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This study examined the roles of peer acceptance and friendship quality as moderators of the association between interparental conflict and internalizing symptoms in a longitudinal sample of elementary school children who were initially recruited in early childhood. Ratings of interparental conflict, peer acceptance and friendship quality were obtained from 103 parents and children at age seven (middle childhood), while child-reported internalizing symptoms were assessed at age 10 (pre-adolescence). Interparental conflict in middle childhood was not associated with internalizing symptoms during preadolescence for boys. However, girls who were highly accepted by peers in middle childhood were less likely to experience internalizing symptoms in pre-adolescence. Results suggest a long-term benefit of combined peer acceptance and high friendship quality in promoting mental health in girls from high conflict-homes. Discussion surrounds interpretation of these effects within the context of the extant literature on the etiology and treatment of internalizing problems in youth.

INTERPARENTAL CONFLICT AND INTERNALIZING SYMPTOMS: THE
MODERATING ROLE OF POSITIVE PEER RELATIONSHIPS

by

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To my parents, Hassan Fallah and Koby Kavosi. Thank you for your never ending love,
inspiration, and support.

APPROVAL PAGE

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CHAPTER I

INTRODUCTION

It is well established that children exposed to high levels of interparental conflict are at elevated risk for the development of a wide range of emotional, behavioral and social problems (Cummings & Davies, 1994; 2002; Cummings, Davies & Campbell, 2000; Cummings, Goeke-Morey, & Papp, 2004; Davies, Sturge-Apple, Winter, Cummings, & Farrell, 2006; Grych & Fincham, 1990). Associations have been noted between interparental conflict and difficulties with anxiety and depression (Buehler & Welsh, 2009), aggression and hostility (Miller, Cowan, Cowan, Hetherington & Clingempeel, 1993), academic problems (Harold, Aitken, & Shelton, 2007), and physical health difficulties (Nicolotti, El-Sheikh, & Whitson, 2003). The leading model for the association between family conflict and adverse outcomes in children is clearly articulated in the marital conflict literature (Grych & Fincham, 2001). Broadly, this sensitization model posits that high levels of conflict in the home increase susceptibility to the negative effects of future conflict (Margolin, Oliver, & Medina, 2001). Building upon this model, Davies and Cummings (1994) assert that children from high-conflict homes develop lasting cognitive schemas that have a long-term influence on their sense of emotional security. The negative cognitions are thought to further lead to negative emotional states and maladaptive behavioral responses that bleed into other settings (i.e.,

peer interactions, school; Davies et al., 1994). Thus, a history of interparental conflict as well as children's interpretations of and emotional and behavioral reactions to these conflicts are considered to significantly impact their future psychosocial functioning.

Among the negative outcomes associated with interparental conflict, internalizing problems are perhaps one of the most concerning. Internalizing problems in childhood and adolescence have been linked to academic problems (Ialongo, Edlsohn, & Kellam, 2001), social or interpersonal problems (Gotlib, Lewinsohn, & Seeley, 1998; Rao, Hammen, & Daley, 1999), suicide or attempted suicide (Sourander, Klomek, Niemela, Haavisto, Gyllenberg, Helenius, et al., 2009) as well as continued psychological difficulties in adulthood (Albano, Chorpita, & Barlow, 2003; Copeland, Shanahan, Costello, & Angold, 2009; Lewinsohn, Rohde, Klein, & Seeley, 1999). Although adolescence has been identified as a critical period for the development of internalizing problems (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003), evidence suggests that early signs of internalizing difficulties first emerge in late childhood and pre-adolescence (Lavigne et al., 1998; Luby et al., 2003; Najman et al., 2005, Tram & Cole, 2006). Late childhood and early adolescence is a period marked by numerous transitions. During this time, youth often experience physiological changes (Angold, Costello, Erkanli, & Worthman, 1999; Deardorff et al., 2007; Nolen-Hoeksema & Girgus, 1994; Zahn-Waxler, Shirtcliff, & Marceau, 2008), educational changes (Cavanagh, Riegle-Crumb, & Crosnoe, 2007), and changes in their relationships with family and peers (Crosnoe & Trinitapoli, 2008; Steinberg, 2001). These changes can be increasingly stressful for

youth and may mark a period of vulnerability for the development of internalizing problems. Furthermore, research has shown that internalizing problems are more frequently found among youth who experience stressful life events (Cole, Nolen-Hoeksema, Girgus, & Paul, 2006; Seiffge-Krenke, Aunola & Nurmi, 2009; Seiffge-Krenke & Stemmler, 2002). Thus, it is likely that the relationship between interparental conflict and internalizing problems may first be detectable during these years, but intensifies into clinical significance during adolescence (Buehler & Welsh, 2009; Gerard, Buehler, Franck, & Anderson, 2005).

Despite the strong link between interparental conflict and adverse child outcomes, many children with high-conflict parents do not develop adjustment problems (Criss, Pettit, Bates, Dodge, & Lapp, 2002; Cummings, Davies, & Campbell, 2000). The heterogeneity of outcomes in children suggests the need to elucidate the factors that might buffer against the development of internalizing problems. Because it is likely that these problems first emerge during pre-adolescence, protective factors that emerge *immediately preceding* this developmental period may be most relevant to prevention of internalizing problems. As such, literature has explored childhood characteristics that moderate the relationship between marital conflict and internalizing problems.

Several such factors have been identified. One such factor is gender, presumably due to the fact that there are documented gender differences in depression and other internalizing outcomes, at least in adolescence (Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998; Zahn-Waxler, Crick, Shirtcliff, & Woods, 2006; Zahn-Waxler, Shirtcliff,

& Marceau, 2008). Many studies have examined gender differences in the development of adjustment problems in children from high conflict homes; however, results have been somewhat inconsistent (Block, Block, & Morrison, 1981; Davies & Lindsay, 2004; Davies & Windle, 1997; Unger, Brown, Tressel, & McLeod, 2000). Most work suggests that girls from high conflict homes are at a greater risk for internalizing symptomatology than boys (Cummings & Davies, 1994; Davies & Lindsay, 2004; Davies & Windle, 1997; Dornfeld & Kruttschnitt, 1992; Unger, Brown, Tressel, & McLeod, 2000); however, some studies suggest that boys from high conflict homes experience greater levels of psychopathology (i.e., both internalizing and externalizing problems) overall than girls (e.g., Kerig 1999). The inconsistency in conclusions regarding the role of gender in this link may stem in part from a lack of attention to the developmental period and the type of psychopathology outcome examined. Past findings suggest that the susceptibility of boys and girls to interparental conflict vary across age, and that the pattern of gender differences begins to change as youth enter adolescence. Boys may have an increased vulnerability to interparental conflict in childhood, especially with regard to the development of externalizing problems, whereas girls may have greater vulnerability in adolescence that is predominately expressed through internalizing behaviors (Cummings & Davies, 1994; Davies & Lindsay, 2004; Davies & Windle, 1997; Snyder, 1998).

While these gender differences are informative to the extent that they point to a prevention need in females, they do not provide a target for intervention in children from high conflict homes. Positive peer relationships may provide one such target. For

example, we know that positive peer relationships have been found to be predictive of positive outcomes including more prosocial (Cillessen, & Mayeux, 2004; Coie, Dodge, & Kupersmidt, 1990), and more cooperative behaviors (Newcomb, & Bagwell, 1996), and are factors that can be directly targeted by intervention. Recently, researchers have distinguished between two dimensions of peer relationships, peer acceptance and friendship (Bierman, 2004; Rose, & Asher, 2000; Rubin, Bukowski, & Parker, 1998). Peer acceptance refers to the extent to which a child is liked by their peer group as a whole, whereas friendship is defined as a close dyadic relationship characterized by mutual liking. Further, researchers have asserted that the characteristics of a friendship, or friendship quality, also influence children's outcomes (Parker, & Asher, 1993). Thus, it is likely that these peer factors may serve to ameliorate negative outcomes of children in high conflict homes.

It has long been accepted that peer relations are an integral part of the socialization experiences of children and adolescents (Sullivan, 1953). During childhood and adolescence, friendships are thought to provide youth a sense of intimacy, security, support and trust (Rubin, Bukowski, & Parker, 1998; Waldrip, Malcolm, & Jensen-Campbell, 2008; Wasserstein, & LaGreca, 1996). Within the peer literature, it has been argued that the importance of these experiences may be especially strong among youth at-risk for negative outcomes. Specifically, there is evidence that different indices of peer relationships moderate the association between negative home environments and later child functioning (Bolger, Patterson, & Kupersmidt, 1998; Criss et al., 2002;

Lansford et al., 2003; Schwartz, Dodge, Pettit, Bates, & the Conduct Problems Prevention Research Group, 2000). For example, Gauze, Bukowski, Aquan-Assee, and Sippola (1996) found that low family cohesion and adaptability were significantly related with lower levels of adolescents' social competence and sense of self-worth. This association, however, was not significant among adolescents with a mutual or high quality friendship. Similarly, Bolger, Patterson, and Kupersmidt (1998) examined the function of friendships among children who had experienced child abuse. Among children who had high-quality friendships or a reciprocated best friend, the association between child abuse and subsequent self-esteem was not significant. Criss and colleagues (2002) found that peer acceptance and the number of reciprocated friendships of children at 5 years of age weakened the association between family adversity (e.g., economical disadvantage, marital conflict, and harsh discipline) and externalizing behavior problems two years later. Finally, Lansford, Criss, Pettit, Dodge, and Bates (2003) examined the moderating role of friendship quality, peer group affiliation, and peer antisocial behavior on the relation between negative parenting and externalizing behaviors among adolescents. The association between unilateral parental decision-making and externalizing behaviors was attenuated among adolescents with high friendship quality and peer group affiliation. Taken together, these studies provide evidence that positive peer relationships (i.e., high peer acceptance, high friendship quality) may buffer or protect at-risk children against the effects of stressful family

environments. Thus, it comes as no surprise that positive peer relations are evidenced to protect against the development of psychopathology in high conflict homes.

Despite the clear link between marital conflict and internalizing problems, we know of no studies that specifically examine distinct peer relationship factors as unique moderators of this association. A few studies, however, have established peer factors such as perceived peer support (Wasserstein & La Greca, 1996), peer acceptance (Criss et al., 2002) and friendship quality (Larsen, Branje, van der Valk, & Meeus, 2007) as protectors against other forms of psychopathology in children and adolescents from high conflict homes. For example, Wasserstein and La Greca (1996) found that *peer support* moderates the negative impact of marital discord on children's behavior problems. That is, children who perceived their parents' marriage as more conflictual but also had high levels of peer support, exhibited significantly fewer teacher rated behavior problems than children from high conflict homes with low levels of peer support. Criss and colleagues (2002), on the other hand, examined the protective role of both *peer acceptance* and *reciprocated friendships*. They found that peer acceptance weakened the association between parent reported marital conflict and teacher reported externalizing behavior problems for both boys and girls. Although reciprocated friendships were also found to attenuate the association between marital conflict and externalizing behaviors in girls, the same relationship was not found in boys. In contrast, Larsen and colleagues (2007) examined the moderating role of *friendship quality* on the association between interparental conflict and behavior problems in adolescence. In this study, adolescents'

perceptions of interparental conflict were found to lead to increased aggression when these adolescents also had low friendship quality. Therefore, if peer relationships can dampen the effect of marital conflict on externalizing behaviors, it is also possible that indicators of positive peer relationships moderate the relationship between marital conflict and internalizing symptomatology. Unfortunately, there is no work examining which aspects of these peer relationships specifically protect against internalizing symptomatology in children experiencing high levels of interparental conflict. Thus, the goal of this study is to better understand the role of positive peer relationships, specifically peer acceptance and friendship quality, as it relates to internalizing symptoms in children from high conflict homes.

In exploring the moderating role of peer relationships in the association between marital conflict and internalizing problems, several considerations should be made. First, as previously discussed, there are several dimensions of peer relationships and work should elucidate which dimensions may drive moderation. For example, studies suggest that peer acceptance (i.e., general acceptance from the peer group) and friendship quality (i.e., characteristics of friendships including intimacy, support, companionship, conflict and competition) make separate and unique contributions to the prediction of problem behaviors in children (Asher, Parker, & Walker, 1996; Criss et al., 2002; Ladd, 1999; Ladd, Kochenderfer, & Coleman, 1997; Parker & Asher, 1993). Given that gender differences in the characteristics of children's peer relationships have been well documented (Belle, 1989; Criss et al., 2002; Hart & Thompson, 1996; Ladd, 1999; Parker

& Asher, 1993; Maccoby, 1990), the moderating role of these peer variables may vary according to the gender of the child. For example, in comparison to boys' friendships, friendships among girls are more frequently characterized by a sense of intimacy, emotional closeness, and validation (Buhrmester & Furman, 1987; Johnson, 2004; Lempers & Clark-Lempers, 1992; Parker & Asher, 1993). Thus, the quality of friendship may be a more salient protector against internalizing problems in girls than in boys. Conversely, because boy's friendships tend to be larger, less intimate and more activity oriented compared to girls' friendships (Baines & Blatchford, 2009; Galambos, 2004; Ladd, 1999; Maccoby, 1990), the overall level of peer acceptance, rather than individual friendships may be a more salient factor for at-risk boys.

As discussed, the extant literature contains clear evidence that children from high conflict families are at risk for developing internalizing problems as they move into adolescence (Buehler, Lange, & Franck, 2007; Buehler & Welsh, 2009; Gerard, Krishnakumar, & Buehler, 2006). Although the literature has evidenced that peer relationships can protect against the development of externalizing problems in these children (Criss, Pettit, Bates, Dodge & Lapp, 2002; Larsen, Branje, van der Valk & Meeus, 2007), less is known regarding the ability of peer relationship factors to moderate the link between marital conflict and internalizing problems. In order to fully understand this association, there are several questions that must be addressed such as which aspects of peer relationships, if any, best protect against internalizing symptomatology, and whether these effects vary by gender. A consistent and concerted effort in examining the

distinct role of these peer relationship factors in this association may guide intervention efforts in a population in need of treatment.

The current study seeks to answer these questions by examining the moderating effects of two indices of peer relationships in a mixed-gender longitudinal sample of elementary school students. Broadly, we tested the hypothesis that positive peer relationships buffer the association between marital conflict and internalizing symptomatology. Given the substantial gender differences found in the marital conflict and child socialization literature, all effects were modeled separately for males and females (Belle, 1989; De Goede, Branje, & Meeus, 2009; Ladd, 1999; Maccoby, 1990). First, we examined whether interparental conflict in middle childhood predicted internalizing symptoms three years later, in preadolescence. It was hypothesized that boys and girls from families with higher rates of interparental conflict would display higher levels of internalizing symptoms. Second, we investigated whether this association was moderated by two indices of positive peer relationships in middle childhood: friendship quality and peer acceptance. We hypothesized that the relation between interparental conflict in middle childhood and internalizing symptomatology in preadolescence would be attenuated for girls with high friendship quality and for girls with high peer acceptance. However, given the increased importance of membership and acceptance to the larger peer network in boys (Baines & Blatchford, 2009; Galambos, 2004; Ladd, 1999; Maccoby, 1990), we expected only peer acceptance to moderate this relationship for the boys in our sample. Finally, we hypothesized that girls with both

high friendship quality and high peer acceptance in middle childhood would display the lowest levels of internalizing symptomatology in the context of interparental conflict.

CHAPTER II

METHOD

Recruitment and Attrition

Participants in this study were drawn from the RIGHT-Track project, an ongoing longitudinal study that began when children were 2 years old. All cohorts were initially recruited through child day-care centers, local pediatric offices, the County Health Department, and the local Women, Infants, and Children (WIC) program throughout a racially diverse, urban community in North Carolina. Potential participants for cohorts 1 and 2 were recruited at 2-years of age (cohort 1: 1994-1996 and cohort 2: 2000-2001) and screened using the Child Behavior Checklist (CBCL 2-3; Achenbach, 1992). Three groups of children were selected based on their scores on the CBCL as follows: (a) children with Externalizing scores on the CBCL in the clinical or borderline clinical range, with *T* scores of 60 or above ($N = 103$); (b) children with Externalizing and Internalizing scores on the CBCL in the clinical or borderline clinical range ($N = 61$); and (c) children with CBCL *T* scores below 60 on both Internalizing and Externalizing scales ($N = 283$). Efforts were made to obtain approximately equal numbers of boys and girls. A total of 307 children were selected. The sample reflected the demographics of the recruitment area and was economically and racially diverse (68% European American; 23% African American, and 9% biracial; mean Hollingshead score = 39.7).

An additional 140 children were recruited at six months of age (in 1998) for their level of frustration based on laboratory observation and parent report and followed through the toddler period (see Calkins, Dedmon, Gill, Lomax, & Johnson, 2002, for more information). This sample was racially and economically diverse, similar to the first two cohorts (71% European American, 27% African American, and 2% biracial; mean Hollingshead score = 38.7). Of the entire sample ($N = 447$), 37% of the children were identified as being at risk for future externalizing problems. There were no significant demographic differences between cohorts with regard to gender, $\chi^2(2, N = 447) = .63, p = .73$, race, $\chi^2(2, N = 447) = 1.13, p = .57$, or 2-year SES, $F(2, 444) = .53, p = .59$. Cohort 3 had a significantly lower average 2-year externalizing T-score ($M = 50.36$) compared to cohorts 1 and 2 ($M = 54.49$), $t(445) = -4.32, p < .01$.

The current study focused on children from cohorts 2 and 3 with complete data from 7.5-year and 10.5 year laboratory and second grade school assessments. Cohort 1 was excluded from this study because this group did not complete friendship quality measures at the 7.5-year laboratory visits. At recruitment, 13 % of the subsample ($N = 256$) was identified as being at risk for internalizing problems with CBCL-Internalizing scores above or equal to 60. During the 7.5-year assessment 343 children and families from all three cohorts participated. There were 338 families who participated in the 10.5-year laboratory assessment. A total of 259 children participated in the second grade school assessment. Taken together, 103 participants had completed data at both time

points. Families lost to attrition included those who could not be located, who moved out of the area, who declined participation, and who did not respond to phone and letter requests to participate. There were no significant differences between families who did and did not participate in terms of gender, $\chi^2(1, N = 447) = 3.27, p = .07$, race, $\chi^2(1, N = 447) = .70, p = .40$, 2-year SES, $t(424) = .81, p = .42$, or 2-year externalizing T-score, $t(445) = -.36, p = .72$.

Procedures

7.5 year Assessment. When children were 7.5 years of age, mothers were contacted by mail and telephone and asked to participate in a follow-up study. Families who agreed to participate in the follow-up came to the three laboratory visits. During laboratory visits, mothers completed a number of questionnaires and children participated in a battery of behavioral assessments. For the current study, selected questionnaires from the 7.5 year visit were used. These measures are described below.

Second grade assessment. During the same year, parental consent was obtained to complete an assessment in the child's second grade classroom. Sociometric interviews were conducted in each child's classroom with all peers whose parents consented to participation. During sociometric data collection, a trained research assistant explained the procedures and confidentiality of children's answers. Research assistants read each question aloud and students were instructed to select the children who best fit the description on the assigned pages. Self nominations were discouraged during testing and were discarded during data processing.

10.5 year Assessment. At 10.5 years, families were re-contacted for follow-up data collection. Similar to procedures during the 7.5-year laboratory assessment, examiners administered a battery of questionnaires to mothers while each child participant was individually interviewed in a separate room.

Measures

Interparental Conflict. The Revised Dyadic Adjustment (RDAS; Busby, Crane, Larson, & Christensen, 1995) is a self-report measure designed to assess the quality of the relationship between partners. This shorter version of the original scale (The Dyadic Adjustment Scale; DAS; Spanier, 1976) consists of 14 items and is effective in distinguishing between maritally distressed and nondistressed individuals (Busby et al., 1995). Mothers completed the RDAS during the 7.5-year laboratory visit. The Satisfaction (4 items) subscale of the RDAS was utilized in the current study as an indicator of interparental conflict. Mothers rated on a 6-point scale the extent to which they engage in various behaviors (0 = *never*, 5 = *all the time*). An item example is “*How often do you and your partner quarrel?*” Low satisfaction represents high frequency of quarrels, discussions of separation, and negative interactions. The satisfaction subscale has been found to have high levels of reliability and validity and is useful as a measure of overall relationship quality (Kurdek, 1992). Cronbach’s alpha for the current sample was $\alpha = 0.74$.

Friendship Quality. The Friendship Quality Questionnaire-Revised (FQQ-R; Parker & Asher, 1993) is a 21-item measure (including one warm-up item) that assesses

the quality of a child-identified friendship. Children completed the FQQ-R during the 7.5 year laboratory visit. Children rated on a 5-point scale the extent to which they feel accepted and secure in a particular friendship (0 = *not at all true*, 4 = *really true*). An example item is “*Do you talk to your best friend when you’re mad or upset about something that happened to you?*” The scale produces a measure of overall quality as well as six subscales: Intimate Exchange, Conflict Resolution, Companionship and Recreation, Help and Guidance, Validation and Caring, and Conflict and Betrayal. The FQQ-R total score was utilized in the current study to assess the overall quality of a child-identified friendship. Psychometric properties of the instrument are well established (Parker & Asher, 1993). Cronbach’s alpha in the current sample was satisfactory for both boys ($\alpha = 0.80$) and girls ($\alpha = 0.70$).

Peer Acceptance. To assess child social status, peer nominations were obtained in each child’s second grade classroom using a modified version of the Coie et al.’s (1982) sociometric procedure. This assessment coincided with the 7.5 year laboratory visit. Of particular interest to the present study were peer nominations of children who are perceived as “liked” and “disliked.” Rather than asking children to nominate three peers they “liked most” and “liked least,” children were asked to give unlimited nominations for each peer status category. This method allows for more reliable results and a reduction in measurement error (Terry, 2000). Furthermore, this increased precision can be achieved with fewer classmates than are needed for the limited-choice nominations. Cross-gender nominations were permitted to increase the stability of

measurement for the nominations to determine peer status. Nomination scores for each child were standardized according to classroom size. Peer-rated social preference scores were calculated by subtracting the “liked least” *z*-score from the “liked most” *z*-score. Social preference was again standardized within classrooms after computing the difference score. Smaller social preference scores represented less likeability or overall peer status in the classroom, whereas larger social preference scores represented greater likeability. This is a widely used technique for assessing a child’s overall likeability within the classroom.

Internalizing Symptoms. An initial parent report of internalizing symptoms (7.5 years) was obtained using the Behavior Assessment Scale for Children Second Edition – Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992) in order to control for the effects of early internalizing behaviors predicting later adjustment at 10.5 years. The BASC-PRS is a well-known and widely used assessment measure that produces age- and gender-normed *T*-scores. Parents were asked to complete the 6- to 11-year-old BASC-PRS (160 items) at the 7.5-year laboratory assessment. The Internalizing (36 items) subscale was used to assess internalizing symptoms. The frequency of occurrence for each item was rated on a 4-point scale (*never, sometimes, often, almost always*). The internal consistency, reliability, and validity for the BASC-PRS have been well established (Doyle, Ostrander, Skare, Crosby, & August, 1997; Reynolds & Kamphaus, 1992). Cronbach’s alpha for the Internalizing subscale in the current study was satisfactory for boys ($\alpha = 0.86$) and girls ($\alpha = 0.85$).

Research has shown that in comparison to teachers or parents, youth are more accurate reporters of their own internalizing symptomatology (Angold, Weissman, & Merikangas, 1987; Comer & Kendall, 2004), thus, to measure internalizing symptoms as an outcome, child self reports were obtained at the 10.5-year laboratory visits using the Behavior Assessment Scale for Children Second Edition- Self-Report Child (BASC2-SRP-C; Reynolds & Kamphaus, 2004). The BASC2-SRP-C is a widely used 139 item self-report measure that assesses atypical behavioral, social and emotional thoughts and feelings in children aged 8-11 years. The BASC2-SPR-C consists of statements that children answer in one of two ways. The first 52 items require a *True* or *False* response, while the remaining 88 items require children to rate the frequency of behaviors described using Likert type ratings ranging from 1 (*never*) to 4 (*almost always*). The BASC2-SRP-C produces five composite scores including School Problems, Internalizing Problems, Inattention/Hyperactivity, Personal Adjustment, and an overall composite score- the Emotional Symptoms Index (Reynolds & Kamphaus, 1992; 2004). Additionally, the measure produces age and gender-normed *T*-scores for each composite score. The BASC2-SRP-C is widely used across research domains and exhibits well established internal consistency, reliability, and validity (Doyle, Ostrander, Skare, Crosby, & August, 1997; Reynolds & Kamphaus, 1992; 2004). For the purpose of the present study, the Internalizing Problems (59 items) gender normed *T*-score was examined. Cronbach's alpha for the Internalizing subscale in the current study was excellent for both boys ($\alpha = 0.94$) and girls ($\alpha = 0.97$).

Analytic Strategy

As previously noted, all models were run separately for boys and girls given the well-documented differences in the gender socialization process. A three-step hierarchical multiple regression analysis was conducted to investigate the hypotheses of this study. Self-report of internalizing symptomatology in preadolescence was the dependent variable across all steps. Parent-report of internalizing symptomatology in middle childhood was entered at all steps to control for baseline levels of internalizing problems. Prior to the central analyses, descriptive statistics and residual plots were examined for all study variables (see Table 1). Pearson's zero order correlations were obtained among all variables in order to assess for multicollinearity. Visual inspection of residual plots was conducted to further test assumptions of linearity, homoscedasticity, and normality of residuals. *R-square* and *R-square change* values were examined to determine the incremental value of the inclusion of the set of independent variables in the prediction of preadolescent internalizing symptomatology at each step. When the omnibus test indicated significance, test of regression coefficients were used to determine unique prediction of each term in the equations.

Step 1: Interparental Conflict and Internalizing Symptomatology. To investigate whether interparental conflict in middle childhood leads to elevated internalizing symptomatology in preadolescence, interparental conflict at age 7.5 was entered into the models at the first step.

Step 2: Positive Peer Relationships as a Moderator. To examine whether positive peer relationships moderate the relationship between interparental conflict and internalizing symptomatology, friendship quality and peer acceptance at age 7.5 were entered into the models at this step. The main effects of these variables, as well as the interaction between each and interparental conflict were examined separately. All variables were centered based on means within gender prior to inclusion in the interaction term. Post-hoc analyses of significant interactions were conducted using Preacher's online tool for assessing two-way interactions (Preacher, Curran, & Bauer, 2006). First the regions of significance for continuous variables were identified at $\alpha = 0.05$. Next, conditional values were placed at 1 standard deviation above and 1 standard deviation below the mean values of the variables. Simple slopes analyses were then conducted to determine whether the slope of the plotted simple regression lines were significantly different from zero. The simple slopes analysis indicate whether there was a significant difference in the association between the predictor and the dependent variables for children at high and low levels of each moderating variable (Aiken & West, 1991; Frazier, Tix, & Barron, 2004).

Step 3: Three-way Interaction. To detect whether the moderating effects of friendship quality and peer acceptance on the relation between interparental conflict and internalizing symptomatology are best explained by a three-way interaction, this term was tested at the third step. All variables were centered based on means within gender

prior to inclusion in the interaction term and *post-hoc* interaction tests were conducted as described in the previous paragraph.

CHAPTER III

RESULTS

Descriptive Statistics for the study variables are presented separately for males and females in Table 1. No significant gender differences were found across study variables. Intercorrelations among the study variables are presented in Table 2. There was no association between interparental conflict during middle childhood and self reported internalizing problems in pre-adolescence for either gender. Furthermore, there was no association between peer acceptance and friendship quality in middle childhood. There was, however, a negative association between second grade peer acceptance and pre-adolescent internalizing problems for girls.

Step 1: Interparental Conflict and Internalizing Symptomatology

For boys, the overall test of the model was non-significant [$F(2, 44) = 0.12, p = 0.89, R^2 = 0.01$] indicating that after controlling for baseline internalizing symptomatology, interparental conflict in middle childhood did not predict internalizing symptomatology in preadolescence (see Table 3). For girls, the overall test of the model was also non-significant [$F(2,53) = 0.15, p = 0.86, R^2 = 0.01$], indicating that after controlling for baseline internalizing symptomatology, interparental conflict in middle childhood did not predict internalizing symptomatology in preadolescence (see Table 3).

Step 2: Positive Peer Relationships as a Moderator

For boys, the overall test of the model was non-significant [$F(7, 39) = 0.60, p = 0.75, R^2 = 0.10$], indicating that the predictors did not explain a significant portion of the variance in preadolescent internalizing symptomatology. For girls, the overall test of the model was significant [$F(7, 48) = 4.39, p \leq 0.001, R^2 = 0.39$] and explained significantly more variance in preadolescent internalizing symptomatology than the previous step [$\Delta F(5, 48) = 6.06, p < 0.001, \Delta R^2 = 0.39$]. The effect of friendship quality in middle childhood was non-significant. The main effect of peer acceptance however, and the interaction between this variable and interparental conflict were both significant at the $p < 0.01$ level. The two-way interaction was depicted in Figure 1 by plotting the regression of internalizing problems (y) on interparental conflict (x) as a function of two values of peer acceptance, Z_L and Z_H (i.e., one standard deviation below the mean, one standard deviation above the mean). Unstandardized B was used to calculate the regression lines. The highest internalizing score was among girls with high interparental conflict and low peer acceptance in middle childhood.

Next, we examined whether the slopes of the lines plotted in Figure 1 were different from zero, as outlined by Aiken and West (1991). Two new variables were created, Z_{evH} and Z_{evL} such that each variables reflected the peer acceptance score minus Z_H and Z_L , respectively. The cross-product of each new variable with interparental conflict (x) was computed. Finally, internalizing problems in preadolescence was regressed on interparental conflict in middle childhood, the conditional values of peer

acceptance (Z_{evH} and Z_{evL}), and each cross-product in two separate regression analyses. The resulting t tests for the betas indicated the slope representing girls with high peer acceptance was significantly different from zero ($b = 0.69, p < 0.05$), whereas the line representing girls with low peer acceptance was not ($b = 0.91, p = 0.09$). This indicates that girls from high conflict families in middle childhood were prone to experience higher levels of later internalizing problems than girls with low conflict families, unless they experienced high peer acceptance.

Step 3: Three-way Interaction

For boys, the overall test of the model was non-significant [$F(8, 38) = 0.57, p = 0.80, R^2 = 0.11$], indicating that the predictors did not explain a significant portion of the variance in preadolescent internalizing symptomatology. For girls, the overall test of the model was significant [$F(8, 47) = 4.96, p < 0.001, R^2 = 0.46$] and explained significantly more variance in preadolescent internalizing symptomatology than the previous step [$\Delta F(1,47) = 5.83, p < 0.05, \Delta R^2 = 0.07$]. The three-way interaction term was significant (see Table 3) and is depicted graphically in Figure 2 (Aiken & West, 1991). *Post-hoc* follow-up analyses revealed that the slope of the line representing girls who had high levels of peer acceptance and high levels of friendship quality was significantly different from zero ($b = 1.20, p < 0.01$). All other slopes were non-significant. Examined in conjunction, the interaction graphs and follow-up analyses indicated that the relationship between family conflict and internalizing symptomatology is generally non-significant in girls; however, the subset of girls who possessed both high peer acceptance and high

friendship quality displayed significantly lower internalizing scores if they were from high conflict homes as opposed to low conflict homes (see Figure 2).

CHAPTER IV

DISCUSSION

The current study investigated whether two dimensions of peer relationships protected against the development of internalizing problems in boys and girls from high conflict homes. Our study produced three main findings: 1) boys with high family conflict in middle childhood were not at risk for the development of internalizing problems in preadolescence, 2) for boys, neither index of peer relations in middle childhood predicted internalizing problems in preadolescence, and 3) girls with high family conflict in middle childhood were not found to be at risk for the development of internalizing problems in early adolescence; however, there was a long-term benefit of the combination of high friendship quality and high peer acceptance in middle childhood. Each of these findings is discussed below.

It is noteworthy that interparental conflict during middle childhood was not found to predict boys' internalizing symptomatology in preadolescence (see Table 2). Previous studies have suggested that both boys and girls from high conflict homes are at increased risk for internalizing problems (Buehler, Lange & Franck, 2007; Gerard, Krishnakumar, & Buehler, 2006; Harold, Fincham, Osborne, & Conger, 1997). For example, Harold and colleagues (1997) found that parents' hostility and marital conflict assessed across parent, child and independent observer ratings, were directly related to later self-reported

internalizing symptoms for boys only. In contrast to our study, this study assessed marital conflict using not only parental report but also independent observer ratings as well as youths' perceptions of conflict. Another important distinction between the two studies is in regard to the youth's age. Whereas our sample assessed the influence of conflict on youth as they transition from middle childhood through pre-adolescence, Harold and colleagues' sample consisted of youth already in adolescence. Similarly, Buehler, Lange and Franck's (2007) examination of adolescents' (11-14 years) responses to marital hostility revealed significant associations between youth's perceptions of early marital conflict, parent reported marital hostility and later adolescent internalizing problems. Thus it may be the case that family conflict leads to adverse outcomes in boys, but that these adverse outcomes do not manifest as internalizing problems until later in adolescence. Perhaps a more consistent finding in the literature is that vulnerability to parental discord among boys is best expressed through the development of externalizing problem behaviors during childhood (Block et al., 1981; Emery & O'Leary, 1982; Jouriles & Norwood, 1995). Although we know of one study that has examined different indices of positive peer relationships as moderators in this association (Criss et. al., 2002), additional work is needed examining the roles of peer acceptance and friendship quality in particular, as unique protective factors against externalizing problems.

Neither friendship quality nor peer acceptance significantly predicted boys' later internalizing symptomatology. This finding suggests that the quality of one's friendships, characterized by the intimacy, validation, and companionship, may not be

highly valued by boys during middle childhood. This hypothesis is consistent with findings that suggest that girls tend to value intimacy, connection and stronger interpersonal engagement whereas boys tend to be oriented towards goals of dominance, control and self-interest within the peer group (Rose & Rudolph, 2006). Peer acceptance in middle childhood also failed to attenuate the effects of parental conflict on boys' internalizing symptoms in preadolescence. It may be that the current study's assessment of peer-rated acceptance did not capture the type of peer relationship that is most influential for boys. Several studies for instance, have documented that children's self-perceived acceptance does not always coincide with peer-rated acceptance (Berdan, Keane, & Calkins, 2008; Hymel, Bowker, & Woody, 1993; Pardini, Barry, Barth, Lochman, & Wells, 2006; Patterson, Kupersmidt, & Griesler, 1990), and that children's perceived acceptance or rejection by peers may be a stronger predictor of depression than actual peer rated acceptance (Brendgen, Vitaro, Turgeon, & Poulin, 2002; Kistner, Balthazor, Risi & Burton, 1999). Indeed, some researchers have theorized that children who are disliked but hold a positive view of their social acceptance may not be at risk for internalizing outcomes (Bjorklund, & Green, 1992; Pardini et al., 2006). For example, Pardini and colleagues (2006) found that children who reported higher self-perceived social acceptance had the lowest levels of depressive symptoms, regardless of their peer social standing. Thus, perhaps perceived peer acceptance may be a more salient factor for boys. On the other hand, it may also be the case that poor peer relationships lead to other forms of psychopathology (i.e., externalizing problems, substance use) in boys as

many studies have linked these peer variables to other adverse outcomes (Hymel, Rubin, Rowden & LeMare, 1990; Kupersmidt, & Coie, 1990; Ladd, 2006; Laird, Jordan, Dodge, Pettit, & Bates, 2001; Sandstrom, Cillessen, & Eisenhower, 2003).

Our study also found that girls from high conflict homes who possessed both high friendship quality and high peer acceptance in middle childhood, displayed lower levels of internalizing problems in preadolescence compared to girls from low conflict homes. We interpret these results to suggest that during middle childhood, the additional buffering effects of high quality friendships only emerge when girls also possess more global acceptance from the peer group. Indeed, some researchers posit that the saliency of specific peer influences changes during childhood and adolescence (see Buhrmester, 1996). For instance, Sullivan (1953) speculated that during middle childhood, youth appear most concerned with gaining acceptance, avoiding rejection and maintaining status within the peer group. As youth move into adolescence however, their focus shifts and they appear to desire increased interpersonal intimacy. Thus, our findings may reflect the importance of attending to both the developmental period as well as gender differences when examining the unique influence peer relationship factors.

Moreover, our findings suggest that, within the context of interparental conflict, the protective functions of peer acceptance and friendship quality are not redundant. These findings support prior research which posits that different indices of peer relations including peer acceptance, reciprocated friendships, and friendship quality make separate and unique contributions to the predictions of problem behaviors in youth (Criss et al.,

2002; Ladd, Kochenderfer, & Coleman, 1997; Parker & Asher, 1993). Interestingly, analyses revealed that girls from high conflict homes who displayed high peer acceptance and high friendship quality displayed lower levels of internalizing behaviors than girls from low-conflict homes with similarly positive peer relationships. It is possible that the interaction of peer acceptance and friendship quality produces a protective enhancing effect whereby individuals' competency in coping with stressors such as parental conflict is raised with increased risk. Thus, the results of the present study provide support for the notion that strong positive peer relationships buffer against the effects of negative home experiences.

Taken together, our findings suggest that there is a long-term benefit of strong peer relationships in girls from high conflict homes. While previous literature suggests that boys from high conflict homes are likely to develop higher levels of externalizing symptomatology and other adverse outcomes (Block et al., 1981; Emery & O'Leary, 1982; Jouriles & Norwood, 1995), our study suggests that they may not be at risk for developing internalizing problems during preadolescence. Therefore, our results indicate that peer relationships may have long-lasting buffering effects for girls, but not boys, exposed to conflict within the home. Future research should move towards examining the specific mechanisms that account for the protective effects of peer acceptance and friendship quality over time. For example, researchers could examine whether these indices of peer relations do in fact restore youths' sense of emotional security when this security is threatened by parental conflict.

Although the findings support the protective effects of peer acceptance and friendship quality for girls, several limitations in design should be considered. First, our measure of family conflict did not include items that assessed physical conflict. Studies have found that more severe episodes of conflict, including physical conflict, can be particularly distressing for children (Goeke-Morey, Cummings, Harold, & Shelton, 2001). Thus, we may have found a stronger relationship between marital conflict and internalizing problems if we had included a measure of physical conflict. Similarly, although the level of conflict in our sample ranged from 0 (*Never*) to 5 (*All the time*), only 5.8% of the parents obtained scores above 2 on the satisfaction subscale of the RDAS. This score corresponds to experiencing quarrels, discussions of separation and negative interactions “*More often than not.*” Therefore it is likely that this sample of children came from homes with relatively mild and low levels of discord. It is noteworthy; however, that even these lower levels of marital conflict were significantly associated with girls’ internalizing symptoms, at least for those with low levels of friendship quality and peer acceptance. It is possible that the moderating effects of positive peer relationships observed in this study might be even more pronounced in youth who experience higher levels of conflict.

Additionally, current theory and research has found that children’s interpretation of conflict, rather than the presence, frequency, or physical characteristics of conflict itself is a stronger predictor of adverse outcomes in youth (Cummings & Davies, 2002; Grych, Fincham, Jouriles, & McDonald, 2000). Given that our study utilized maternal

report of conflict, we were unable to assess children's perception of the conflict experienced. An examination of children's interpretation of conflict within the home may have possessed stronger association with internalizing problems than parent report.

Methodological limitations in the current study's examination of internalizing symptoms should also be considered. Specifically, the assessment of internalizing behaviors varied between reporters across time. In order to control for the effects of early internalizing behaviors predicting later adjustment during pre-adolescence, baseline internalizing behaviors during middle childhood were examined using parental report. However, given that research has shown youth as more accurate reporters of their own internalizing symptomatology in comparison to teachers or parents (Angold, Weissman, & Merikangas, 1987; Comer & Kendall, 2004), internalizing symptoms during pre-adolescence was assessed using child self report. Thus, it is possible that construct of internalizing problems controlled for during middle childhood differs from internalizing problems assessed during pre-adolescence.

Finally, although the current findings support the protective effects of positive peer relationships for girls, it is important to note that internalizing symptoms among study participants fell within the normative and subclinical ranges. Therefore, even though the differences between girls with both high peer acceptance and high friendship quality were statistically significant from girls with low levels of positive peer relationships, these differences may not be clinically meaningful. Additional work is

needed to examine the unique influence of peer acceptance and friendship quality within clinical samples and across adolescence.

Several important implications result from our study. First, the gender differences found in our study inform interventions for girls exposed to interparental conflict. Our findings specifically support the hypothesis that positive peer relationships can ameliorate the effects of parental conflict for girls. To this end, our study suggests that building peer support may be an important treatment avenue for girls from high conflict homes. Second, the present study highlights the importance of examining both qualitative and quantitative aspects of peer relationships by examining the contribution of friendship quality as well as peer acceptance. Although an examination of the buffering effects of friendship quality alone did not result in significant attenuation of internalizing behaviors among girls, the interaction of friendship quality with peer acceptance was found to best describe the moderating effects of positive peer relationships. This finding strengthens the argument that different indices of peer relationships serve unique functions in offsetting the effects of parental discord. Additional work should expand upon the current findings by more closely examining the characteristics of these peer relationships. For example, future research could distinguish between pro-social and antisocial support provided by friends. In conclusion, the present study suggests that peers can provide remedial support for girls who experience interparental discord. Future work is needed to replicate these results and further clarify this association.

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APPENDIX A. TABLES

Table 1. Descriptive Statistics for Independent and Dependent Variables

	<i>M</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Skew</i>	<i>Kurtosis</i>
		Girls ¹				
1. Baseline Internalizing ^a	43.07	7.60	30.00	60.00	0.40	-0.66
2. Interparental Conflict ^a	4.80	2.49	0.00	12.00	1.02	1.10
3. Peer Acceptance ^b	0.23	1.06	-2.22	2.11	-0.39	-0.54
4. Friendship Quality ^a	2.53	0.48	1.10	3.35	-0.45	0.32
5. Self-reported Internalizing ^c	46.46	9.61	35.00	89.00	2.14	6.76
		Boys ²				
1. Baseline Internalizing ^a	43.11	8.99	30.00	74.00	1.08	1.93
2. Interparental Conflict ^a	4.89	2.00	1.00	10.00	0.37	-0.06
3. Peer Acceptance ^b	0.06	0.98	-1.94	2.06	0.00	-0.84
4. Friendship Quality ^a	2.21	0.56	1.00	3.20	-0.25	-0.44
5. Self-reported Internalizing ^c	43.49	7.16	35.00	65.00	1.27	0.68

Note. ¹N = 56, ²N = 47, ^a Assessed during a 7.5 year laboratory assessment, ^b Assessed during a 7.5 year school assessment, ^c Assessed during a 10.5 year laboratory assessment

Table 2. Correlations between Variables of Interest Presented Separately by Gender

Variable	1	2	3	4	5
Girls ^a					
1. Baseline Internalizing	--				
2. Interparental Conflict	0.19	--			
3. Peer Acceptance	-0.18	-0.06	--		
4. Friendship Quality	0.17	0.03	-0.09	--	
5. Self-reported Internalizing	0.16	0.07	-0.45**	0.11	--
Boys ^b					
1. Baseline Internalizing	--				
2. Interparental Conflict	0.27	--			
3. Peer Acceptance	0.00	-0.22	--		
4. Friendship Quality	0.00	-0.04	0.18	--	
5. Self-reported Internalizing	-0.06	0.06	-0.07	0.00	--

Note. ^a $N = 56$, ^b $N = 47$ ** $p < 0.01$.

Table 3. Hierarchical Regressions Examining Peer Acceptance and Friendship Quality As Moderators Between Middle Childhood Interparental Conflict and Pre-adolescent Internalizing Symptoms

Predictor	BASC2-SRP-C					
	β	Girls ^a		β	Boys ^b	
		R ²	ΔR^2		R ²	ΔR^2
Step 1		0.01			0.01	
BASC2-PRS	0.06			0.02		
IPC	0.08			-0.01		
Step 2		0.39	0.39***		0.10	0.09
PA	-0.22			-0.19		
FQ	-0.03			-0.04		
IPC x PA	-0.01			-0.30		
IPC x FQ	-0.19			-0.22		
PA x FQ	-0.25			0.02		
Step 3		0.46	0.07*		0.11	0.01
IPC x PA x FQ	-0.53*			-0.13		

Note. Statistics are noted for the final theoretical model. These reflect the ΔR^2 from each preceding indirect effects model. BASC2-SRP-C = Behavior Assessment Scale for Children Second Edition- Self-Report Child, Internalizing Gender T Score; BASC2-PRS = Behavior Assessment Scale for Children Second Edition – Parent Report Scale, Internalizing Gender T Score; IPC = interparental conflict; PA = peer acceptance; FQ = friendship quality; ^a $N = 56$, ^b $N = 47$

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

APPENDIX B. FIGURES

Figure 1. Interaction of peer acceptance and interparental conflict in predicting youth reported internalizing symptoms for girls.

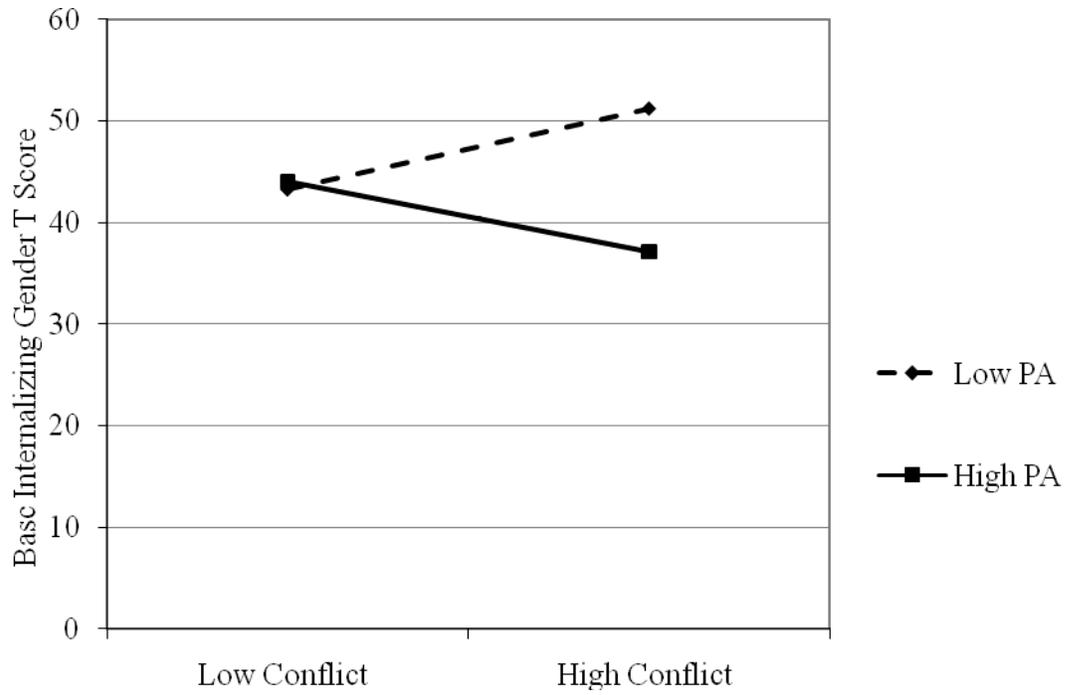


Figure 2. Interaction of peer acceptance, friendship quality and interparental conflict in predicting youth reported internalizing symptoms for girls.

