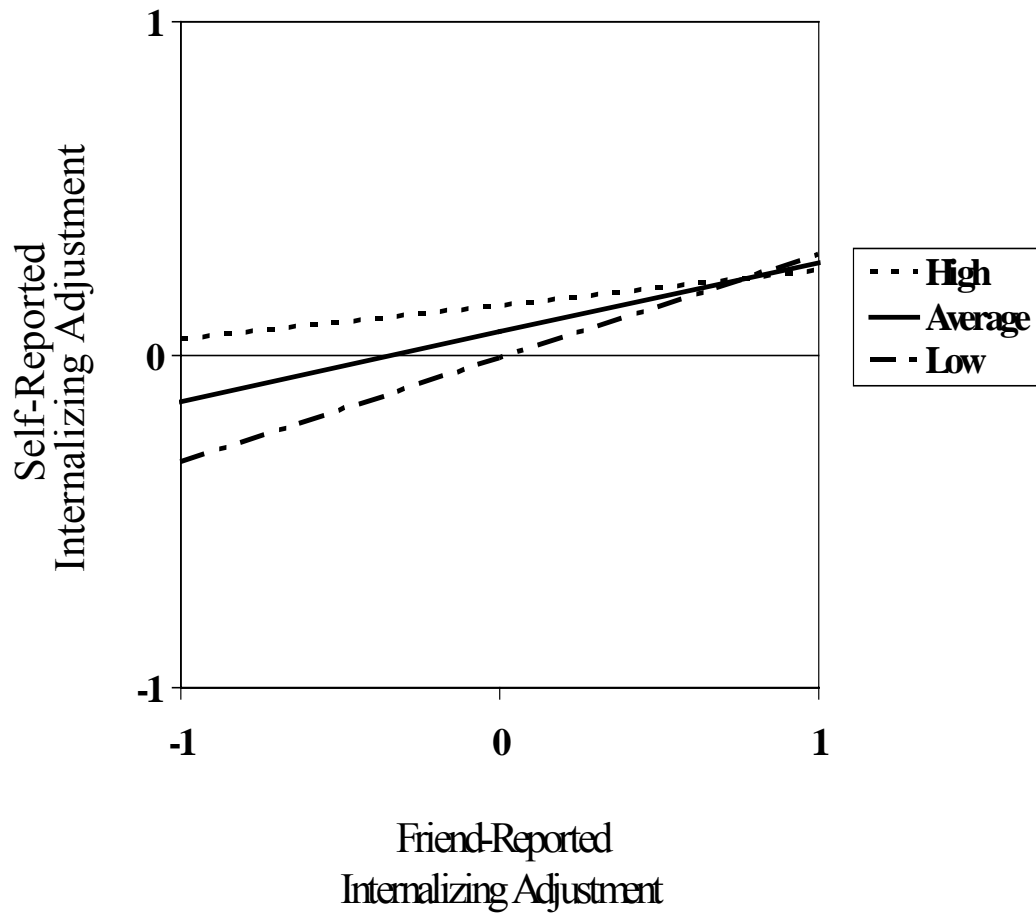


Figure 7

Moderating Influence of Friend-Reported Positive Friendship Quality  
on Relations between Self- and Friend-Reported Internalizing Symptoms

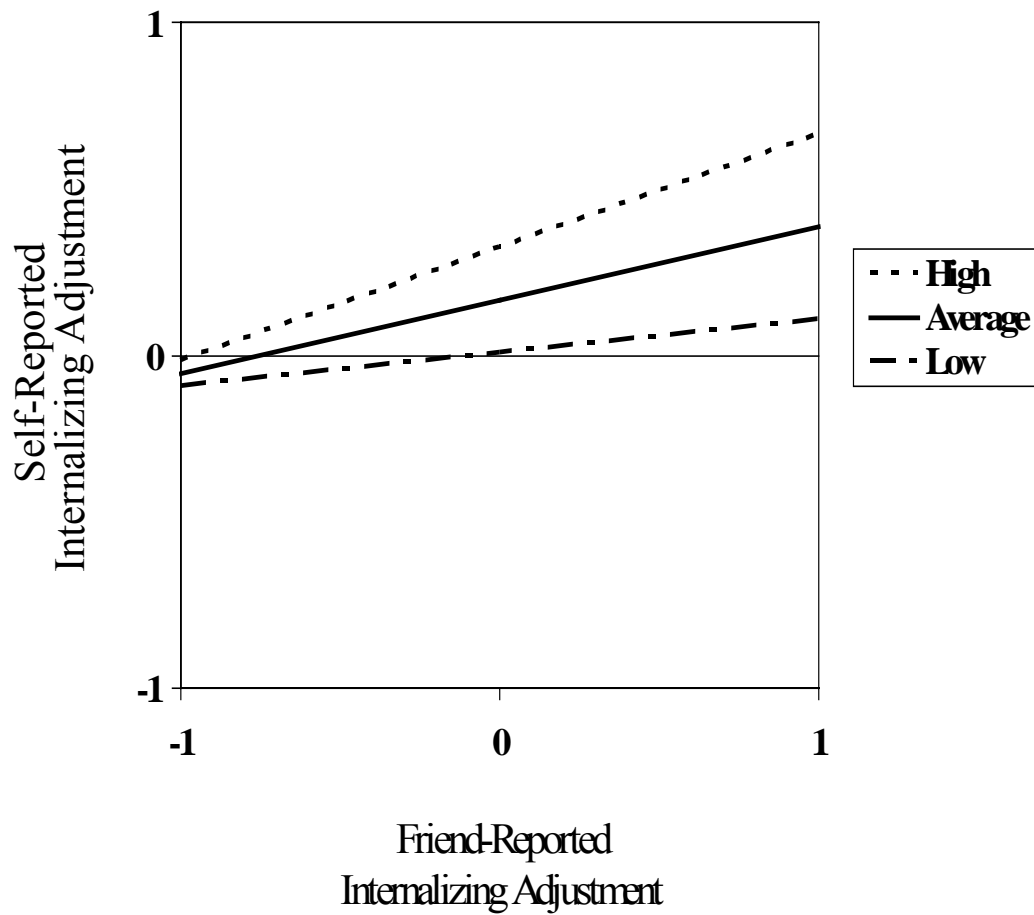


Figure 8

Moderating Influence of Friend-Reported Negative Friendship Quality  
on Relations between Self- and Friend-Reported Internalizing Symptoms

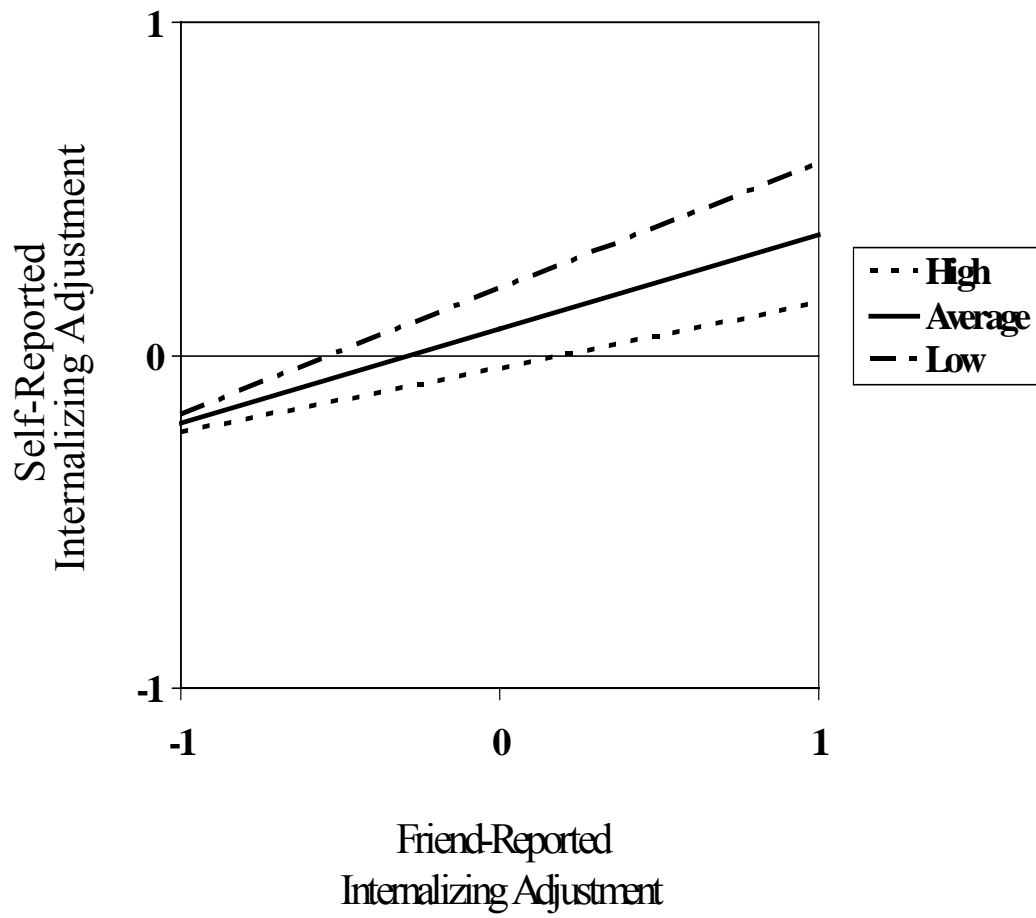


Figure 9

Moderating Influence of Friend-Reported Negative Friendship Quality on Relations between Self- and Friend-Reported Externalizing Symptoms

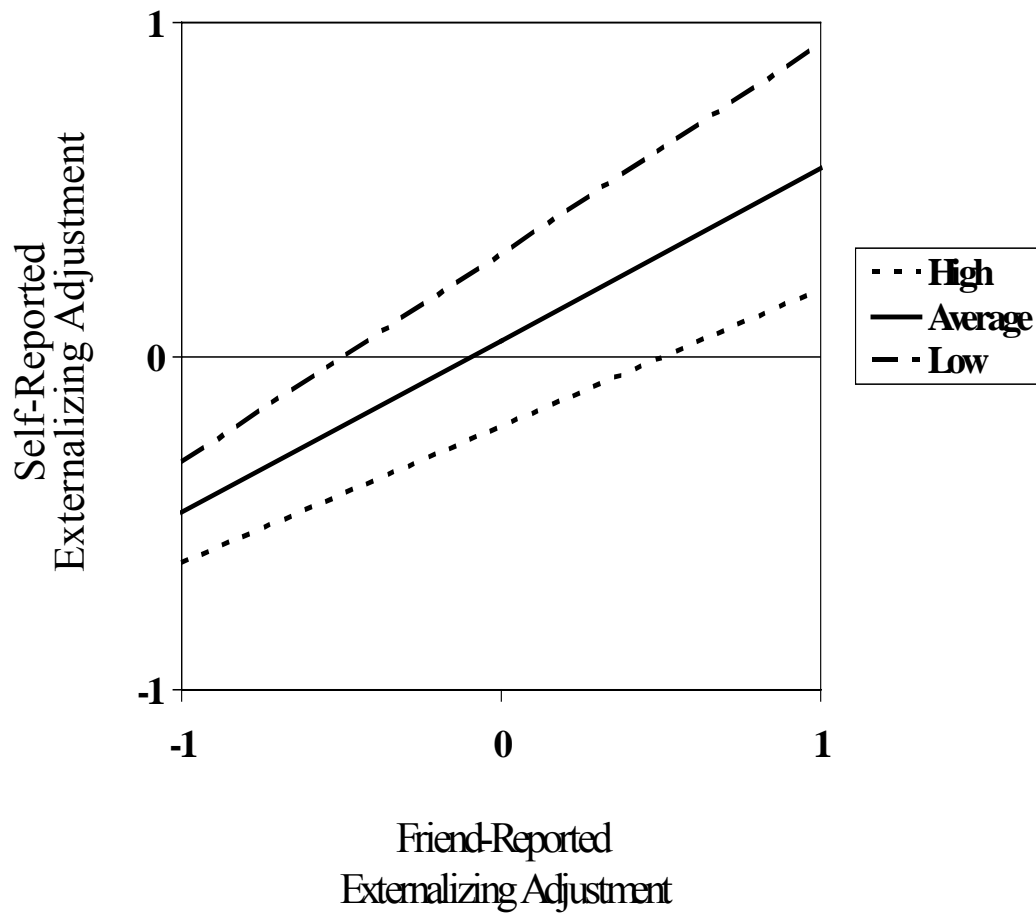


Figure 10

Moderating Influence of Friend-Reported Self-Disclosure on Relations  
between Self- and Friend-Reported Internalizing Symptoms

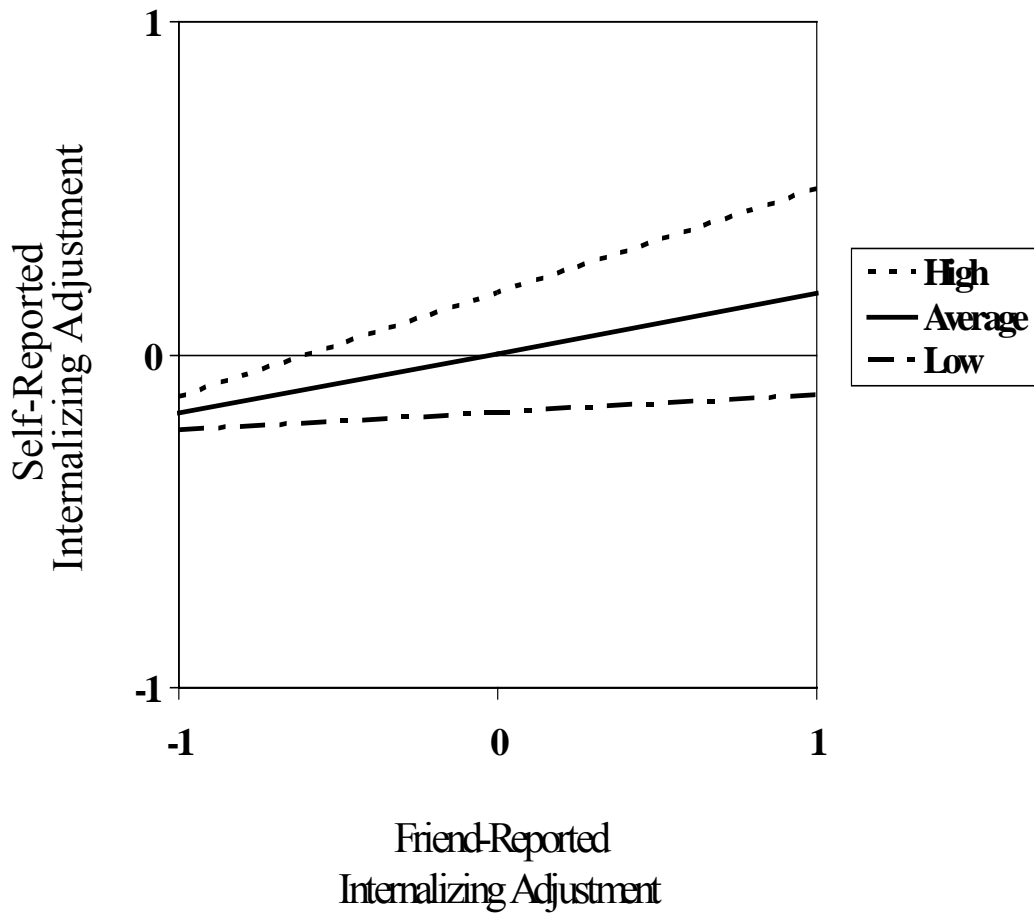


Figure 11

Moderating Influence of Self-Reported Friendship Length on Relations  
between Self- and Friend-Reported Internalizing Symptoms

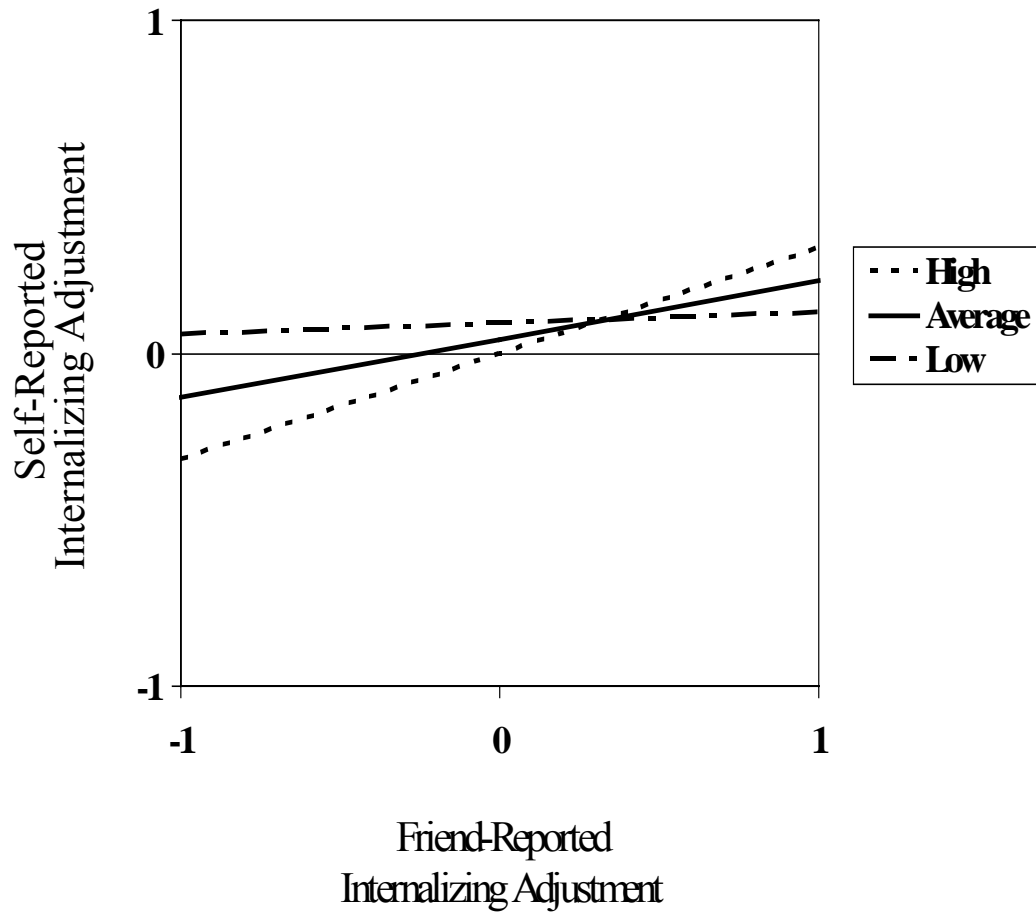


Figure 12

Moderating Influence of Friend-Reported Friendship Stability on Relations  
between Self- and Friend-Reported Internalizing Symptoms

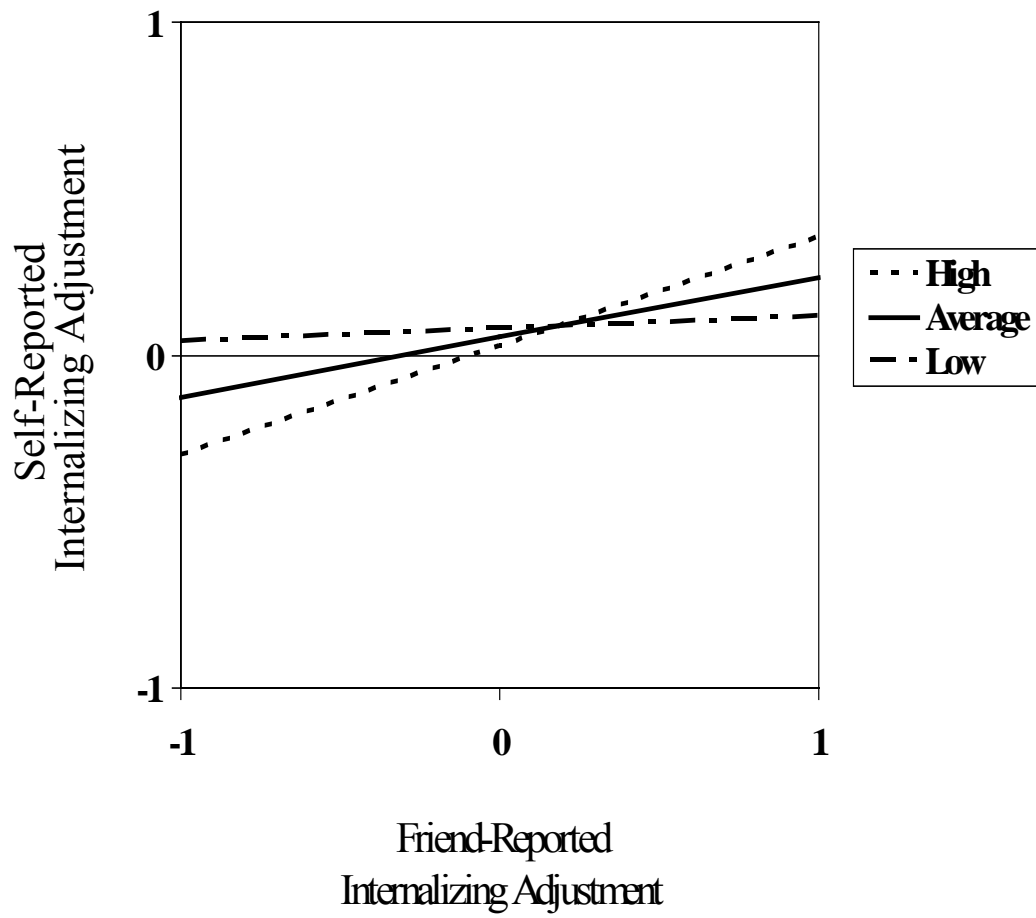


Figure 13

Moderating Influence of Gender on Relations between Self- and Mother-Reported Internalizing Adjustment while controlling for Friend-Reported Internalizing Symptoms

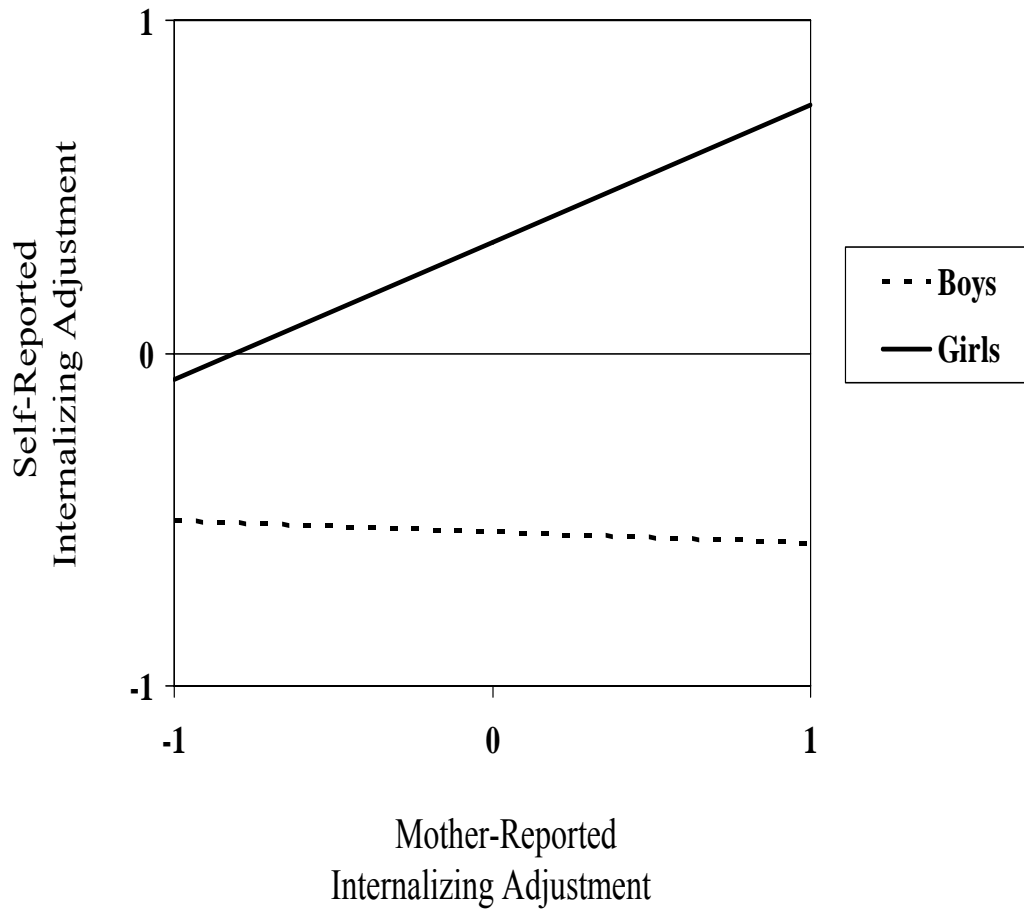




Figure 14

Moderating Influence of Friend's Own Internalizing Symptoms on Relations  
between Self- and Friend-Reported Internalizing Symptoms while  
controlling for Mother-Reported Internalizing Symptoms

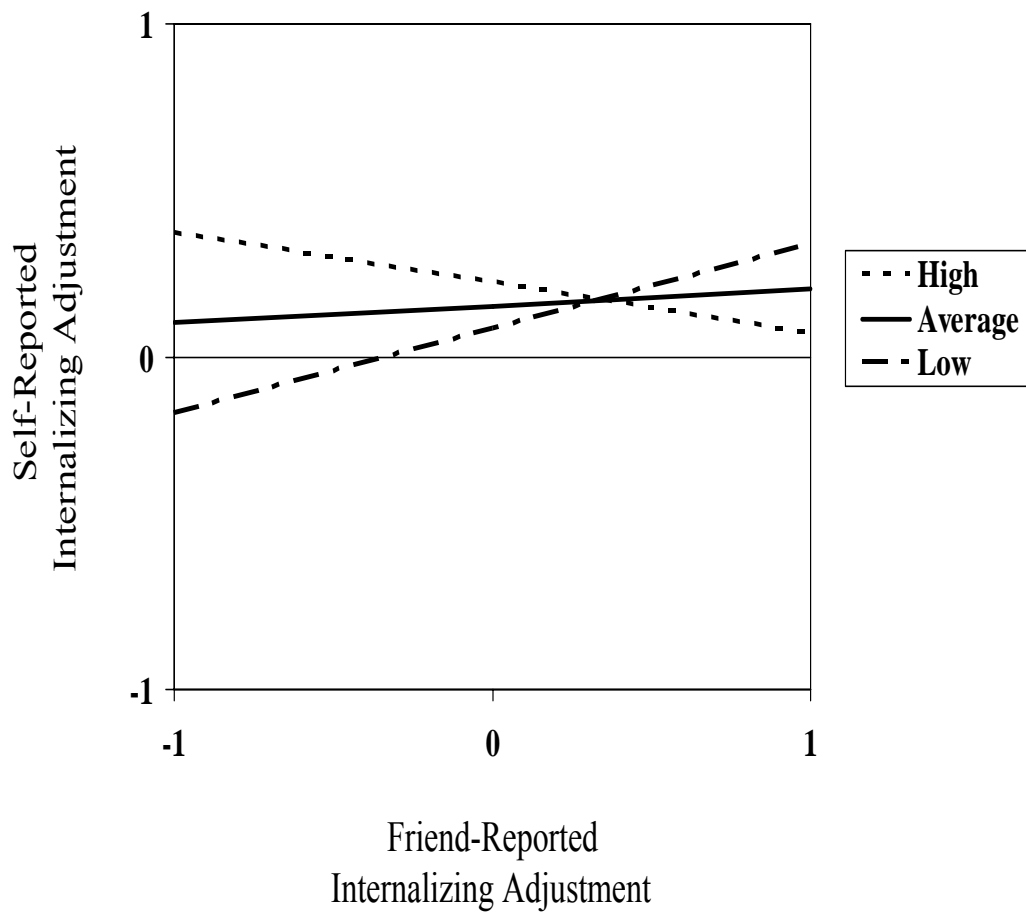
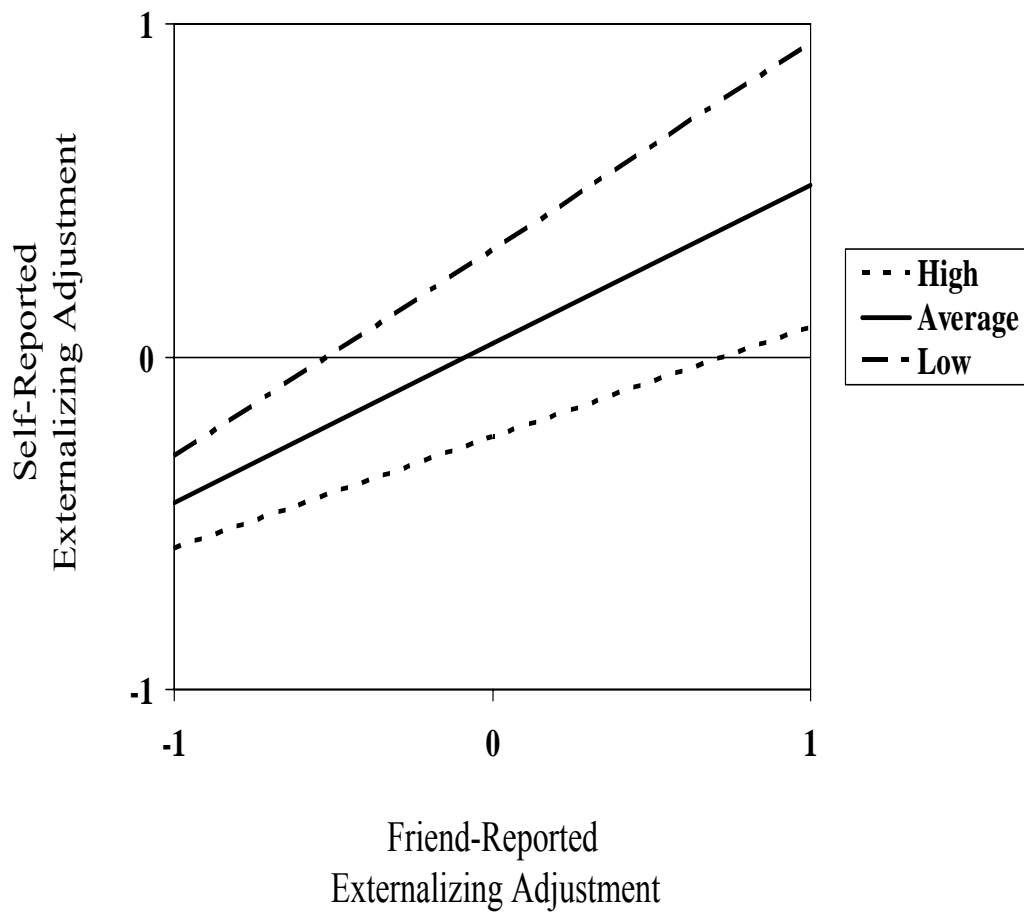


Figure 15

Moderating Influence of Friend-Reported Negative Friendship Quality  
on Relations between Self- and Friend-Reported Externalizing Symptoms  
while controlling for Mother-Reported Externalizing Symptoms



VITA

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