Summer 2022

The Moderating Impact of Gender and Friendship Quality on the Effects of Interparental Conflict on Adolescent Internalizing Problems

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Master of Arts
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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

Clinical Community Psychology

College of Arts and Sciences

University of South Carolina

2022

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Dedication

I dedicate this work to parents of children and adolescents in the hopes to raise awareness about the deleterious effects of interparental conflict on youth development and mental health.

Acknowledgements

I am grateful to have had the privilege to live in seven different countries over four continents and attend twelve academic institutions. I am lucky to have been able to meet and be inspired by so many diverse individuals in my life and wish I could thank each of you for the varying aspects in which you have each influenced my trajectory.

I would like to sincerely thank my doctoral committee including Dr. Kimberly Hills, Dr. Kimberly Becker, Dr. Jeffrey Schatz and Dr. Kristen Seay for their continued support, valuable feedback and encouragements throughout the long doctoral journey. As for my mentor and dissertation chair, Dr. Kate Flory, I cannot speak highly enough about your mentorship. You are an inspiring role model, managing multiple roles gracefully with an impeccable work ethic. Your unwavering support, motivation, cultural sensitivity and understanding were deeply appreciated and will always be remembered. I also want to thank my clinical supervisors, Dr. Michelle Burnette, Dr. Guillermo Wippold and Dr. Emily Neger who have provided pertinent guidance and contributed to the refinement of my clinical skills and theoretical orientation. In addition, I want to thank Dr. Rhea Merck for her support and connecting me to the School of Law, Dr. Bret Kloos, for his counsel, Dr. Amanda Fairchild for her unrivaled expertise, care and friendship, Dr. Maydeu-Olivares for his support and Dr. Goran Pavlov for being the kind of friend you always laugh with no matter how somber the conversation may be.

To my cohort, LaDonna, Ariel, Haylee and Van, it has definitely been a roller coaster ride, but I am glad we got to ride it together. I wish you all the best in your endeavors. To my friends, in South Carolina, Brian Guy, thank you for being the kind of friend everyone wishes to have in their life. Melek and Erika thank you for your caring friendship and reminding me of the good old days in Colombia. Finally, to my new friends in Orlando Jodie and Nick, I am so grateful to have met you, it's not for nothing we've earned the title "dream team"! I look forward to next year with "the crew".

For preparing me to undertake my graduate studies with solid clinical skills, vast knowledge and perspective, I would like to thank Dr. Elie Karam, Dr. George Karam, Dr. Aimee Nasser-Karam, Dr. Nayiri Sahakian, Dr. Louise Fletcher, and Caroline Cordahi-Tabet, for welcoming me into their team at the Institute for Development, Research, Advocacy and Applied Care and the Medical Institute for Neuropsychological Disorders for psychological and psychiatric services. I also want to thank Dr. Tony Feghali for providing me with research opportunities at the Center for Innovation Management & Entrepreneurship at the American University of Beirut and pushing me to "take initiative".

I would like to thank my family across the globe for supporting me in completing this work. To my cousin Elias Feghali, thank you for being my compass and always there to listen and advise. To my extended family, my mother's cousins and father's cousins in the United States, from San Ramon to Clayton, Columbia and Orlando, thank you for your hospitality**,** support, and assistance. To my family in France, thank you for always

being so thoughtful, caring and present at every step since my baby ones. To my family in Lebanon, your courage and resilience despite all odds, taught be to always persevere and find the light through the rubble.

Most of all, I would like to thank my family for supporting me throughout my journey and challenges along the way, I love you and have missed you every day I have been away. Mom, words cannot express how grateful I am to have you as a mother, you have been by my side every step of the way and have been so impactful in shaping the woman I am today. Dad, you have given us such a privilege through your hard work to tour the globe. Thank you for inspiring my inclination to make the world a better place and going over and beyond to find a solution to any problem, even the ones IT experts cannot solve! Bryan, thank you for encouraging me to continuously strive to become a better version of myself, you have definitely influenced my belief in change and in seeking alternative perspectives. And to my youngest brother Dylan, may you find your passion and joy, your thirst for learning and deep conversations, humor and ability to change the atmosphere in a room have propelled me to enjoy the small pleasures of life.

Abstract

In response to escalating concerns about the increasing incidence of adolescent internalizing disorders, several mechanisms have been investigated to understand their etiology. Though genetic predisposition contributes to the risk for psychopathology, its interaction with environmental stressors such as interparental conflict appears to further increase this risk. Girls are more susceptible to stressors and twice as likely as boys to develop internalizing problems. However, friendship quality may buffer some of the adverse effects incurred from exposure to interparental conflict. A recent review of proposed mechanisms through which conflict is associated with youth psychopathology pinpointed the need for further adolescent-focused research including moderating variables such as gender and peer relationships. This study thus aimed to add to the adolescent literature by investigating the roles of gender and friendship quality as moderators of the effects of interparental conflict on internalizing problems. Results from primary analyses did not support the presence of moderation effects of gender or friendship quality on the relation between interparental conflict and adolescent self-reported internalizing problems. However, exploratory analyses did reveal moderation effects when parent-reported adolescent internalizing problems was used as an outcome variable instead. Both boys and girls who indicated low levels of friendship quality, but only girls with mean levels of friendship quality, endorsed significantly higher levels of internalizing symptoms as interparental conflict increased. Implications

derived from the findings include the need for: (a) further research on the role of gender and aspects of friendship that influence adolescent internalizing problems in the context of interparental conflict, (b) obtaining data from both parents and adolescents to account for different perceptions, (c) developing school-based interventions to promote positive peer relationships and mental health with tiered and targeted interventions for those experiencing interparental conflict.

Keywords: Adolescence, Interparental conflict, internalizing problems, gender, friendship quality, moderation

Table of Contents

List of Tables

List of Figures

List of Abbreviations

APQ-CGR .....Alabama Parenting Questionnaire-Child Global Report

APQ-PGR ..... Alabama Parenting Questionnaire-Parent Global Report

CBCL .....Child Behavioral Checklist

FQS .....Friendship Quality Scale

PPC-P .....Parent Problem Checklist-Problem Subscale

RCADS..... Revised Children's Anxiety and Depression Scale

SES..... Socioeconomic Status

CHAPTER 1

Introduction

Public health concerns about the increasing incidence of internalizing disorders in adolescents are fueled by the adverse concurrent and long-term outcomes in academic, social, occupational, and health domains associated with these disorders (Coleman et al., 2007; Costello & Maughan, 2015; Twenge et al., 2017). In addition, internalizing disorders are the most prevalent disorders amongst adolescents (Costello et al., 2005; Merikangas et al., 2010), yet are less likely to be diagnosed and treated compared to the more disruptive and overt externalizing disorders (Tandon et al., 2009; Wu et al., 1999). As a result, researchers have undertaken the task of identifying risk and protective factors of adolescent internalizing disorders. Recently, theoretical models have increasingly recognized that risk for psychopathology is better explained by the interaction between genetic predisposition and environmental factors rather than by one of these domains alone.

Among the adverse environmental stressors put forward, interparental conflict has been increasingly recognized as a factor contributing to adolescent outcomes, as evidenced by its inclusion in adverse childhood experiences lists and designation as a condition of clinical focus in the latest Diagnostic and Statistical Manual for Mental Disorders (DSM-5; APA, 2013). Several models have been proposed in the literature suggesting mechanisms through which interparental conflict exerts effects on youth

internalizing experiences. A recent review of this literature led Harold and Sellers (2018) to propose an integrated model encompassing the hypotheses that have received support over the years. These authors point out gaps in the literature about the lack of adolescent-focused research and the need for further study on moderators of the effects of interparental conflict on internalizing problems.

As psychopathology peaks during adolescence and internalizing disorders pose a significant mortality risk, a lasting burden on quality of life, and are less likely to be identified and treated than externalizing disorders, the proposed study focuses on the effects of interparental conflict on internalizing problems among adolescents. Furthermore, substantial research notes that girls are twice as likely to develop internalizing disorders than boys and appear to be more susceptible to environmental stressors such as conflict (Costello et al., 2003; Martel, 2013). There is also utility in uncovering potential environmental buffers to conflict. With peer relationships gaining salience during adolescence, some studies have suggested that quality friendships could mitigate the adversity experienced in the home (Sullivan, 1953). In support of this, Harold and Sellers (2018) identified both gender and friendship quality as potential moderators needing further study. Therefore, the current study aims to contribute to the literature on adolescent internalizing problems by investigating the roles of gender and friendship quality as potential moderators of the effects of interparental conflict on internalizing problems.

Adolescent Internalizing Problems

Substantial research on the development of psychopathology has estimated that half of psychological disorders emerge prior to age 14 (Laski, 2015). Among these disorders, findings from epidemiological studies indicate that internalizing disorders (i.e., depressive, anxiety, eating, and trauma-related disorders) account for the highest lifetime prevalence rates of any mental disorders; an estimated 32% of adolescents met criteria for an anxiety disorder and 11.7% for a unipolar mood disorder between the ages of 13 and 17 (Costello et al., 2005; Merikangas et al., 2010). Epidemiological studies have additionally revealed that there has been a continuous increase in prevalence rates of internalizing disorders in youth over the years (Collishaw, 2015). For instance, the U.S. Centers for Disease Control and Prevention (CDC) note a 9% increase in depression among adolescents between 2004 and 2014. Meanwhile, comorbidity of internalizing disorders in youth is high, yet asymmetrical; those with a primary depression diagnosis are between 25 and 50% more likely to receive an anxiety diagnosis, while the reverse, in the case of a primary anxiety diagnosis, is 10-15% (Garber & Weersing, 2010).

Internalizing disorders are also comorbid with externalizing disorders (i.e., attention-deficit/hyperactivity, oppositional defiant, and conduct disorders), as well as substance use disorder. However, only 1 in 3 adolescents with any mental disorder receives treatment. Further, adolescents experiencing internalizing disorders are significantly less likely to receive treatment as symptoms of these disorders are less disruptive and noticeable than those associated with externalizing disorders (Cummings et al., 2014). Additionally, only 14.4% of adolescents who do not reach the threshold for

a clinical diagnosis receive treatment (Costello et al., 2014; Merikangas et al., 2011), despite still experiencing significant impairment in many cases. Hence, identifying youth experiencing internalizing problems, including those who do not meet the full diagnostic criteria, is crucial given the existing inverse relation between the high prevalence of internalizing disorders and low utilization of healthcare services.

Internalizing disorders have consistently been strongly associated with suicidal behaviors (Gili et al., 2019). Based on data published by the CDC in 2018, suicide was the second leading cause of death following unintentional injury in adolescents, while the rates of suicide have persistently risen over the years (Hedegaard et al., 2018). A meta-analysis of prospective longitudinal studies on suicidal behaviors demonstrated that mood disorders, particularly depression, are the strongest predictor of suicide, with an adjusted odds ratio (AOR) by demographics and presence of other disorders of 9.56 (CI = 7.45, 12.28). This risk increases almost two-fold in the presence of a comorbid anxiety disorder compared to those who only struggle with a mood disorder (AOR = 1.86, CI = 1.47 – 2.36; Sareen et al., 2005). Furthermore, depression also exacerbates the severity of other health conditions (e.g., asthma, obesity) associated with poor long-term health outcomes (e.g., stroke, heart disease, diabetes) and increases the risk for substance use (Goodman et al., 2002; Substance Abuse, 2016; Van Lieshout & MacQueen, 2008).

In addition to the concurrent impact of internalizing problems, evidence suggests that adults with a history of internalizing problems continue to experience significant burdens in health, occupational, and social domains, even in the absence of a current diagnosis (Coleman et al., 2007; Costello & Maughan, 2015). A 40-year longitudinal

study of psychiatric outcomes found that, compared to 25% for mentally-healthy adolescents, 70% of those who had an internalizing disorder at both ages 13 and 15 also met criteria for a disorder at ages 36, 43, and 53. In contrast, two-thirds of adolescents who only experienced a single episode of internalizing symptoms did not qualify for a psychiatric diagnosis at the subsequent waves of data collection. In other words, adolescents who experience continuous symptoms or reoccurrence of symptoms have a significantly bleaker prognosis (Coleman et al., 2007). Hence, understanding variables that influence the development of internalizing disorders and, more importantly, early detection and intervention is critical in mitigating the long-term repercussions associated with these disorders.

Interparental Conflict as a Risk Factor for Adolescent Internalizing Problems

Substantial efforts have been made to identify risk and protective factors involved in the etiology of internalizing disorders, and recent technological advances have bolstered research on the interplay between genetic and environmental variables (Thapar et al., 2007). Such evidence helps parse out heritable factors from variables more amenable to change, thus more readily targeted by interventions. Existing evidence from studies of adolescent populations suggests that an increase in non-shared environmental factors and adversity is associated with internalizing symptoms. In other words, in the context of high environmental adversity, environmental factors seem to overtake the influence of heritability in forecasting internalizing disorders. Environmental factors that have been observed to contribute to internalizing symptoms include stressful life events, negative peer relationships, poor parent-child relationships,

and low academic performance (Hicks et al., 2009). Interparental conflict certainly falls into the category of stressful life events.

Congruently, previous research on environmental risk factors has found adverse childhood experiences (ACEs) to be highly correlated with internalizing disorders (Blum et al., 2019; Negriff, 2020). It is not surprising that interparental conflict is included in the list of ACEs and has also been introduced in the DSM-5 as a condition that may warrant clinical attention (APA, 2013). This condition, referred to as 'child affected by parental relationship distress (CARPD)', is indicated for use when negative effects of parental conflict, distress, or disparagement are contributing to adverse mental and physical problems experienced by the child (Bernet et al., 2016). However, practical applications of this new code have led to criticism regarding its vague operational definition and lack of sufficient detail (Bernet et al., 2016; Wamboldt et al., 2015). Similarly, there is considerable variability in the terminologies found in the literature, operational definitions, and measures used to evaluate interparental conflict (Morbech, 2017). Commonly found terms include 'interparental,' 'intimate partner,' 'parental,' and 'marital,' coupled with 'violence,' 'conflict,' 'discord,' or 'distress.' The current study will utilize the term 'interparental conflict' as it includes parental arrangements that are not restricted to marital status, is evocative of the relationship between parental figures, and encompasses both overt and covert aspects of conflict.

The conceptualization of interparental conflict has also evolved. Past research primarily utilized a categorical approach to conflict, classifying it as a threat to the child if it was observable and hostile, in form or content, either verbally or physically (Holt et

al., 2008). Descriptions of conflict then shifted towards a dimensional approach from low verbal/physical aggression to high and overt physical aggression (Buehler et al., 1997; Cummings & Davies 2002). Subsequent suggestions were made in support of a multidimensional construct outlining the value in additionally assessing conflict frequency, duration, intensity, mode of expression, and resolution capacity (Cummings & Davies, 1994). However, a meta-analytic review on interparental conflict and parenting behaviors highlighted that very few studies to date had used a multidimensional construct to measure conflict (Krishnakumar & Buehler, 2000).

Despite the lack of an agreed-upon operational definition of interparental conflict in the literature, the detrimental effects of interparental conflict on youth have long been established and date back to the 1930s (Bernet et al., 2016; Krishnakumar & Buehler, 2000; Towle, 1931). Effects on youth mental health have been reported in cross-sectional, longitudinal, and experimental studies (Harold & Sellers, 2018). Interparental conflict was found to predict both externalizing and internalizing disorders in youth in a meta-analytic review of 68 studies (Buehler et al., 1997). Recent investigations continue to support these findings. In a study measuring parent reports of conflict and adolescent reports of conflict and adjustment, higher levels of interparental conflict were associated with increased negative affect (depressed, anxious, and angry mood) and lower positive mood, life satisfaction, meaning, and purpose (Fosco & Lyndon-Stateley, 2019). Associations between interparental conflict and increased internalizing problems and antisocial behaviors were corroborated in a multi-national study across South Africa, Bangladesh, China, India, Bosnia, Germany, Palestine,

Colombia, and the United States (Braford et al., 2004). This evidence strongly indicates a link between interparental conflict and internalizing problems among adolescents. Identifying potential mechanisms and moderators of this link is paramount to developing effective intervention approaches.

Mechanisms of the Link Between Interparental Conflict and Adolescent Internalizing Problems

Explorations of mechanisms underlying the impact of interparental conflict on adolescent internalizing problems have spawned several hypotheses to account for those effects. In an effort to synthesize the available research and theories outlined in the literature, Harold and Sellers (2018) conducted a review and proposed two models based on their results. The first outlines an integrated theoretical model inferred from the evidence reviewed; the second model illustrates a cost-benefit cascade of the effects of interparental conflict on youth outcomes. The authors highlight that identifying interception points that can foster the development and implementation of suitable and cost-effective interventions to mitigate the long-term repercussions of interparental conflict on youth is a critical goal of research in this area.

The integrated model is valuable as it reviews and encompasses previous empirical endeavors towards understanding the mechanisms through which interparental conflict exerts effects on adolescent internalizing problems. Four pathways are set forth, linking interparental conflict to youth psychopathology, accounting for factors both external and internal to the child. Genetic factors are also

represented in the model as unique contributors to adolescent psychopathology (see Figure 1.1).

External factors represent the direct effect of conflict as an environmental stressor and indirect effects incurred through interrelated family systems, which subsume family-related aspects impacted by conflict postulated in prior models. For example, the triangulation model views the child as being infused within a dyadic conflict between the parents either knowingly or voluntarily (Abelin, 1971b; Minuchin 1974; Westerman, 1987). The child experiences distress, confusion, and intense emotions resulting from persisting in untenable situations (Amato & Afifi, 2006). Triangulation occurs when a child is pressured to side with a parent (Bell & Bell, 2016), acts in a mediating role within the conflict (Afifi & Schrodt, 2003), or is used as a scapegoat for the conflict (Buchanan & Waizenhofer, 2001). Aspects of triangulation, such as the significance of the parent-child relationship and scapegoat mechanism, overlap with the spillover model. This model additionally suggests that the family is a dynamic system, such that conflict in the parental subsystem seeps into the parent-child subsystem, where mood, affect, and/or behavior are transferred from one to the other (Bradford et al., 2004; Erel & Burman, 1995).

While the spillover hypothesis suggests that interparental conflict can still be impactful if children do not witness conflict, there is insufficient evidence to date to support this pathway (Harold & Sellers, 2018). Moreover, these hypotheses also fail to account for perceptions of conflict formed by the child. Interestingly, studies investigating the role of the informant in predicting internalizing problems found that

child reports of conflict produced the largest effect sizes (Kitzmann & Cohen, 2003; Krishnakumar & Buehler, 2000), and subjective perceptions of youth were demonstrated to be better predictors of internalizing problems than parent reports (Afifi et al., 2016; Kitzmann & Cohen, 2003).

Internal factors proposed in the integrated model refer to children's cognitive and emotional processing and suggest that conflict affects children through their exposure, interpretation, and appraisal of the conflict. This part of the model deconstructs child perceptions into two mechanisms. Primary processing refers to the child's threat appraisal of conflict based on their initial awareness that conflict is taking place and their affective reaction to it. Secondary processing involves a series of higher-order complex cognitive processes during which the child forms a causal attribution for the conflict to inform their reaction and understanding of the situation. This phase is also accompanied by the child's evaluation of their capacity to respond to the conflict, where they may also ascribe blame or responsibility for the conflict. The other mechanisms comprised within internal factors explain the neurobiological and psychophysiological processes that have been associated with exposure to conflict, such as cortisol activation, vagal tone regulation, and other autonomic reactivity functions.

Although their integrated model suggests numerous mediation pathways that have been supported by the literature, Harold and Sellers (2018) highlight that evidence regarding moderating factors of the relation between interparental conflict and youth psychopathology is still quite lacking and is needed to improve the efficacy of intervention programs. Child gender is discussed as particularly influential in the context

of internalizing outcomes as adolescent girls have systematically been observed to be twice as susceptible to these disorders (Costello et al., 2005; Merikangas et al., 2010). While few protective moderators are mentioned, peer relationships are suggested by Harold and Sellers (2018) as a potential buffer of interparental conflict on psychopathology consistent with the research on adolescents, which points to the influential role of peer relationships on adolescent internalizing problems (Bukowski et al., 2015; Hick et al., 2009; Sullivan 1953). Hence, following these suggestions by Harold and Sellers (2018), the current study examines both peer relationships and gender as potential moderators of the association between interparental conflict and internalizing problems among adolescents (see Figure 1.2) for the moderating models examined in the current study).

Peer Relationships as a Potential Moderator of the Link Between Interparental Conflict and Adolescent Internalizing Problems

Based on the findings previously discussed, negative peer relationships were identified as one of the six environmental factors associated with adolescent internalizing problems (Hicks et al., 2009), while positive peer relationships were suggested as a potential moderator in minimizing the deleterious effects of interparental conflict on adolescent outcomes (Harold & Sellers, 2018). These findings align with research on youth development describing the influential role of peer relationships during the separation-individuation process that takes place throughout the adolescent phase of development (Collin et al., 1997). Evolving from Mahler's research on infants in the 1960s (Mahler, 1963; Mahler et al., 1975), later psychosocial

developmental theories discerned a second separation-individuation phase occurring during pubertal maturation. Pubertal changes were suggested to affect the structure and functioning of the organism, which in turn promote the adolescent's capacity to engage in more advanced differentiation and establish a distinct sense of self, identity, and autonomy (Blos, 1967; Lapsey, 2010). During this phase, adolescents gradually seek to distance themselves from their parents by retaining a connectedness with the parental figures while maintaining a sense of individuality through peer relationships (Quintana & Lapsey, 1990).

Expanding on the central aspect that peers take on during the separation-individuation phase, early studies of dyadic friendships suggest that these relationships assume an exceptional and novel role for adolescents. Sullivan (1953) used the term 'chumships' to represent close and intimate mutual relationships with same-sex peers. Sullivan proposed that the unique aspect of chumships is that they represent the first relationship between two equals that is not delineated by hierarchy or solely based on interactive play experienced in childhood; thus, it is the first interpersonal encounter of reciprocity and exchange. He notes that these interactions provide opportunities for self-validation, positive regard, and care. Building on this, he argues that positive experiences within this chumship could be powerful enough to overcome previously-endured familial adversity.

In contrast, isolation and peer rejection lead to increased feelings of loneliness, inferiority, inadequacy, and self-doubt. Ensuing studies support Sullivan's argument and have indeed found evidence that peer relationships abate effects of parental discord by

providing social support (Wasserstein & La Greca, 1996). Similarly, high friendship quality buffers against longitudinal negative effects of familial adversity on adolescent adjustment (Lansford et al., 2003). Furthermore, friendship quality has been found to be a stronger moderator of wellbeing for adolescents in more acrimonious family environments, and the association between family variables and adjustment is more potent in the absence of a close friendship (Gauze et al., 1996).

Later studies have continued to outline the pivotal role of peers on adolescent development and adjustment (Bukowski et al., 2015). One important step required clarification of the basic features of friendship. Furman and Buhrmester (1985) make the distinction that the wellbeing of youth whose friendships offered provisions (i.e., companionship, disclosure, help) in addition to other aspects (e.g., intimacy, security) was higher than for those whose friendships lacked provisions. In addition, studies have also looked at the individual characteristics that affect peer relationships. For instance, sociability and withdrawal represent behavioral orientations towards social situations that can influence the emergence of internalizing symptoms (Kingsbury et al., 2013; Wardell et al., 2011).

In addition to identifying features of friendship, adolescent perceptions of peer relationships were found to be more predictive of adolescent covert experiences. To address the lack of existing measures of peer relationships and inadequate conceptual framework, Bukowski et al. (1994) set out to develop both. The friendship qualities scale (FQS) proposed was derived from earlier research on friendships and relationship qualities. Five dimensions were identified, including companionship, conflict, help,

closeness, and security. Later studies confirmed the essential role of perceptions in measurement; for example, after controlling for baseline depressive symptoms and impressions of friendship quality, perceived low peer acceptance was prospectively associated with feelings of dysphoria seven years later, while actual acceptance was not (Kistner et al., 1999).

However, in a cross-sectional study investigating the role of self-esteem as a mediator of the relation between peer relationships and internalizing problems in adolescents, friendship quality as measured by two dimensions of the FQS based on 18 of the 23 items, conflict and positive quality, was observed to explain less than 1% of the variance (Bosacki et al., 2008). Yet, in a longitudinal study exploring the quantitative and qualitative dimensions of friendship, positive quality was found to be associated with emotional adjustment only for boys. Conflict exerted an indirect negative effect on adjustment (happiness and depression) by impacting the positive quality of friendships for both sexes, but was twice as large for girls. Quantity was associated with quality for both boys and girls yet only displayed an indirect effect on adjustment for boys. Interestingly, this study utilized the same two dimensions of conflict and positive quality but used all 23 items of the FQS (Demir, 2008). Though several other methodological differences could account for such contrasting results, it is possible that different aspects of friendship (i.e., conflict vs. positive quality) have differential effects that could also be influenced by gender.

Both theoretical and empirical works indicate that the role of peer relationships in moderating the effects of interparental conflict on youth mental health cannot be

overlooked during the adolescent phase and warrants further study. This study will focus on the dimensions of friendship quality proposed by Bukowski et al. (1994) that informed the development of the FQS. The FQS has been the most commonly-used measure in the literature and is evaluated as having superior psychometric properties to other analogous instruments (Thien et al., 2012). This study will additionally explore potential discrepant effects of the conflict and positive quality subscales in moderating the impact of interparental conflict on adolescent internalizing problems.

Gender as a Potential Moderator of the Link Between Interparental Conflict and Adolescent Internalizing Problems

Both theoretical and empirical endeavors have underlined the role of gender as an influential factor for the increased susceptibility to develop particular types of psychopathology and reactivity to interparental conflict. Biological evolutionary theories have posited that dispositional traits inherited by girls, deduced to be adaptive for childrearing purposes and protective against threat, can also pose an increased risk for internalizing psychopathology when expressed at extreme levels, are resistant to contextual adaptation, and do not fit within the societal norms (Ellis et al., 2012). Studies corroborate this, finding that traits strongly associated with female sex, such as high negative emotionality, peak during adolescence and can also be intensified by the experience of adverse life events, including interparental conflict (Martel, 2013; Schackman et al., 2016). A meta-analysis revealed that negative emotionality is substantially predictive of internalizing disorders (Kotov et al., 2010), as it increases susceptibility to feelings of guilt and self-blame and is linked to increased behavioral

inhibition, heightened vigilance, and other signs of fear and anxiety (Caspi et al., 2005; Mobbs & Kim; 2015; Young et al., 2019). In sum, girls are more prone to develop internalizing disorders, and this vulnerability intensifies with exposure to stressors such as interparental conflict.

Other sex-related predispositions have also been associated with vulnerability towards internalizing symptomatology. Female sex is linked with the inclination for superior language acquisition skills that engender a higher risk for ruminative cognitive processes more often found in internalizing symptomatology (Carlucci et al., 2018; Hines, 2010). Females also appear to have more serotonin receptors but synthesize serotonin slower than males (Cosgrove et al., 2007). A key player implicated in internalizing disorders (Carver et al., 2008), the serotonergic system, also modulates the hypothalamus-pituitary-adrenal axis (HPA-axis), a central part of the stress reactivity process further activated by ovarian hormones released during puberty. Thus, when environmental stressors interact with the genetic predispositions and timing of pubertal development, the risk for the emergence of internalizing problems in females strengthens (Martel, 2013).

Longitudinal studies further confirm these expected associations as adolescent girls have consistently been found to report more internalizing problems, up to twice as often as boys (Costello et al., 2003; Sanborn & Hayward, 2003; Van Vorhees et al., 2008). Furthermore, results from mediation studies highlight that, after controlling for baseline internalizing problems, girls persistently exhibited higher levels of internalizing problems than boys as interparental conflict increased. The model investigated by Grych

et al. (2003) revealed a positive association between internalizing symptoms and interparental conflict. Both increased appraisals of threat and self-blame were found to account for that relation; however, self-blame was only a significant pathway for girls. Shelton and Harold (2008b) found similar results where increased internalizing problems were associated with conflict through reported self-blame for girls. Findings from another longitudinal study describe a congruent effect noting that girls reported fewer internalizing symptoms as conflict decreased over time (Peris & Emery, 2004). Studies have also found evidence that rumination prospectively increases the risk for internalizing symptoms (Bahari et al., 2019; Johnson et al., 2015). These findings align with the negative disposition, ruminative process, and stress reactivity theories outlining sex-based differences for female proneness to develop internalizing problems in the context of interparental conflict.

Taking on a socio-environmental perspective, pubertal development in females also involves the development of the physiological capacity for reproduction and its implications for childrearing (Geary, 2010). As a result, females become more reactive to the interpersonal facets of their social environments, which determines their interpersonal competence. This includes sensitivity to parent-child relationships, warmth, and threat (Ellis et al., 2011). Similarly, heightened awareness of proximal support networks, including peers and romantic partners, becomes more vital (Geary, 2010). Studies on the susceptibility of adolescent girls support these hypotheses. Girls have been shown to be more vulnerable to interpersonal stressors compared to males and to experience stronger negative emotions following exposure to psychosocial

stressors such as interparental conflict, friendship problems, and romantic breakups (Hankin et al., 2007). While the evidence clearly indicates that female sex augments the risk for internalizing pathology, it is difficult to untangle its unique contribution as it is so tightly intertwined with gender (Ge et al., 2003).

Theories on socialization provide additional hypotheses about the contribution of gender to the gender-based differences observed in the incidence of internalizing disorders. Socialization refers to the processes through which a 'naïve' individual develops their self-concept, which includes gender, through learned behavior patterns, values, beliefs, and skills needed for competent functioning within a particular culture. Though socialization continues throughout the lifespan, the bulk of this process takes place during childhood (Maccoby, 2015). As a result, individuals with whom and settings where a child spends the majority of their time play an essential role in this process (i.e., parents, teachers, peers). Perceived gender roles, in turn, inform their beliefs, interests, motivations, and achievements (Leaper & Farkas, 2015). For example, parents, teachers, and peers often encourage gender-stereotyped traits (e.g., strength vs. nurturance), activities, and play, which are further reinforced by a child's environment (e.g., books, media, society; Lytton & Romney, 1991). Additionally, variability in gender-typed norms has been noted where affiliation (i.e., interpersonal sensitivity, collaboration, responsiveness, and closeness) appears to be more commonly expressed in girls, while assertion is more predominant in boys (i.e., independence, agency, and competition; Rose & Rudolph, 2006). Affiliation tendencies in girls are reflected in their inclination for self-disclosure, provision of comfort, and active listening responses to peers in

childhood and adolescence (Leaper & Farkas, 2015). Similarly, parents appear to both model and foster different behavior based on gender (Bronfenbrenner et al., 1984; Mott 1994; Menaghan, 2003).

Arguments have been made proposing that socialization impacts perceptions, reactions, and behaviors of both parents and their children. For instance, compared to mothers, fathers are more likely to let negative experiences in external settings transpire onto their partners and children (Larson & Almeida, 1999). Another study explored how interparental conflict impacted adolescent reports of internalizing problems and observed that the relation was not only stronger for girls, but that conflict exerted effects through parent-adolescent conflict. Overall, father-adolescent conflict explained 74% of the variance, while mother-adolescent conflict only explained 12% (Chung, 2009). In a prospective study investigating the pathways between parental depressive symptoms, interparental conflict, parental behavior, and adolescent internalizing symptoms, results showed that increased interparental conflict predicted both mother-adolescent and father-adolescent rejection. Still, only father-adolescent rejection was associated with adolescent internalizing problems (Shelton & Harold, 2008b). In line with the spillover hypothesis, interparental conflict influenced parent-adolescent conflict; however, gender also affected how those effects were transposed with a steeper impact on girls.

The attention to gender and developmental age in studies investigating the effects of interparental conflict as a stressful environmental factor on internalizing disorders is scarce. Davies and Lindsay (2004) highlight the lack of existing studies

outlining results by gender and in the provision of effect sizes. They additionally describe that most studies have focused on children and preadolescents, while gender-based vulnerability changes with developmental age. In other words, conflict may pose a larger risk factor for externalizing disorders in preadolescent boys (see Davies et al., 2007 for details), but present a differential risk for adolescent girls. In line with those arguments, studies that have focused on adolescent samples point to girls' increased vulnerability to interparental conflict compared to boys (Davies & Windle 1997; Unger et al., 2000). However, other studies have failed to find moderating effects of adolescent gender (Grych & Fincham; Selçuk et al., 2020).

Overall, while findings have consistently shown strong associations between female gender and internalizing problems, inconsistent results exist about the role of gender in moderating the effects of interparental conflict on internalizing experiences in adolescents despite the theoretical underpinnings. Reasons for these mixed findings have been proposed, including: (1) that chronological age may not reflect developmental age, (2) that, in contrast to clinical samples, non-clinical samples may not have high enough levels of conflict and internalizing symptoms to allow for differences to be detected, and (3) that there are varying measurements of constructs and various study designs (Davies & Linday, 2004; Selçuk et al., 2020). As a result, further study is needed to evaluate the role of gender as a moderating factor of the effects of interparental conflict on internalizing problems in adolescents.

The Current Study

Based on the aforementioned evidence, interparental conflict seems to contribute significant risk to the experience of internalizing problems among adolescents. Commendable efforts have been made to identify underlying mechanisms of the effects of conflict over time. Advancements in statistical methods, data collection, measurement, and genetics have helped refine hypotheses and disentangle biological from environmental factors and their interaction in influencing developmental trajectories of internalizing problems. In an attempt to synthesize past research, Harold and Sellers (2018) present an integrative model and emphasize the need for additional research to support the model outlined and understand the role of moderators. Gender and peer relationships are suggested as important moderators to examine. Gender is empirically linked to the incidence of internalizing disorders in adolescents, as females are more likely to experience these disorders than males. In addition, gender has also been suggested to influence adolescent perceptions of conflict and peer relationships as a result of socialization, genetic predisposition, and evolutionary sexual selection. Meanwhile, albeit mixed, findings also point to the capacity of peer relationships to not only affect adolescent adjustment but to also moderate the effects of family adversity on adolescent psychopathology outcomes.

Hence, the current study aimed to investigate four primary research questions and three exploratory questions to contribute to this literature. The first question examined the presence of direct effects between interparental conflict and internalizing symptoms among the study sample, adolescents aged 10-19 years old, to determine

consistency with findings from prior research. Results were expected to reflect a positive association between parent reports of interparental conflict and adolescent self-reports of internalizing problems.

The second research question, derived from theoretical underpinnings outlining the increasing salience of peer relationships during adolescence and evidence suggesting that friendship quality may provide protective benefits to adolescents in the context of parental conflict, investigated if friendship quality moderates the influence of interparental conflict on adolescent internalizing problems. It was hypothesized that adolescents reporting high friendship quality would exhibit fewer internalizing symptoms in the presence of high levels of parent-reported conflict than those reporting lower friendship quality.

In line with the substantial findings describing gender bias in epidemiological studies investigating the incidence of mental disorders and increased susceptibility of adolescent girls to environmental stressors, including interparental conflict, the third research question was whether gender moderates the impact of interparental conflict on internalizing problems. Analyses were expected to reveal that high parent-reported conflict would lead to more internalizing symptoms in girls than boys.

Given that evidence also points to gender differences in perceptions of friendship quality, the focus of the fourth research question was to observe if both gender and friendship quality simultaneously moderate the effect of interparental conflict on adolescent internalizing problems. Girls with high friendship quality were expected to display the least internalizing symptoms when parents report high levels of

conflict. In other words, friendship quality was anticipated to be a stronger protective factor for girls than boys in the face of interparental conflict. Exhaustive database queries failed to identify prior research examining the joint moderation of both gender and friendship quality on the association between interparental conflict and internalizing problems among adolescents.

In addition to the primary aims of this study, three exploratory research questions were examined. The first exploratory question was derived from literature outlining significant differences between parent and adolescent reports of internalizing problems (De Los Reyes & Kazdin, 2005; Seiffge-Krenke & Kollmar, 1998). Since parent reports of adolescent internalizing problems were also collected, this question aimed to observe if using parent reports will lead to different outcomes compared to the previous models that utilized adolescent reports.

The second exploratory question aimed to minimize the potential confounding effects of another variable associated with adolescent internalizing problems in the context of parental conflict. Negative parenting was empirically found to have independent and unique contributions to adolescent adjustment (Erel & Burman, 1995; Sherrill et al., 2017). This effect was delineated in Harold and Seller's integrative model (2018) as path A3 (see Figure 1.1). Hence, the primary research questions were replicated while controlling for negative parenting to clarify and parse out the variance explained by interparental conflict from negative parenting.

Finally, due to existing literature on the impact of different aspects of friendship quality, the third and last exploratory question was to observe how aspects of friendship

moderate the effects of interparental conflict by observing the effects of each friendship quality subscale separately. For example, among the few studies investigating the role of friendship quality in the context of interparental conflict, Larsen et al. (2007) found that poor friendship quality can exacerbate the effects of conflict on internalizing problems. Meanwhile, another study focused on externalizing problems, observed comparable aggravation of symptoms in the context of poor friendships (Lansford et al., 2003).

Socioeconomic status was included as a covariate in the analyses. Though not mentioned in Harold and Sellers' (2018) integrated model, several studies investigating the effects of interparental conflict on adolescent internalizing problems have suggested the influential impact of socioeconomic status (SES) on this relation. Consistent with this, low SES is included in some measures of stressful life events and has also been associated with internalizing disorders (Reiss 2013; Najman et al., 2010; Van Vorhees et al., 2008).

Race/ethnicity was not examined as a covariate. In a review on race and ethnicity, Anderson and Meyers (2010) outlined substantial variability concerning the role of race and ethnicity in predicting internalizing disorders. They outline several problems in methodology that prevent strong conclusions from being drawn about the impact of race and ethnicity. For example, they discuss the recurring problem in sampling bias, post-hoc considerations of ethnicity leading to insufficient power to detect effects, participation bias, and reticence of minorities to participate in studies. In addition, they describe the complexity of measuring such constructs, as an individual

may identify with a particular ethnicity while exhibiting the phenotype of another. Furthermore, this issue becomes increasingly complex in individuals from mixed or immigrant backgrounds who may exhibit different levels of acculturation. They also discuss criticism pertaining to measures used to assess internalizing problems that may not capture culture-specific symptom expression despite research indicating differences in symptom presentation across cultures. Finally, in line with prior arguments, they emphasize findings highlighting the over-representation of minority groups among lower socio-economic classes. This is consistent with arguments that have been made about the difficulty in determining the unique impact of SES (Bell et al., 2020) and race/ethnicity as, in the U.S. population, they appear to be significantly intertwined (APA, 2016; Bell et al., 2020). For these reasons, only SES was examined as a covariate in the current study.

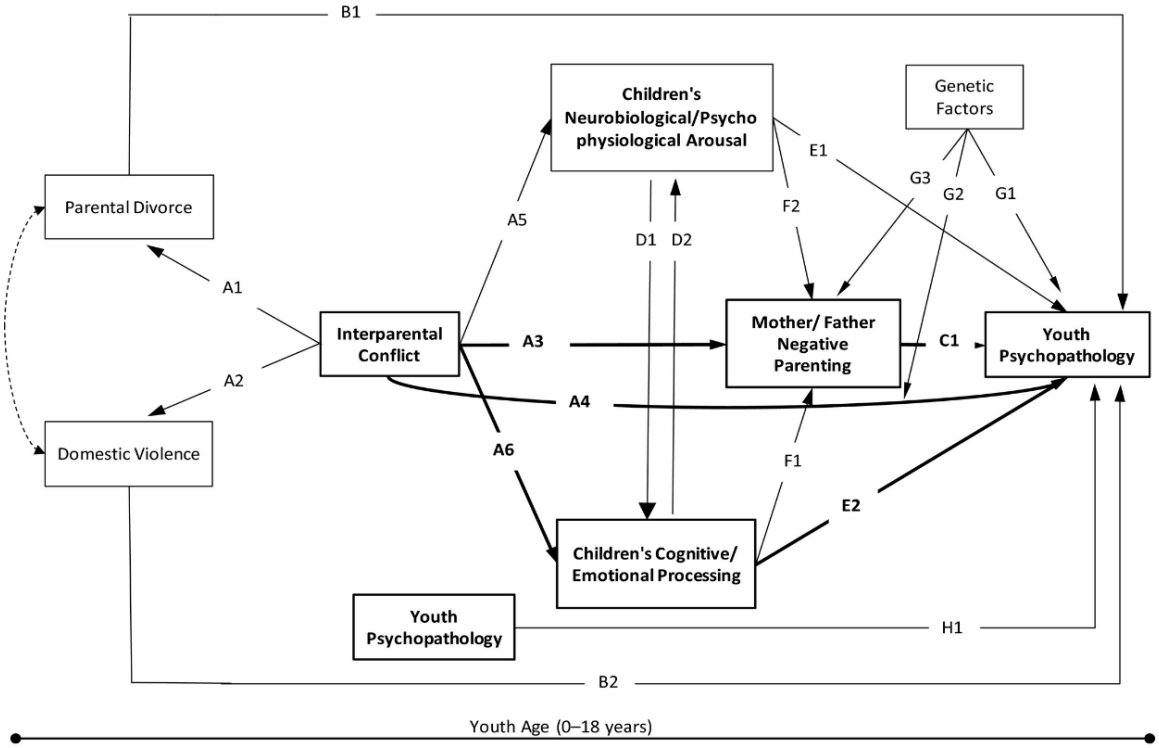

Figure 1.1

The Integrated Model

Adapted From: Harold, G. T., & Sellers, R. (2018). Annual research review: Interparental conflict and youth psychopathology: An evidence review and practice focused update. Journal of child psychology and psychiatry, 59(4), 374-402.

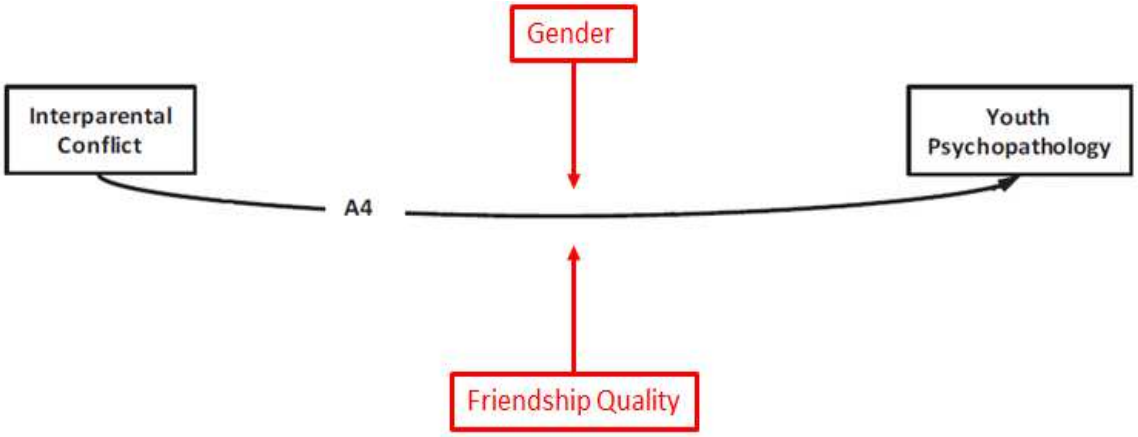

Figure 1.2

The Proposed Study

Adapted From: Harold, G. T., & Sellers, R. (2018). Annual research review: Interparental conflict and youth psychopathology: An evidence review and practice focused update. Journal of child psychology and psychiatry, 59(4), 374-402

CHAPTER 2

Method

Procedure

The data used in the current study was obtained from a larger study previously carried out by Principal Investigator Kate Flory, Ph.D. The Project to Learn about Youth Mental Health-2 (PLAY-MH-2) was carried out between 2015 and 2018 with collaboration among the University of South Carolina (UofSC), the U.S. Centers for Disease Control and Prevention (CDC), the National Center on Birth Defects and Developmental Disabilities (NCBDDD), and the Disability Research and Dissemination Center (DRDC). PLAY-MH-2 comprised two stages of data collection and took place in a school district in central South Carolina that consisted of rural and suburban regions. There were 20 schools in the district, and all students in K-12th grades were eligible for study participation.

Prior to data collection, parents were informed of the project through several letters home and automated phone calls from the district and were given the opportunity to opt out their child/children from study participation. During Stage I, for all students whose parents did not opt out, one teacher (i.e., the main classroom teacher for elementary students and the first block/period teacher for middle and high school students) was asked to complete an online screener for internalizing, externalizing and tic-related problems through Qualtrics (www.qualtrics.com). The online screener included the 25-item Strength and Difficulties Questionnaire (SDQ; Goodman, 1997) and the 27-item Behavioral and Emotional Screening System (BESS)

from the Behavior Assessment System for Children-2 (BASC-2) (Dowdy et al., 2011; Kamphaus & Reynolds, 2007). Two additional items screening for tics were also used, resulting in a 55-item survey, which took about five minutes to complete per child. Teachers additionally provided information about students' gender and grade level. Teachers were compensated for their time spent completing the online screeners. Scores obtained from the screeners were used to identify students as high (BESS t-score > 60; SDQ score > 11; positive tic displayed) or low risk for a mental disorder. Students were subsequently stratified by risk status (i.e., high vs. low), gender, and grade level (i.e., elementary vs. middle/high). Students were then randomly sampled for participation in Stage 2 from amongst the eight strata.

In Stage 2, parents or guardians of students selected for participation were contacted via letter and phone. Families who agreed to participate in Stage 2 were invited to a central location within the school district where they completed the Stage 2 battery of measures in person. Trained undergraduate and graduate research assistants supervised by a licensed psychologist collected the data. One parent completed a semi-structured clinical interview and a set of questionnaires to obtain demographic information, participant mental health history, emotional and behavioral symptoms, personality, school climate, parenting practices, and interparental conflict. In addition, participants in grades 4 through 12 also completed questionnaires assessing emotional and behavioral symptoms, substance use, self-esteem and life satisfaction, personality, friendship quality, school climate, and parenting practices. Before Stage 2 data collection started, informed consent was obtained from the parents, while participants

provided assent. Stage 2 data collection took approximately two hours and families were compensated for their time. Families also received a free evaluation summary report with referral resources if indicated. All study procedures were approved by the UofSC Institutional Review Board.

Participants

There were 10,454 students in K-12 in the school district during the 2015-2016 academic year; these were the students eligible for participation in PLAY-MH-2. The opt-out rate for Stage 1 by parents was about 7%. Of the remaining students, the overall screener completion rate by teachers was 73.9%. Teachers completed the online survey for 7,161 students, which comprised the Stage 1 sample. Of those students, 572 completed the Stage 2 interview and data collection. The sample used in the current study was extracted from Stage 2. Participants were included if they were between 10 and 19 years of age at the time of data collection and if both youth, as well as one parent/caregiver, completed the measures of interest in this study. Details on the final sample are provided in the Results below.

Measures

All measures can be found in Appendix A.

Demographic Information

One parent or guardian of each participant completed a detailed questionnaire that collected demographic information about the participant (e.g., gender, date of birth, race/ethnicity) and themself (e.g., marital status, current employment status,

education level, annual income). Data pertaining to gender, race/ethnicity, and annual income were included in the analyses.

Internalizing Problems

Adolescent Internalizing problems were assessed using the Revised Children's Anxiety and Depression Scale (RCADS; Chorpita et al., 2005). The RCADS is a self-report measure that is comprised of five anxiety subscales including: separation anxiety disorder (SAD), social phobia (SP), generalized anxiety disorder (GAD), panic disorder (PD), obsessive-compulsive disorder (OCD), and one depression subscale. It consists of a total of 47 items rated between 0 ("never") and 3 ("always") that also generate a total internalizing score when tallied. Based on literature findings, the internal consistency of the total internalizing scale ranges between $\alpha = .68$ and $\alpha = .78$ (Esbjørn et al., 2012; Wolpert et al., 2005). The internal consistency of the total internalizing scale in the current study was low but acceptable with a Cronbach's $\alpha = .68$.

Adolescent internalizing problems were also evaluated through parent reports using a subscale of the Child Behavioral Checklist, 6-18 years (CBCL; Achenbach, 2001). The full CBCL is a widely used parent-report measure and is comprised of 118 items rated on a scale from 0 ("not true") to 2 ("very true, often true") and provides scores for eight narrow-band subscales (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior), as well as three broad-band subscales (Internalizing Behavior Problems, Externalizing Behavior Problems, and Total Behavior Problems). Parents report the presence of symptoms/behaviors within the past six months. Scores

on the Internalizing Behavior Problems subscale were used in the current study. Those scores are obtained from the sum of the Anxious/Depressed (13-items), Withdrawn/Depressed (8-items), and Somatic Complaints subscales (11-items). The more adequate cut-off T-score for the CBCL was determined to be 60, as 70 was observed to be too stringent thus decreasing its specificity (Petty et al., 2008). Hence, scores below 60 were categorized as normal, between 60 and 63 as borderline, and greater or equal to 64 as clinical (Petty et al., 2008; Tan et al., 2007). Internal consistency of the Internalizing Behavior Problems subscale reported by Achenbach and Rescorla (2001) was .90; inter-rater reliability between mother and father was .72, while test-retest reliability was r = .90. In the current study, internal consistency as measured by Cronbach's α was .89.

Interparental Conflict

The Parent Problem Checklist (PPC; Dadds & Powell, 1991; Morawska & Thompson, 2009; Stallman et al., 2009) was used to measure interparental conflict. This measure contains 16 items listing issues that parents either endorse as a problem they have encountered or not in the past four weeks. The number of affirmative responses is tallied to obtain a score on the Problem Scale, ranging between 0 to 16 with a clinical cut-off of 5. The scale was reported to have adequate internal consistency (α = .70) and high test-retest reliability (r = .90) (Dadds & Powell, 1991). Cronbach's α for the current sample was .80. Though the scale also includes an Extent Scale where parents indicate the extent to which each endorsed item is an issue, few studies have utilized this scale

as insufficient data about its consistency and utility exists. In line with prior research, the Problem Scale will be used to measure interparental conflict. (Stallman et al., 2009).

Friendship quality

The Friendship Quality Scale (FQS; Bukowski et al., 1994;) is a 23-item scale that includes five subscales: Companionship (4 items), Conflict (4 items), Help (aid 3 items and protection 2 items), Security (reliable alliance 2-items and transcending problems 3-items) and Closeness (affective bond 3-items and reflected appraisal 2-items). Items 5, 6, 7, 8 and 16 were reverse coded as indicated in the literature (Markiewicz et al., 2001). Internal consistency of the subscales as reported by Bukowski et al. (1994) ranged between .71 and .86. Cronbach's alpha values for the subscales based on the current sample varied between .59 and .86 and the internal consistency of the entire scale was .86.

Negative Parenting

As means to control for the potential confounding influence of negative parenting in exploratory analyses, subscales accounting for this effect were extracted from the Alabama Parenting Questionnaire Global Report (APQ-GR; Frick, 1991). The APQ-GR is comprised of 42 items that are clustered to produce five subscales: Involvement (10 items), Positive Parenting (6 items), Poor monitoring/supervision (10 items), Inconsistent Discipline (6 items) and Corporal Punishment (3 items). Items are rated between 1 (never) and 5 (always). In alignment with previous studies investigating negative parenting, three subscales including poor monitoring/supervision, inconsistent discipline and corporal punishment, were combined to obtain a total score (. Two

versions of the APQ-GR exist; the parent-form (Dadds et al., 2003) and the child-form (Shelton et al., 1996). Internal consistency reported in the literature for the subscales of the APQ range between 0.59 and 0.77 (Bukowski et al., 1994). In the current study, Cronbach's α was 0.75 for the negative parenting subscale in the parent version and 0.79 in the child self-report version.

CHAPTER 3

Results

Missing Data and Power Analysis

The current study used data collected from a larger study. Therefore, a subsample from the larger study was extracted based on inclusion criteria. A total of 365 participants were identified as adolescents between 10 and 19 years of age. However, only 260 participants had data available for all the measures included in the current study as only participants who lived in a two-parent household were administered the Parent Problem Checklist. Consequently, analyses could not be conducted for the remaining 105 participants, as entire scale scores were missing as opposed to partial missing data. Listwise deletion was implemented and a final subsample of 260 participants was retained for the analyses.

A power analysis was conducted to determine if the sample size was sufficiently large in order to detect significant effects. Power analyses revealed that with a sample of 260 participants, a power level of $\beta = .8$ and a significance level of $\alpha = .05$, a multiple regression test would be able to detect small effects sizes $f^2 = .0422$. This aligns with small to medium effect sizes based on Cohen's (1988) description of estimates for f^2 (small = .02, medium = .15) reported in the literature which range between $f^2 = .006$ and $f^2 = .082$ (Buehler et al., 1997; Yap et al., 2014). The overall study sample was comprised of 110 (42.3%) girls and 150 (57.7%) boys with a mean age of 12.89 years old (*SD* = 2.28). The majority of the adolescents were middle to upper SES and about two-thirds of

the sample identified as White (59.2%) and one-third (29.2%) as Black. See Table 1.1 for additional demographic information.

Preliminary Analyses

Preliminary analyses were carried out to obtain general descriptive information and observe how variables that were included in primary analyses relate to one another. The variables included in bivariate correlation analyses were: adolescent self-reported internalizing problems, parent-reported adolescent internalizing problems, friendship quality, interparental conflict, parent-reported negative parenting, adolescent-reported negative parenting, the five subscales of friendship quality (companionship, conflict, help, security and closeness), age, gender and SES. Additional analyses of variance were conducted to detect group differences in internalizing problems, interparental conflict and friendship quality by age, SES, and gender. Race/ethnicity was also tested as a further step though it was not intended to be used as a variable in the study as the literature points to SES as being a more encompassing measure of health-related disparities (APA, 2016; Bell et al., 2020).

The general descriptive information can be found in Table 3.1. Descriptive scores of the study variables were observed as the following: adolescent-reported internalizing problems based on the RCADS, min 0, max 123, *M* = 23.4, *SD* = 19.27; parent-reported internalizing problems based on the CBCL, min 0, max 37, *M* = 5.99, *SD* = 6.99, interparental conflict scores, min 0, max 13, *M* = 3.06, *SD* = 3, friendship quality, min 0, max 115, *M* = 94.9, *SD* = 12.79. Overall, the scores reflected what would be expected in

a non-clinical sample. Scores for internalizing disorders and interparental conflict were positively skewed.

Bivariate correlations among the study variables revealed that the hypothesized outcome variable, adolescent-reported internalizing problems, was only significantly related with gender, where girls exhibited higher levels of internalizing problems (see Table 3.2). Gender was also significantly correlated with friendship quality. However, friendship quality and interparental conflict were not significantly correlated with internalizing problems, SES, or age. One-way analyses of variance for adolescent-reported internalizing problems revealed significant group differences by gender (F (1, 244) = 4.81, p = .029, CI = .00, .07), where girls indicated experiencing higher levels of internalizing symptoms which aligns with the substantial literature on the higher incidence of internalizing disorder in girls (Costello et al., 2003; Martel, 2013). Contrary to findings in the literature, no group differences were found by age, race/ethnicity, or SES, despite evidence in the literature pointing to a higher incidence of internalizing problems in older adolescents (Costello et al., 2005; Coleman et al., 2007), racial and ethnic minority groups, and low SES groups (see Table 3.3) (Anderson & Meyers, 2010; Bell et al., 2020). Analyses of variance of group differences in interparental conflict did not indicate the presence of significant group differences across any of the demographics (see Table 3.4). Consistent with the literature, gender differences were also observed in levels of friendship quality (F (1, 245) = 20.30, p < .001, CI = .03, .15), with girls specifying higher friendship quality compared to boys (Demir, 2008). No other significant group differences were observed (see Table 3.5).

Primary Analyses

Regression a priori assumptions were tested including the presence of a linear relation between interparental conflict and adolescent internalizing symptoms, homoscedasticity, independence, and normal distribution of residual errors. Due to the non-clinical nature of the sample, the data was observed to be positively skewed. Based on recommendations in the literature to address positive skew (Feng et al., 2014), a logarithmic transformation was carried out but failed to sufficiently correct for the skew observed in the data. Consequently, non-transformed data were used in the analyses in order to preserve the simplicity of interpretation of the results; statistical literature also suggests that regression models are robust to violations of normality in large samples (Schmidt & Finan, 2018). Given that mixed findings point to the potential confounding effects of SES, it was controlled for in the regression analyses. Multiple regression analysis was first conducted to test the primary hypotheses investigating the potential moderating roles of gender and friendship quality on the effects of interparental conflict in predicting adolescent-reported internalizing problems. Data analyses were conducted using the International Business Machines Corporation Statistical Package for the Social Sciences (SPSS) Version 27.0 (IBM Corp, 2020) and the PROCESS Version 3 macro by Andrew F. Hayes (2017).

Although friendship quality was not significantly associated with either adolescent-reported internalizing problems or interparental conflict, its exploration as a moderator is still applicable as variables have the capacity to act as moderators despite a lack of association with the independent variable so long as they precede the

dependent variable. Furthermore, moderation effects can also be found in the absence of an overall effect between the dependent and independent variable when the effect is only significant for a small group of individuals (Kraemer et al., 2002; Wu & Zumbo, 2008). Hence, a three-way multiple regression analysis testing the effects of friendship quality and gender as moderating variables of the relation between interparental conflict and adolescent internalizing problems, while controlling for SES, was tested. While the overall model was found to have statistical relevance (F (6, 240) = 2.29, p = .036), it only accounted for 5.4% of the variance in adolescent-reported internalizing problems. No moderation effects were found (see Table 3.6) and gender was the only variable observed to predict adolescent-reported internalizing problems (B = -.34, t (240) = -2.59, p = .0102, CI = -11.64, -1.58). Given the absence of significant interaction effects, subsequent analyses independently exploring main effects were conducted and revealed that, after controlling for SES, interparental conflict and friendship quality did not predict adolescent-reported internalizing problems.

Exploratory Analyses

Exploratory analyses were next conducted to 1) deduce if the data corroborates evidence presented in the literature highlighting the use of adolescent reports of internalizing problems as opposed to parent reports by repeating the analysis using parent reports as the outcome measure, 2) include negative parenting as an additional covariate to account for its theorized contribution to adolescent internalizing problems as delineated by path A3 in the model presented by Harold and Sellers (2018), and 3)

take a closer look at the differential impact of aspects of friendship quality that account for its effects by replicating the analyses using each of the five subscales independently.

Exploring Effects of Interparental Conflict Using Parent-Reported Adolescent Internalizing Problems

In addition to exploring the relations among the main study variables, preliminary analyses also revealed that, contrary to expectation, parent-reported adolescent internalizing problems were both statistically and more strongly correlated with interparental conflict (r = .19, p < .01) than adolescent-reported internalizing problems. Another interesting finding was that parent-reported adolescent internalizing problems were significantly related to SES but not gender (see Table 3.2). Therefore, as an exploratory aim of this study, the multiple regression model including gender and friendship quality as moderators of the effect of conflict on parent reports of internalizing problems, controlling for SES, was conducted. The overall model was significant and accounted for 9.9% of the variance (F (6, 239) = 4.39, p < .001) in the outcome. The effects of both gender and friendship quality as moderators of the relation between interparental conflict and parent-reported adolescent internalizing problems were found to be significant (F (1, 239) = 3.07, p = .048). Albeit small, the moderation effect of both gender and friendship quality explained 2.3% of the variance (see Table 3.7) in the outcome, which aligns with the small effect sizes found in the literature examining friendship quality in the context of interparental conflict and adolescent adjustment (Lansford et al., 2003; Wasserstein & La Greca, 1996).

To further elucidate the roles of gender and friendship quality, conditional effects were examined at three levels including the mean and one standard deviation (*SD*) above and below the mean (see Table 3.8). For both girls and boys, the trends were comparable, where, as levels of interparental conflict increased, parent-reported adolescent internalizing problems significantly increased for individuals who reported low friendship quality. This trend only remained significant for girls at mean levels of friendship quality (see Figure 3.1). While the visual representation of the trends does point to a potential buffering effect of high friendship quality, this effect was not found to be significant. Interestingly, the graph indicates that high friendship quality may have a stronger mitigating effect for boys than for girls at mean and high levels of interparental conflict. Further exploration of this observation in future studies would be beneficial in order to determine whether this was a fortuitous observation, a masked effect due to potential outliers, or lack of power. These findings are consistent with the literature pertaining to the mechanisms of friendship quality which have demonstrated that negative friendship quality exerts a more robust influence on negative wellbeing than positive friendship provides protection against stressors (Baumeister et al., 2001; Larsen et al., 2007).

Exploring Effects of Interparental Conflict Controlling for Negative Parenting

Given that negative parenting was presented as another potential factor impacting the association between interparental conflict and youth psychopathology in the model described by Harold and Sellers (2018; see Figure 1.1), the multiple regression model investigating the moderating roles of gender and friendship on the

relation between interparental conflict and adolescent internalizing problems controlling for SES was carried out again, while also controlling for negative parenting. Not surprisingly, evidence from preliminary bivariate correlations suggested the presence of a noteworthy relation between the reporting source (i.e., parent vs. adolescent) and how the variables related to one another. For example, internalizing problems reported by parents correlated significantly with parent-reported negative parenting. Hence, the first model was carried out using adolescent-reported internalizing problems and controlling for adolescent-reported negative parenting (see Table 3.9), while the second model was carried out with parent-reported problems controlling for parent-reported negative parenting (see Table 3.11). The first model provided an increase from the original model in variance explained in the outcome from R^2 = .0542 to R^2 = .1002. In addition to the main effect of gender outlined in the previous main analyses, the interaction between interparental conflict and friendship quality was found to be significant (*B* = -.0694, *p* = .0317, CI = -.1327, -.0061). An investigation of conditional effects of conflict only demonstrated a significant relation at 1 *SD* below the mean friendship quality for girls in exhibiting increased internalizing problems as conflict levels increased. However, the relation between conflict and internalizing problems was not significant at the other levels of friendship quality.

The second model, which investigated the moderating roles of friendship quality and gender on the relation between interparental conflict and parent-reported adolescent internalizing problem while controlling for both SES and parent-reported negative parenting, was significant and closely echoed the prior exploratory model in

the above section (F (7, 236) = 4.05, p < .001). The proportion of variance explained was analogous and the change in variance was negligible going from R^2 = .099 to R^2 = .107. Hence, controlling for negative parenting, when using parent-reported adolescent internalizing problems as an outcome measure as opposed to adolescent self-reports, did not appear to elucidate a potential confounding effect. Analogous to the prior exploratory model, this model also outlined significant moderation effects of both gender and friendship quality on the relation between interparental conflict and parent-reported internalizing problems (F (1, 236) = 3.34, p < .037). Conditional effects for both models displayed similar trends where individuals who reported friendship quality levels 1 *SD* above the mean experienced lower levels of internalizing problems as interparental conflict levels increased, while those reporting low levels of friendship quality reported higher levels of internalizing problems (see Figures 3.2 and 3.3). Conditional effects of the second model also indicated that the observed trends were only statistically significant for both boys and girls at low levels of friendship quality (see Tables 3.10 and 3.12). However, at mean levels of friendship quality, the significant effect found for girls in the prior exploratory model was no longer found to be significant.

The above findings provide additional evidence in support of Harold & Sellers' (2018) integrative model, which outlines that accounting for the effects of negative parenting can help elucidate the mechanisms that link interparental conflict to adolescent internalizing problems. The results of the two models also suggest that controlling for negative parenting appears to be even more instrumental when using

adolescent-reported internalizing problems compared to parent-reported internalizing problems.

Exploring Differential Effects of Friendship Quality Subscales

A total of 10 multiple regressions were conducted to test whether specific aspects of friendship should be considered when investigating its protective role in the context of interparental conflict and adolescent internalizing problems. The five subscales of friendship quality, consisting of companionship, conflict, help, security, and closeness, were tested individually in addition to gender, as moderating variables of the relation between interparental conflict and internalizing problems-, and were repeated for both parent and adolescent-reported internalizing problems, while controlling for SES. Out of the five models including the adolescent-reported internalizing problem as the outcome measure, only one reached statistical relevance (see Table 3.13). The model including the conflict friendship quality subscale resulted in two main effects; a main effect for friendship conflict (B = .89, p = .001) and a main effect of gender (B = -5.18, p = .031) in predicting adolescent-reported internalizing problems. In other words, adolescent-reported internalizing problems increased as friendship conflict increased and increased more steeply for girls than boys in the context of interparental conflict, while controlling for SES. Among the five other models using parent reports of adolescent internalizing problems, three models demonstrated overall statistical significance (see Tables 3.14, 3.16 and 3.18). The first model revealed that friend-related help and gender jointly moderated the effects of interparental conflict on parent-reported adolescent internalizing problems (F (2, 241) = 3.24, p = .041). The second

model only showed a significant two-way interaction between friend-related security and interparental conflict (F (2, 241) = 5.68, p = .018). The third model revealed a three way-interaction between friend-related closeness, gender and interparental conflict (F (2, 239) = 3.01, p = .050).

Trends observed in conditional effects showed similar trends for the help, security and closeness subscales as the trends observed using the entire friendship quality scale (see Figures 3.4, 3.5, and 3.6). The conditional effects for friend-related help were significant for both boys and girls reporting low levels of help, and only for girls with mean levels of help (see Table 3.15). While friend-related security was not found to significantly moderate the effects of interparental conflict on gender, adolescents who endorsed low or mean levels of friend-related security were observed to exhibit significantly higher levels of internalizing problems as levels of interparental conflict rose (see Table 3.17). The effects of friend-related closeness were observed to be significant for both boys and girls at low levels of friend-related closeness as interparental conflict increased and only for girls at mean levels of closeness (see Table 3.19).

Table 3.1

Descriptive Statistics

Variable	*n*	*%*	Min	Max	*M*	*SD*
Age	260		10	19	12.89	2.28
Gender	260		0	1	0.58	0.50
Girls	110	42				
Boys	150	58				
Race	242		1	7	4.70	1.90
American Indian or Alaska Native	2	1				
Black or African American	76	29				
Native Hawaiian or Other Pacific Islander	0	0				
Asian	0	0				
Hispanic or Latino	5	2				
White	154	59				
Other	5	2				
SES	259		1	10	7.44	2.36
< $5,000	9	3				
$5,000 - $9,999	5	2				
$10,000 - $14,999	9	3				
$15,000 - $19,999	7	3				
$20,000 - $24,999	18	7				
$25,000 - $34,999	24	9				
$35,000 - $49,999	33	13				
$50,000 - $74,999	56	22				
$75,000 - $99,999	40	15				
> $100,000	58	22				
Adolescent-reported Internalizing Problems (RCADS)	249		0	123	23.40	19.27
Parent-reported Adolescent Internalizing Problems (CBCL)	259		0	37	5.99	6.99
Interparental Conflict (PPC)	260		0	13	3.06	3.00
Friendship Quality (FQS)	247		53	115	94.90	12.79
Parent-reported Negative Parenting (APQ-PGR)	258		19	57	32.69	7.07
Adolescent-reported Negative Parenting (APQ-CGR)	245		19	85	38.08	10.11
Companionship[a]	249		7	20	15.59	3.08
Conflict[a]	249		4	20	9.67	4.46
Help[a]	249		8	25	21.76	3.80
Security[a]	249		10	25	21.14	3.72
Closeness[a]	247		7	25	21.98	3.55

[a] Friendship Quality Subscales.

APQ-CGR = Alabama Parenting Questionnaire-Child Global Report, APQ-PGR = Alabama Parenting Questionnaire-Parent Global Report, CBCL = Child Behavioral Checklist, FQS = Friendship Quality Scale, PPC-P = Parent Problem Checklist-Problem Subscale, RCADS = Revised Children's Anxiety and Depression Scale.

Table 3.2

Bivariate Correlations of Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Adolescent-reported Internalizing Problems (RCADS)	—													
2. Parent-reported Adolescent Internalizing Problems (CBCL)	.26**	—												
3. Friendship Quality (FQS)	-.08	.14*	—											
4. Interparental Conflict (PPC-P)	.11	.19**	-.05	—										
5. Parent-reported Negative Parenting (APQ-PGR)	.02	.18**	-.04	.32**	—									
6. Adolescent-reported Negative Parenting (APQ-CGR)	.26**	.09	-.23**	.11	.33**	—								
7. Companionship[a]	-.04	-.05	.63**	-.02	.04	0	—							
8. Conflict[a]	.17**	.04	-.44**	.04	.17**	.34**	0	—						
9. Help[a]	-.05	-.09	.78**	-.05	.05	.09	.51**	.03	—					
10. Security[a]	-.06	-.18**	.85**	-.03	-.02	.15**	.40**	-.22**	.69**	—				
11. Closeness[a]	-.08	-.11*	.79**	-.01	-.02	-.14*	.40**	-.13*	.60**	.65**	—			
12. Age	-.01	-.03	.01	-.05	.26**	.21**	0	.26**	.25**	.11*	-.01	—		
13. Gender[b]	-.13*	-.01	-.27**	-.02	-.03	.08	-.16**	.03	-.21**	-.26**	-.29**	-.07	—	
14. SES	-.03	-.14**	.02	-.03	-.21**	-.19**	-.05	-.11*	-.07	.02	.02	.06	0	—

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

[a] Friendship Quality Subscale.

[b] 0 = girls, 1 = boys.

APQ-CGR = Alabama Parenting Questionnaire Child Global Report, APQ-PGR = Alabama Parenting Questionnaire-Parent Global Report, CBCL = Child Behavioral Checklist, FQS = Friendship Quality Scale, PPC-P = Parent Problem Checklist-Problem Subscale, RCADS = Revised Children's Anxiety and Depression Scale.

Table 3.3

One-Way Analysis of Variance of Adolescent-reported Internalizing Problems (RCADS) by Study Variables

Variables		Sum of Squares	*df*	Mean Square	*F*	*p*	*partial* η^2	*partial* η^2 *90% CI* [LL, UL]
Race	Between Groups	457.81	4	114.45	0.32	0.862	0.00	[.00, .01]
	Within Groups	112235.64	318	352.94				
Gender	Between Groups	2082.84	1	2082.84	6.04	0.014	0.17	[.00, .05]
	Within Groups	118884.30	345	344.59				
Age	Between Groups	2904.75	9	322.75	0.92	0.507	0.02	[.00, .04]
	Within Groups	118062.39	337	350.33				
SES	Between Groups	2218.88	9	246.54	0.70	0.713	0.02	[.00, .03]
	Within Groups	118720.68	335	354.39				

Table 3.4

One-Way Analysis of Variance of Interparental Conflict by Study Variables

Variables		Sum of Squares	*df*	Mean Square	*F*	*p*	*partial* η^2	*partial* η^2 *90% CI* [LL, UL]
Race	Between Groups	71.47	4	17.87	2.00	0.095	0.33	[.00, .07]
	Within Groups	2118.33	237	8.94				
Gender	Between Groups	0.70	1	0.70	0.08	0.781	0.00	[.00, .02]
	Within Groups	2327.44	258	9.02				
Age	Between Groups	42.49	9	4.72	0.52	0.862	0.02	[.00, .02]
	Within Groups	2285.65	250	9.14				
SES	Between Groups	75.45	9	8.38	0.93	0.499	0.03	[.00, .05]
	Within Groups	2243.30	249	9.01				

Table 3.5

One-Way Analysis of Variance of Friendship Quality by Study Variables

Variables		Sum of Squares	*df*	Mean Square	*F*	*p*	*partial* η^2	*partial* η^2 *90% CI* [LL, UL]
Race	Between Groups	492.60	4	123.15	0.77	0.548	0.10	[.00, .03]
	Within Groups	50994.43	317	160.87				
Gender	Between Groups	3802.69	1	3802.69	25.84	0.000	0.07	[.03, .13]
	Within Groups	50473.35	343	147.15				
Age	Between Groups	824.06	9	91.56	0.57	0.818	0.02	[.00, .02]
	Within Groups	53451.99	335	159.56				
SES	Between Groups	1462.50	9	162.50	1.03	0.418	0.03	[.00, .04]
	Within Groups	52667.08	333	158.16				

Table 3.6

Moderation Analysis of Friendship Quality and Gender on the Relation Between Interparental Conflict and Adolescent-reported Internalizing Problems (RCADS) Controlling for SES

Predictor	R^2	ΔR^2	F	B	SE	t	p	95% CI	
								LL	*UL*
Overall Model	.054		2.29				.036		
(Intercept)				27.49	4.35	6.31	.000	18.91	36.06
Interparental Conflict				0.94	0.67	1.40	.162	-0.38	2.27
Friendship Quality				-0.16	0.10	-1.66	.099	-0.36	0.03
IC x FQ		.012	3.14	-0.06	0.03	-1.77	.078	-0.12	0.01
Gender[a]				-6.61	2.55	-2.59	.010	-11.64	-1.58
IC x Gender[a]		.002	0.38	-0.55	0.88	-0.62	.536	-2.28	1.19
SES[b]				-0.04	0.53	-0.08	.937	-1.08	1.00
IC x FQ x Gender[a]		.012	1.58				.209		

[a] 0 = girls, 1 = boys.

[b] Covariate.

FQ = Friendship Quality, IC = Interparental Conflict, RCADS = Revised Children's Anxiety and Depression Scale.

Table 3.7

Moderation Analysis of Friendship Quality and Gender on the Relation Between Interparental Conflict and Parent-reported Adolescent Internalizing Problems (CBCL)

Predictor	R^2	ΔR^2	*F*	*B*	*SE*	*t*	*p*	95% CI	
								LL	*UL*
Overall Model	.099		4.39				.000		
(Intercept)				8.27	1.50	5.49	.000	5.30	11.23
Interparental Conflict				0.55	0.23	2.37	.019	0.09	1.00
Friendship Quality				-0.09	0.03	-2.75	.006	-0.16	-0.03
IC x FQ		.023	6.09	-0.03	0.01	-2.47	.014	-0.05	-0.01
Gender[a]				-0.51	0.88	-0.58	.562	-2.25	1.23
IC x Gender[a]		.003	0.90	-0.29	0.30	-0.95	.345	-0.88	0.31
SES[b]				-0.29	0.18	-1.58	.115	-0.65	0.07
IC x FQ x Gender[a]		.023	3.07				.048		

[a] 0 = girls, 1 = boys.

[b] Covariate.

CBCL = Child Behavioral Checklist, FQ = Friendship Quality, IC = Interparental Conflict.

Table 3.8

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Friendship Quality	Gender	Effect	*SE*	*p*	95% CI	
					LL	*UL*
-12.72	Girls	0.90	0.30	.003	0.32	1.49
	Boys	0.62	0.21	.004	0.20	1.03
0.00	Girls	0.55	0.23	.019	0.09	1.00
	Boys	0.26	0.19	.161	-0.10	0.63
12.72	Girls	0.19	0.24	.440	-0.29	0.67
	Boys	-0.10	0.26	.705	-0.60	0.41

CBCL = Child Behavioral Checklist.

Table 3.9

Moderation Analysis of Friendship Quality and Gender on the Relation Between Interparental Conflict and Adolescent-reported Internalizing Problems (RCADS) Controlling for Adolescent-reported Negative Parenting (APQ-CGR) and SES

Predictor	R^2	ΔR^2	*F*	*B*	*SE*	*t*	*p*	95% CI	
								LL	*UL*
Overall Model	.100		3.74				.001		
(Intercept)				7.13	7.27	0.98	.328	-7.19	21.45
Interparental Conflict				0.86	0.66	1.31	.192	-0.43	2.16
Friendship Quality				-0.11	0.10	-1.08	.280	-0.30	0.09
IC x FQ		.018	4.67	-0.07	0.03	-2.16	.032	-0.13	-0.01
Gender[a]				-6.84	2.50	-2.74	.007	-11.76	-1.93
IC x Gender[a]		.002	0.54	-0.63	0.86	-0.74	.463	-2.32	1.06
SES[b]				0.48	0.54	0.90	.371	-0.58	1.54
Negative Parenting[b]				0.43	0.13	3.42	.001	0.18	0.68
IC x FQ x Gender[a]		.018	2.34				.098		

[a] 0 = girls, 1 = boys.

[b] Covariate.

APQ-CGR = Alabama Parenting Questionnaire-Child Global Report, FQ = Friendship Quality, IC = Interparental Conflict, RCADS = Revised Children's Anxiety and Depression Scale.

Table 3.10

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean on Adolescent-reported Internalizing Problems (RCADS) Controlling for Adolescent-reported Negative Parenting (APQ-CGR) and SES

Friendship Quality	Gender	Effect	*SE*	*p*	95% CI	
					LL	*UL*
-12.86	Girls	1.76	0.85	.040	0.08	3.43
	Boys	1.13	0.60	.061	-0.05	2.31
0.00	Girls	0.86	0.66	.192	-0.43	2.16
	Boys	0.23	0.52	.657	-0.80	1.26
12.72	Girls	-0.03	0.70	.964	-1.40	1.34
	Boys	-0.66	0.73	.364	-2.09	0.77

APQ-CGR = Alabama Parenting Questionnaire-Child Global Report, RCADS = Revised Children's Anxiety and Depression Scale.

Table 3.11

Moderation Analysis of Friendship Quality and Gender on the Relation Between Interparental Conflict and Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for Parent-reported Negative Parenting (APQ-PGR) and SES

Predictor	R^2	ΔR^2	*F*	*B*	*SE*	*t*	*p*	95% CI	
								LL	*UL*
Overall Model	.107		4.05				.000		
(Intercept)				4.32	2.99	1.45	.150	-1.57	10.21
Interparental Conflict				0.46	0.24	1.93	.055	-0.09	0.93
Friendship Quality				-0.09	0.03	-2.73	.007	-0.16	-0.03
IC x FQ		.025	6.67	-0.03	0.01	-2.58	.010	-0.05	-0.01
Gender[a]				-0.53	0.89	-0.60	.547	-2.28	1.21
IC x Gender[a]		.003	0.76	-0.26	0.30	-0.87	.386	-0.86	0.33
SES[b]				-0.20	0.19	-1.04	.301	-0.57	0.18
Negative Parenting[b]				0.1	0.06	1.54	0.125	-0.03	0.23
IC x FQ x Gender[a]		.025	3.34				.037		

[a] 0 = girls, 1 = boys.

[b] Covariate.

APQ-PGR = Alabama Parenting Questionnaire-Parent Global Report, CBCL = Child Behavioral Checklist, FQ = Friendship Quality, IC = Interparental Conflict.

Table 3.12

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Friendship Quality on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for Parent-reported Negative Parenting (APQ-PGR) and SES

Friendship Quality	Gender	Effect	*SE*	*p*	95% CI	
					LL	*UL*
-12.72	Girls	0.83	0.30	.006	0.24	1.43
	Boys	0.57	0.22	.009	0.15	0.99
0.00	Girls	0.46	0.24	.055	-0.01	0.93
	Boys	0.19	0.19	.310	-0.18	0.57
12.72	Girls	0.06	0.25	.742	-0.41	0.58
	Boys	-0.18	0.26	.492	-0.70	0.34

APQ-PGR = Alabama Parenting Questionnaire-Parent Global Report, CBCL = Child Behavioral Checklist.

Table 3.13

Moderation Analysis of Conflict and Gender on the Relation Between Interparental Conflict and Adolescent-reported Internalizing Problems (RCADS) Controlling for SES

Predictor	R^2	ΔR^2	*F*	*B*	*SE*	*t*	*p*	95% CI	
								LL	*UL*
Overall Model	.084		3.71				.001		
(Intercept)				24.89	4.34	5.74	.000	5.54	11.57
Interparental Conflict				0.61	0.64	0.95	.342	0.11	1.01
Conflict				0.89	0.27	3.28	.001	-0.46	0.00
IC x Conflict		.009	2.43	0.13	0.08	1.56	.121	-0.18	-0.02
Gender[a]				-5.19	2.40	-2.16	.031	-1.96	1.48
IC x Gender		.000	0	0.05	0.83	0.06	.951	-0.96	0.25
SES[b]				0.19	0.52	0.37	.713	-0.71	0.01
IC x Conflict x Gender		.009	1.22				.297		

[a] 0 = girls, 1 = boys.

[b] Covariate.

IC = Interparental Conflict, RCADS = Revised Children's Anxiety and Depression Scale.

Table 3.14

Moderation Analysis of Help and Gender on the Relation Between Interparental Conflict and Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Predictor	R^2	ΔR^2	F	B	SE	t	p	95% CI	
								LL	*UL*
Overall Model	.085		3.73				.002		
(Intercept)				8.55	1.53	5.60	.000	5.54	11.57
Interparental Conflict				0.56	0.23	2.43	.016	0.11	1.01
Help				-0.23	0.12	-1.99	.048	-0.46	0.00
IC x Companionship		.024	6.37	-0.10	0.04	-2.52	.012	-0.18	-0.02
Gender[a]				-0.24	0.87	-0.28	.782	-1.96	1.48
IC x Gender[a]		.005	1.33	-0.36	0.31	-1.15	.249	-0.96	0.25
SES[b]				-0.35	0.18	-1.92	.057	-0.71	0.01
IC x Help x Gender[a]		.025	3.24				.041		

[a] 0 = girls, 1 = boys.

[b] Covariate.

CBCL = Child Behavioral Checklist, IC = Interparental Conflict.

Table 3.15

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Help on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Help	Gender	Effect	*SE*	*p*	95% CI	
					LL	*UL*
-3.72	Girls	0.93	0.30	.002	0.34	1.51
	Boys	0.57	0.20	.005	0.17	0.97
0.00	Girls	0.56	0.23	.016	0.11	1.01
	Boys	0.20	0.19	.284	-0.17	0.58
3.19	Girls	0.24	0.24	.310	-0.23	0.71
	Boys	-0.11	0.26	.665	-0.62	0.39

CBCL = Child Behavioral Checklist.

Table 3.16

Moderation Analysis of Security and Gender on the Relation Between Interparental Conflict and Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Predictor	R^2	ΔR^2	F	B	SE	t	p	95% CI	
								LL	*UL*
Overall Model	.118		5.37				.000		
(Intercept)				8.76	1.49	5.89	.000	5.83	11.68
Interparental Conflict				0.56	0.23	2.46	.015	0.11	1.01
Security				-0.45	0.12	-3.83	.000	-0.68	-0.22
IC x Security		.021	5.68	-0.09	0.04	-2.38	.018	-0.17	-0.02
Gender[a]				-0.87	0.88	-0.98	.326	-2.60	0.87
IC x Gender[a]		.004	1.045	-0.31	0.30	-1.02	.308	-0.91	0.29
SES[b]				-0.32	0.18	-1.82	.071	-0.67	0.03
IC x Security x Gender[a]		.021	2.87				.059		

[a] 0 = girls, 1 = boys.

[b] Covariate.

CBCL = Child Behavioral Checklist, IC = Interparental Conflict.

Table 3.17

Conditional Effects of Interparental Conflict at 1 Standard Deviation Above and Below the Mean Security on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Security	Effect	*SE*	*p*	95% CI	
				LL	*UL*
-3.72	0.67	0.19	.001	0.29	1.04
0.00	0.38	0.14	.007	0.10	0.65
3.72	0.09	0.20	.657	-2.98	0.47

Table 3.18

Moderation Analysis of Closeness and Gender on the Relation Between Interparental Conflict and Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Predictor	R^2	ΔR^2	*F*	*B*	*SE*	*t*	*p*	95% CI	
								LL	*UL*
Overall Model	.089		3.89				.001		
(Intercept)				8.31	1.51	5.49	.000	5.33	11.30
Interparental Conflict				0.64	0.24	2.68	.008	0.17	1.11
Closeness				-0.32	0.13	-2.52	.013	-0.56	-0.07
IC x Closeness		.023	5.93	-0.11	0.04	-2.43	.016	-0.20	-0.02
Gender[a]				-0.56	0.90	-0.62	.536	-2.32	1.21
IC x Gender[a]		.006	1.49	-0.39	0.32	-1.22	.224	-1.01	0.24
SES[b]				-0.28	0.18	-1.56	.120	-0.64	0.07
IC x Closeness x Gender[a]		.023	3.01				.050		

[a] 0 = girls, 1 = boys.

[b] Covariate.

CBCL = Child Behavioral Checklist, IC = Interparental Conflict.

Table 3.19

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Closeness on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

Closeness	Gender	Effect	*SE*	*p*	95% CI	
					LL	*UL*
-3.53	Girls	1.02	0.33	.002	0.38	1.67
	Boys	0.64	0.21	.003	0.22	1.06
0.00	Girls	0.64	0.24	.008	0.17	1.11
	Boys	0.25	0.19	.176	-0.11	0.63
3.00	Girls	0.32	0.23	.176	-0.14	0.78
	Boys	-0.07	0.26	.786	-0.57	0.43

CBCL = Child Behavioral Checklist.

z

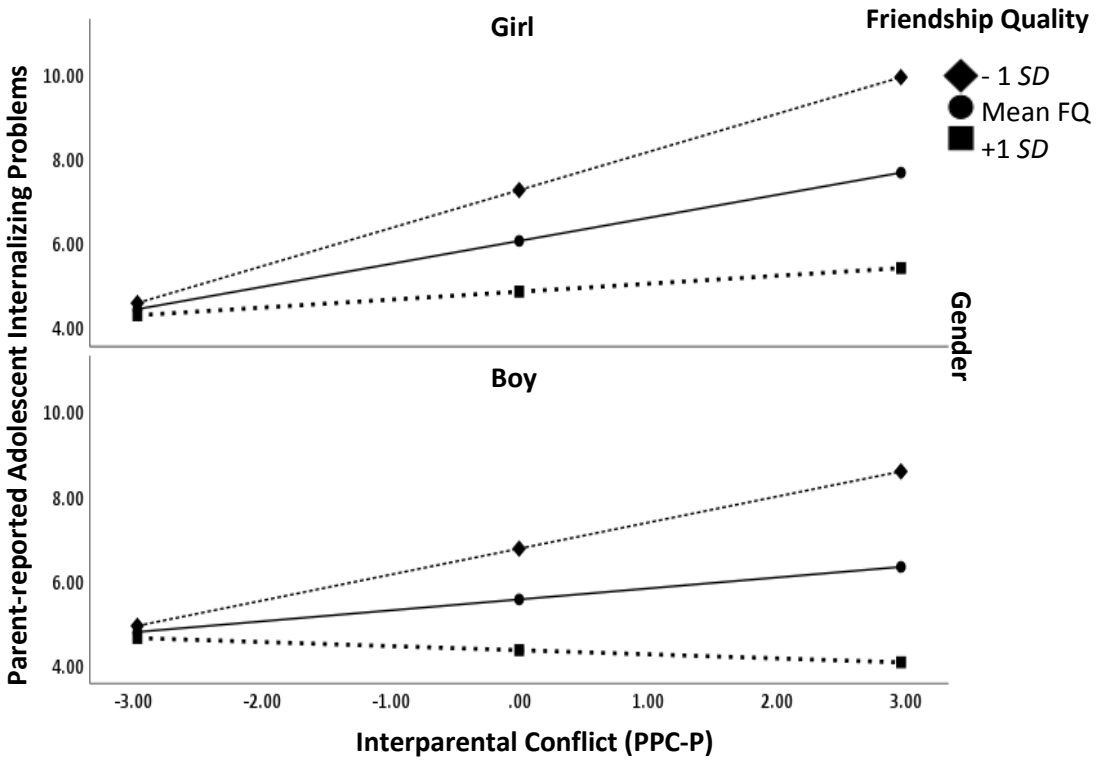

Figure 3.1

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Friendship Quality on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

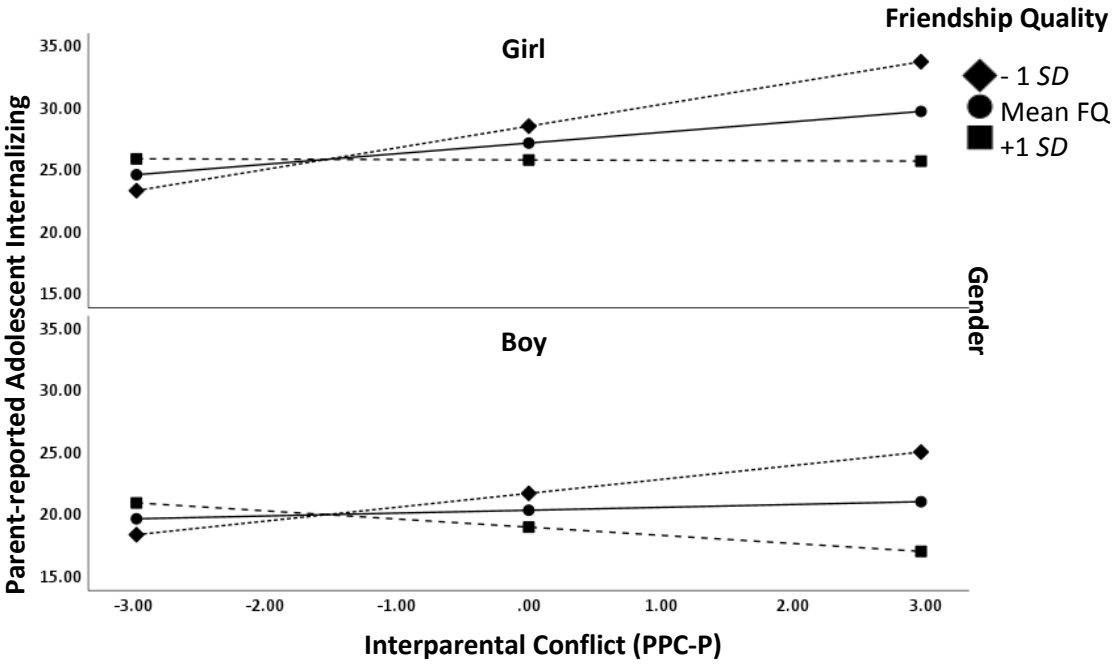

Figure 3.2

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Friendship Quality Adolescent-reported Internalizing Problems (RCADS) Controlling for Adolescent-reported Negative Parenting (APQ-CGR) and SES

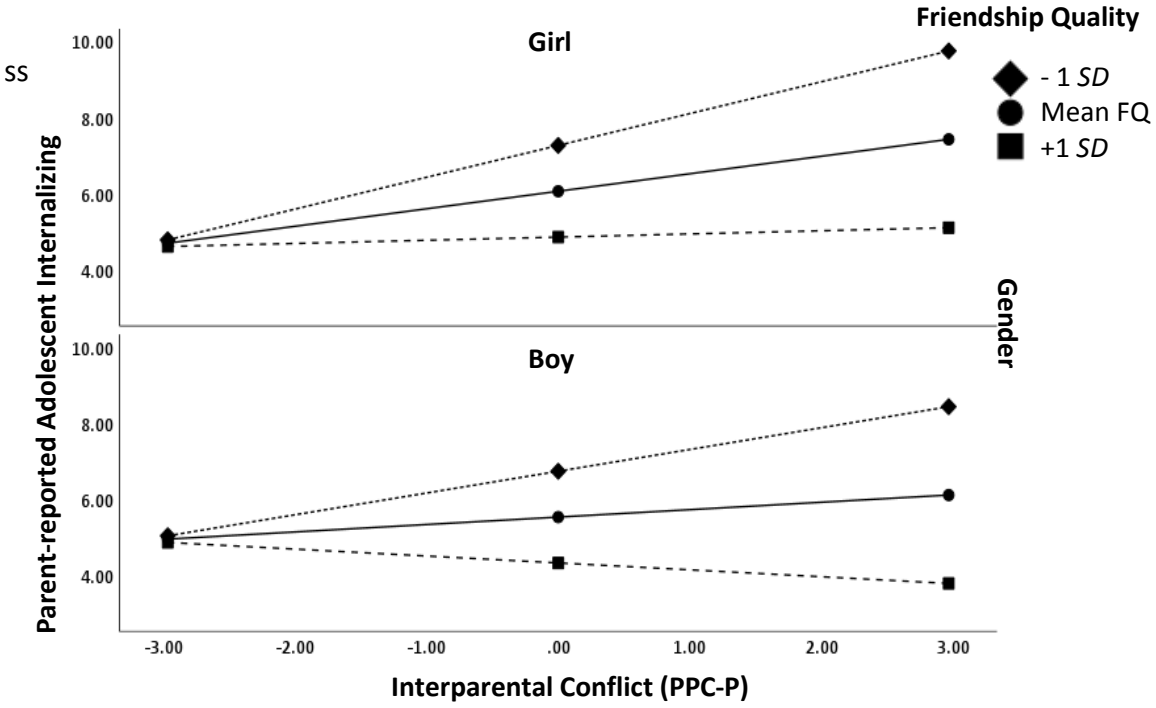

Figure 3.3

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Friendship Quality on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for Parent-reported Negative Parenting (APQ-PGR) and SES

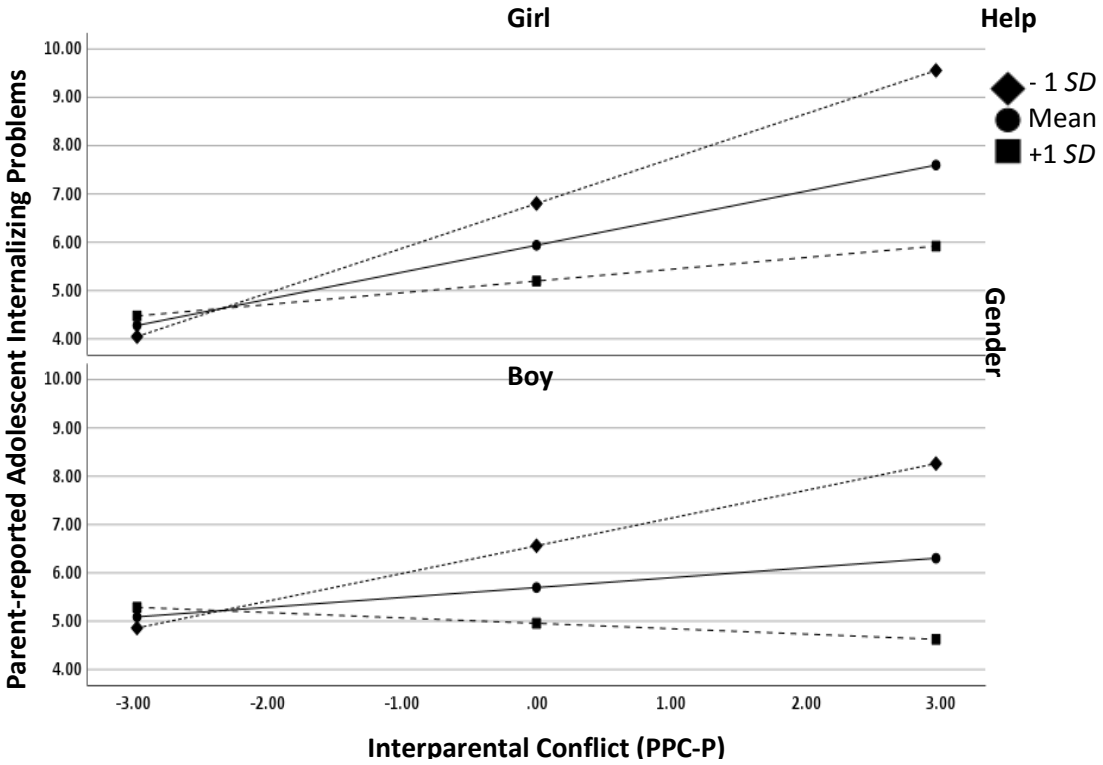

Figure 3.4

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Help on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

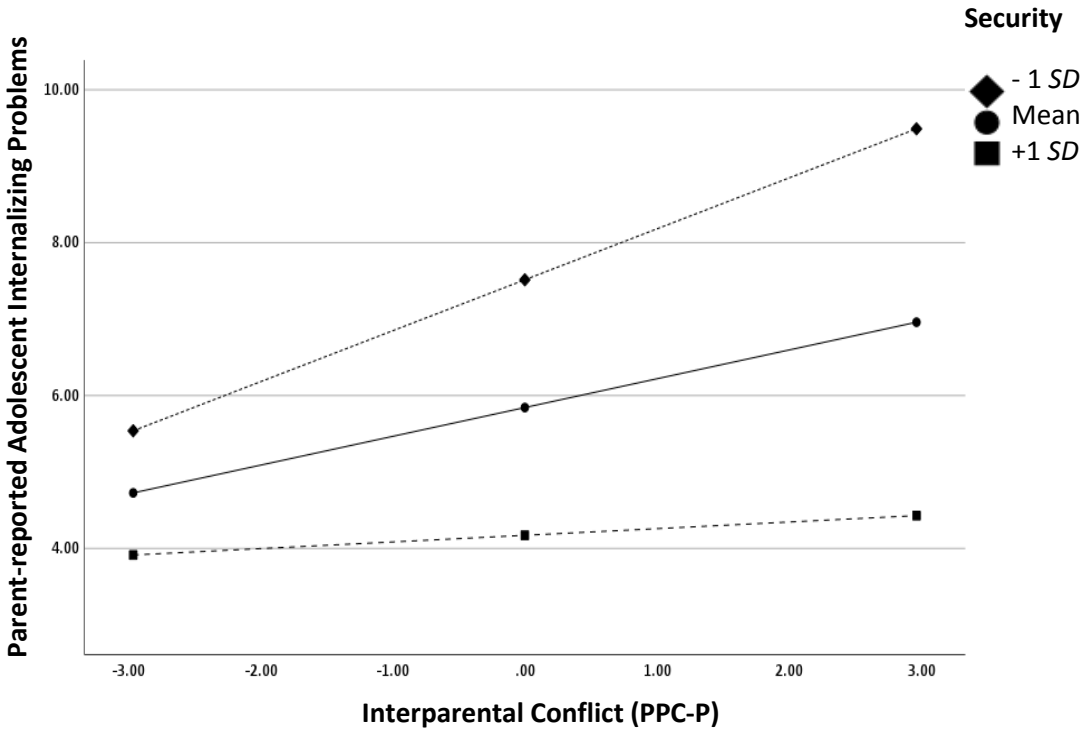

Figure 3.5

Conditional Effects of Interparental Conflict at 1 Standard Deviation Above and Below the Mean Security on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for Gender and SES

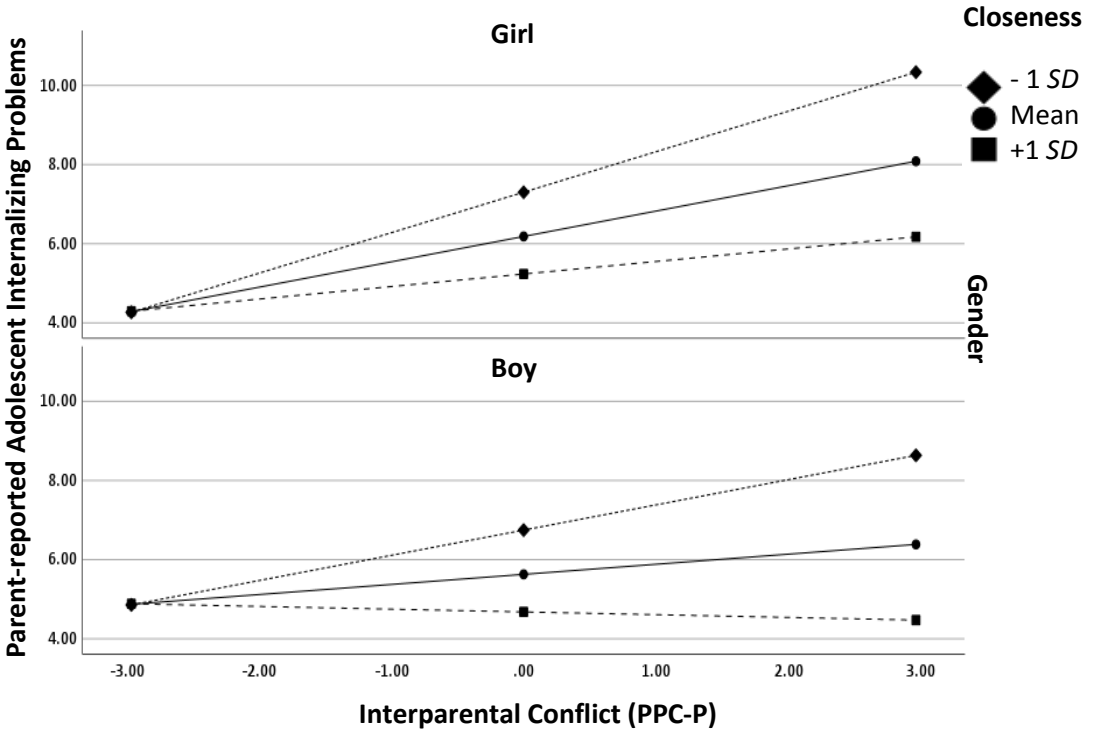

Figure 3.6

Conditional Effects of Interparental Conflict for Boys and Girls at 1 Standard Deviation Above and Below the Mean Closeness on Parent-reported Adolescent Internalizing Problems (CBCL) Controlling for SES

CHAPTER 4

Discussion

The first aim of this study was to corroborate previous findings in the literature that have demonstrated a significant relation between exposure to interparental conflict and internalizing problems in adolescent populations. Derived from research on the protective effects of friendship quality on the mental health of adolescents in the context of interparental conflict, the second aim was to investigate the extent to which friendship quality moderated the effects of interparental conflict on adolescent internalizing problems. While prior empirical works have outlined gender differences in the incidence of internalizing problems, susceptibility to stressors, and perceptions of friendship quality in adolescents, no studies were found to have investigated the joint moderation of both gender and friendship quality on adolescent internalizing problems in the presence of interparental conflict. Hence, the third and fourth aims were to also explore the moderation of gender both independently and in conjunction with friendship quality on the effects of interparental conflict on adolescent internalizing problems. In light of findings that have pointed to discrepancies between parent reports and adolescent self-reports of internalizing problems, the fifth aim was to explore whether findings using parent reports would align with results obtained using adolescent self-reports. As an effort to mitigate the variance accounted for by another confounding effect suggested in Harold and Sellers' integrated model of interparental

conflict (2018), the sixth aim was to re-examine the first three aims by also controlling for the variance potentially explained by negative parenting (see path C1 in Figure 1.1). The seventh and final aim was to inspect which particular features of friendship quality, measured by individual subscales, contributed to the moderating effects of friendship on the relation between interparental conflict and adolescent internalizing problems. The results from the performed analyses will be discussed in relation to previous research and subsequent areas needing further study will be suggested. Clinical implications will be proposed with consideration of the strengths and limitations of the current study.

Interparental Conflict as a Predictor of Internalizing Problems in Adolescents

Preliminary analyses did not outline a significant direct relation between interparental conflict and adolescent internalizing problems. Bivariate correlations did not support the first aim of this study and no significant association was observed between interparental conflict and adolescent self-reported internalizing problems as measured by the Revised Children's Anxiety and Depression Scale (RCADS; Chorpita et al., 2005). Similarly, no main effect was found in an additional regression analysis after controlling for SES. These results are not surprising as previous studies have failed to consistently find direct effects between interparental conflict and adolescent internalizing problems. In a meta-analysis, Buehler et al. (1997) found that 66% of included studies did not find direct effects between conflict and youth problem behaviors. They also noted that significant direct effects detected were of small to medium size depending on the type of conflict measured. Considerable variability exists

in previous research investigating the effects of interparental conflict which renders it difficult to identify which factors tend to influence results accordingly. In addition, there is a dearth of recent studies on this subject which further contributes to challenges in drawing clear conclusions about direct effects (Van Dijk et al., 2020).

Previous reviews and meta-analyses have highlighted substantial differences in the conceptualization and measurement of interparental conflict ranging from the type of conflict such as violent overt conflict versus non-violent covert conflict (Buehler et al., 1997; Holt et al., 2008), type of measure administered, and informant about the levels of conflict such as using one parent, both parents and/or the child and how scores were utilized as separate, combined, averaged or used as a latent variable (Morbech, 2017). Samples used in studies have also been of different ages where some studies have focused on specific age groups while others included a wide range of ages (Rhoades, 2008).

The lack of significant association between interparental conflict and adolescent internalizing problems in the current study could have been due to the measurement of conflict using the Parent Problems Checklist (PPC; Dadds & Powell, 1991), which may not have captured all aspects of conflict. In parallel, using a different informant for the outcome measure could also have impacted the results. Internalizing problems were assessed using an adolescent self-report measure, The Revised Children's Anxiety and Depression Scale (RCADS; Chorpita et al., 2005). Using data from different informants for the independent and dependent variables could have influenced outcomes as parents may identify and perceive different levels and/or types of conflict than

adolescents. Similarly, parents may not conceptualize adolescent internalizing experiences in the same way. Studies have shown discrepancies between parents and adolescents as informants reporting on the same construct (De Los Reyes et al., 2013; Seiffge-Krenke & Kollmar, 1998). Finally, the internal consistency of the RCADS was borderline acceptable at α = .68, much lower than that of the Child Behavioral Checklist (CBCL; Achenbach, 2001), which was .89, considered as excellent. This could explain the effects uncovered in the exploratory analyses based on the CBCL along with the PPC, where both measures had high internal consistency and were completed by the same informant, the parent.

Moreover, sample size limitations due to this sample being extracted from a larger study where variables not completed by all participants could not be computed may have impacted the power to detect effects. Families with more significant levels of conflict or adolescent internalizing problems may have been more inclined to opt out of the study. Nevertheless, carrying out moderation analyses was still feasible given that previous research had identified the presence of indirect effects. Furthermore, conducting moderation analyses in the absence of main effects between the dependent and independent variables is supported in the literature (Kraemer et al., 2002; Wu & Zumbo, 2008).

Gender and Friendship Quality as Moderators of The Effects of Interparental Conflict on Adolescent-Reported Internalizing Problems

Contrary to expectations, preliminary analyses also failed to detect significant associations between adolescent-reported friendship quality and adolescent self-

reported internalizing problems. However, results pertaining to gender did align with the literature. Significant coefficients indicated that female gender positively correlated with internalizing problems and friendship quality. In testing the second, third, and fourth aims of this study, a three-way interaction within a stepwise regression model while controlling for SES was used. The model was found to be significant, accounting for a 5.4% variance in predicting adolescent internalizing problems. The interaction effect was not significant, indicating that the data failed to support the main hypothesis; gender and friendship quality did not jointly moderate the effects of interparental conflict on adolescent-reported internalizing problems. Only one main effect was found to be significant, the effect of gender, which corroborates associations highlighted by the preliminary analyses.

While mixed findings have been observed in the literature about the moderating role of gender (Rhoades, 2008), the results of this study contribute evidence in support of its role in partially explaining internalizing problems in adolescent girls. This also aligns with the vast literature on internalizing problems which continues to demonstrate the increased vulnerability observed in adolescent girls to develop internalizing problems (Costello et al., 2003; Van Vorhees et al., 2008). On the other hand, the role of friendship quality as a singular or joint moderator was not found as hypothesized. Similar to gender, mixed findings have also been found pertaining to the role of high friendship quality acting as a buffer or protective factor in the development of internalizing problems. The results of this study align with studies that have failed to

detect protective effects of friendship quality on adolescent internalizing problems in the context of interparental conflict (Larsen et al., 2007; McCauley et al., 2019).

Effects of Interparental Conflict on Adolescent Internalizing Problems Using Parent reports versus Adolescent Self-Reports

In an effort to examine if parent-reported adolescent internalizing problems as an outcome measure would provide support or refute the hypothesis that interparental conflict is associated with adolescent internalizing problems, analyses were replicated using parent reports. Results surprisingly contradicted the null findings observed when using adolescent reports and demonstrated a significant association between interparental conflict and adolescent internalizing problems when the data for both was derived from the same source. This finding provides support for the first aim of this study in confirming a direct relation between interparental conflict and adolescent internalizing problems outlined by previous studies (Bernet et al., 2016; Harold & Sellers, 2018; Krishnakumar & Buehler, 2000). Furthermore, it confers evidence that echoes studies that have shown that using the same informant provides differing results from using independent and dependent variables measured using different informants (De Los Reyes & Kazdin, 2005; Seiffge-Krenke & Kollmar, 1998). The original study from which this sample was extracted did not include a measure of interparental conflict based on adolescent reports. Thus, replicating analyses using adolescent reports of both interparental conflict and adolescent internalizing problems could not be carried out to compare results with the aforementioned findings. In addition, analyses to evaluate differences between mother and father reports of conflict and their son's or daughter's

internalizing problems were not possible as measures were completed by only one parent and the sample size was insufficiently large for subgroup analyses.

Gender and Friendship Quality as Moderators of The Effects of Interparental Conflict on Parent-Reported Internalizing Problems

Using parent reports for both the independent and dependent variables also uncovered moderation effects that were not detected in the primary analyses. Both gender and friendship quality were found to moderate the relations between conflict and adolescent internalizing problems. Subsequent exploration of conditional effects suggested that, at mean levels of friendship quality, adolescent internalizing problems increased as levels of interparental conflict increased. This relation was steeper at lower levels of friendship quality, 1 *SD* below the mean, and sharper for girls than for boys. Interestingly, high levels of friendship quality, 1 *SD* above the mean, appeared to have differing effects for boys and girls. As interparental conflict increased, girls were observed to continue to display increasing levels of internalizing problems, while boys exhibited a slight decrease. In other words, friendship quality appears to have an overall buffering effect in the context of increasing interparental conflict for both genders but appears to confer a stronger protective effect for boys.

While the overall results outlining the protective benefits of friendship quality in the context of interparental conflict support the second hypothesis of this study derived from previous research, the moderating effects of gender were surprising and did not support the third hypothesis. In contrast to several studies highlighting that girls were more likely to be influenced by friendship quality, analyses revealed that in the current

sample, boys appeared to derive stronger benefits from high levels of friendship quality as interparental conflict increased. Although this outcome challenges theoretical and empirical evidence that point to peer relationships as a more salient and impactful variable for girls than boys (Bakalım & Taşdelen-Karçkay, 2016; Hankin et al., 2007), mixed findings do exist in the literature where in some studies, boys were found to benefit more strongly from high friendship quality than girls (Demir, 2008).

This does not necessarily contradict the hypothesis that girls are more vulnerable to interpersonal stressors including low friendship quality and interparental conflict. Perhaps it suggests that for girls, interpersonal stressors such as low friendship quality act as a stronger risk factor and contribute to greater vulnerability to internalizing problems. While, in comparison, high friendship quality is not as potent a protective factor against internalizing symptoms. This unanticipated finding can also be explained by the use of different measures of friendship quality that assess varied aspects of friendship that may not impact boys and girls in the same way.

Effects of Interparental Conflict on Adolescent Internalizing Problems Controlling for Negative Parenting

Determining the relation and directionality of the effects of interparental conflict on parenting practices are challenging to measure as previous research has outlined a high correlation between the two. However, given that the integrative model points to distinct effects of each, exploratory analyses were conducted to examine if controlling for negative parenting would help explain additional variance in the previous models. Given that the above exploratory analyses revealed that the source of the collected data

used in the models influenced the results observed, informant was also kept constant in running these additional analyses. Two models were tested controlling for negative parenting.

The first model utilized the same variables as the original model using adolescent-reported internalizing problems as an outcome measure and interparental conflict, gender, and friendship quality as predictors, controlling for SES and in addition, adolescent-reported negative parenting. Compared to the original model, this model accounted for almost double the explained variance, confirmed a main effect of gender, and revealed a moderation effect that was not detected in the primary analyses between interparental conflict and friendship quality. Conditional effects were found for girls at 1 *SD* below mean levels of friendship quality.

The second model utilized the same variables used in the exploratory model using parent-reported internalizing problems, interparental conflict, gender, and friendships quality, controlling for SES and parent-reported negative parenting. Surprisingly, controlling for negative parenting in this model accounted for negligible additional variance. One notable difference between this model and the other one was that conditional effects were no longer significant for girls reporting mean levels of friendships quality with increasing interparental conflict.

While the above results offer mixed evidence about the influential role of negative parenting on adolescent internalizing problems in the context of interparental conflict, they highlight two important factors to be considered in future studies. The first is that the informant reporting on negative parenting is a variable that needs to be

considered. The second is that additional research is needed to better understand the relations among negative parenting, interparental conflict and adolescent internalizing problems. Longitudinal studies on larger samples could help elucidate these effects by considering their direction and parsing out the effects of parenting from those of interparental conflict.

Moderating Effect of Individual Subscales of The Friendship Quality Scale on The Effects of Interparental Conflict on Adolescent Internalizing Problems

Derived from research on the different facets of friendship, the seventh and last aim of this study was to examine if specific aspects of friendship provided differing effects on adolescent internalizing problems in the context of parental conflict. Some studies have outlined that conflict or low friendship quality is a more influential detrimental factor contributing to adolescent adjustment compared to the protective effects of high friendship quality. Hence, analyses were replicated using the five individual subscales of friendship quality to examine how unique aspects of friendship relate to adolescent internalizing problems. The five subscales consisted of companionship, conflict, help, security, and closeness.

In the five models using adolescent-reported internalizing problems as an outcome measure, conflict was the only subscale that was revealed as a significant variable having a main effect on internalizing problems. This result supports previous studies that point to the disproportionate weight that conflict confers as a risk factor to adolescent mental health as opposed to the strength of protective effects of positive

aspects of friendship in the context of interparental conflict (Larsen et al., 2007; Wasserstein & La Greca, 1996).

In contrast, while the overall model including the conflict subscale of friendship when using parent-reported adolescent internalizing problems had a *p*-value below .05, none of the interaction or main effects were significant. Nevertheless, three of the remaining four models did highlight significant relations. The model containing the security subscale revealed a two-way interaction between interparental conflict and friendship security; adolescents reporting mean and low levels of security exhibited significantly higher levels of internalizing problems as interparental conflict increased. Both the models separately examining closeness and help generated three-way interactions and depicted similar trends. Both boys and girls with low levels of help and closeness exhibited significantly higher levels of internalizing problems as parental conflict increased, but this trend only remained significant for girls at mean levels of closeness and help.

Once again, depending on the informant used, different effects were found to be significant. While the first set of results supports the important risk that conflict within friendships can confer to internalizing problems, the second set of subscale analyses provides evidence for the protective roles of the security, closeness, and help aspects of friendship.

Strengths and Limitations

This study was based on a subsample extracted from a larger study that collected cross-sectional data for purposes that differed from the aims of the current study.

Therefore, given that entire scales were missing for some participants, missing data could not be imputed and was deleted listwise, further reducing the size of the subsample. A priori power analyses determined that with a power level of β = .8 and a significance level of α = .05, the resulting sample would only allow a small effect size to be detected f^2 = .0422. While power restrictions to detect small effect sizes are common in the social sciences, the power to detect effects is further challenged when conducting analyses that include moderating variables (Aguinis, 1995), cross-sectional data (Naiji et al., 2013), and a skewed, homogenous and non-clinical sample (Cundill & Alexander, 2015). Hence, some effects may have been missed due to power deficiencies.

Both parent and adolescent self-reports were only available for one of the study variables, adolescent internalizing problems. This prevented analyses to be conducted utilizing data on all variables based on the same informant as the independent variable, interparental conflict, was based on parent reports, while friendship quality was measured using adolescent self-reports. In addition, parent reports of adolescent internalizing problems were primarily completed by mothers. Numerous methodological studies have outlined significant discrepancies between informants (De Los Reyes et al., 2013). Concordance rates have been found to vary highly between parents and their children and discrepancies increase further during adolescence and tend to be higher for internalizing problems than for externalizing problems (De Los Reyes & Kazdin, 2005). Evidence also points to potential gender bias where, despite significant differences between both parent reports and the adolescent's reports, mother and father reports tend to be in closer agreement with their daughter's internalizing

symptoms compared to their son's (Seiffge-Krenke & Kollmar, 1998). In addition, parent reports have also been found to be impacted by parent salient variables in addition to interparental conflict, such as parental internalizing problems and stress (De Los Reyes & Kazdin, 2005; Seiffge-Krenke & Kollmar, 1998). Finally, exploratory analyses further demonstrated that different informants led to contrasting results, making it challenging to interpret results with confidence.

Another limitation pertains to the measurement of friendship quality, as it was based on a questionnaire that focused on one friendship dyad. Yet, friendship dyads have been shown to change over time and to confer differential benefits based on their stability over time. For example, durable friendships appear to foster better adjustment compared to successive shorter friendships that end, even if those friendships are replaced by new ones over the same time period (Parker & Seal, 1996). Compared to younger or older individuals, adolescents are also known to be markedly sensitive to peer rejection, amicable and romantic breakups, and to experience more heightened negative emotions and internalizing problems consequently (McDonald et al., 2010; Parker & Seal, 1996). Empirical support also exists highlighting the increased salience of peer relationships during this developmental phase, where girls have additionally been found to experience higher levels of stress during interpersonal disruptions (Natsuaki et al., 2010; Rudolph, 2002). Furthermore, poor parent-child relationships have also been shown to bolster the detrimental effects of poor peer relationships (Fotti et al., 2006; McLachlan et al., 2010). While in reverse, interparental conflict has also been associated with poorer parent-child relationships (Bradford et al., 2008; Sherrill et al., 2017).

Hence, measuring a single friendship dyad may not provide sufficient information to determine the influence of friendship quality and moderating impact of gender on internalizing problems in adolescents in the context of interparental conflict.

Although these limitations are important to highlight and consider while interpreting the results presented above, this study was the first to examine the simultaneous moderating roles of friendship quality and gender on the effects of interparental conflict on adolescent internalizing problems. This study also contributes to the scarce literature specifically targeting internalizing problems in adolescent populations. Despite the restricted sample size and power, results do provide support that aligns with existing literature on the detrimental effects of high interparental conflict and poor friendship quality on adolescent internalizing problems. Exploratory analyses were also instrumental in observing more closely the contribution of negative parenting and specific aspects of friendship in the context of interparental conflict and adolescent internalizing problems. In addition, findings from the study possess clinical significance and provide valuable information for future studies including areas that need further research, as well as recommendations.

Clinical Implications

The results of this study point to significant implications regarding the need to identify and address internalizing problems in adolescents in the context of interparental conflict. Contrary to findings in the literature, no main or interaction effects were detected when using adolescent self-reported internalizing problems. However, moderation effects of both gender and friendship quality were subsequently

found when using the same parent as an informant on all measures pointing to both clinical and methodological implications. In other words, results highlights the need for both empirical and clinical work to be mindful about the source of information used to assess for internalizing problems as well as interparental conflict, as they appear to be highly dependent on individual perception.

Internalizing problems and interparental conflict both independently and jointly contribute to adverse outcomes in the short and long-term wellbeing of adolescents in multiple domains (Costello & Maughan, 2015; Gili et al., 2019; Goodman et al., 2002; Hicks et al., 2009; Sareen et al., 2005). This study further highlights that girls appear to be more susceptible to interparental conflict and to be more significantly impacted by low levels of friendship quality. Hence, screening for friendship quality in school settings could be helpful in identifying youth that could be at risk for internalizing problems, particularly if they are also living in an environment with average or above-average levels of interparental conflict. Furthermore, interventions could also be designed to improve relationships among peers and address peer conflict, which was shown to be the only significantly-related aspect of friendship quality associated with internalizing problems.

School-based interventions have been shown to be a cost-effective approach to improving youth mental health outcomes as they can cast a wide net (Lee et al., 2017) and help build and foster skills that can be more readily targeted such as peer relationships, as opposed to interparental conflict. Previous studies have also argued that several factors render efforts to address interparental conflict ineffective, as

changing parent dynamics requires significant time, consistent work, and recognition and participation of both parents (Blanchard et al., 2009; Lucas-Thompson et al., 2020). Consequently, the development and evaluation of interventions primarily targeting adolescents have been encouraged (Lucas-Thompson et al., 2020). Some school-based interventions exist and have demonstrated positive effects on the wellbeing of adolescents. For example, COPE, is a social skills intervention for children from divorced families (Angacian et al., 2015) developed from two other interventions, New Beginnings Program (NBP; Wolchik et al., 2007) and the Children of Divorce Intervention Program (CODIP; Pedro-Carroll & Cowen, 1985) (see details about the interventions in Angacian et al., 2015). However, solely focusing on youth whose parents have divorced is not sufficient, as studies have shown that interparental conflict is more influential in contributing to adolescent internalizing problems than divorce and that the impact of the divorce is differential based on the extant level of conflict prior to the divorce (Peris & Emery, 2004; Zimet & Jacob, 2001). In other words, school-based interventions would confer more substantial benefits by targeting social skills, relational skills and other developmental aspects that are associated with greater wellbeing regardless of parental divorce status. Second or third-tier interventions could further be tailored to specifically target adolescents who are experiencing different types of stressors such as interparental conflict. Database queries did not identify any interventions designed to target adolescent friendship quality by fostering social and relational skill development in the context of interparental conflict.

In parallel, school-based interventions for parents is another angle to be considered as targeting both interparental conflict and positive youth development simultaneously would confer synergistic effects. Previous studies on school-based interventions targeting parents have highlighted notable challenges particularly for families from low socioeconomic backgrounds. Nevertheless, school-based interventions do appear to be advantageous compared to clinic-based interventions, as they can be offered on site at schools, where parental involvement already exists in other school-related activities. Similar to interventions targeting adolescents, different tiers could be designed to first spread awareness about the detrimental effects of interparental conflict, youth development, and mental health. Furthermore, raising awareness about aspects of conflict and mental health that tend to be overlooked due to their more covert and less disruptive nature, such as non-violent interparental conflict and internalizing problems in youth. Second and third-tier interventions could help target more specific factors associated with youth wellbeing such as parenting and parent-child relationships for families who report such barriers.

As a final note on interventions, providing school-based interventions for both parents and their children at the same time of the day could potentially increase participation as it could indirectly address factors that have been shown to deter participation such as childcare, logistics, and transportation (Rostad et al., 2018; Tully et al., 2017). In addition, designing interventions to target both parents and their children simultaneously may be more effective (Koning et al., 2012). Finally, taking the time to raise awareness and address motivational factors that could affect participation,

engagement, and retention have also been shown to improve outcomes observed. Hence, targeting parent and adolescent perceptions of benefits, addressing concerns and barriers, confidentiality, and safety prior to implementation are additional factors to consider in designing future school-based interventions to target youth wellbeing in the context of interparental conflict.

Future Directions

Future studies investigating phenomena, such as internalizing problems, experienced by adolescent populations may benefit from using a multi-informant method to collecting data in order to avoid key informant bias, or use a single-informant approach when a multi-informant approach is not suitable (e.g., measures do not exist for other informants) (Homburg et al., 2012; Van Dulmen & Egeland, 2011). Combining multi-informant as well as multi-measure approaches may provide a more clinically-rich picture of factors contributing to adolescent internalizing problems.

This study has helped demonstrate that there are several effects worthy of further study that could not be observed due to statistical limitations engendered by the nature and sample size of this study. However, evidence from this study in addition to those that have inspired Harold and Sellers' integrated model of interparental conflict (2018), point to both the long-term value and need for more research on factors that influence the emergence and maintenance of internalizing problems in adolescents. Based on the evidence thus far, efforts should be geared towards longitudinal studies with large samples to better capture singular, synergistic, and mediation effects of different variables over time. For example, observing the changes in parental mental

health, levels of conflict, and friendship quality over time and their impact on youth internalizing disorders would serve to better inform cost-effective interventions.

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APPENDIX A

Study Measures

Parent Problem Checklist

Below are a list of issues over child-rearing which parents/caregivers in a romantic relationship often discuss. Please (1) bubble either "Yes" or "No" to indicate whether or not each issue has been a problem for you and your romantic partner over the last 4 weeks, and (2) bubble the response describing the extent to which each issue has been a problem for you and your romantic partner in the last 4 weeks. If you do not have a romantic partner that serves as a caregiver for your child and that lives in your home, select N/A for the items below.

	Has this issue been a problem for you and your partner?			To what extent has this issue been a problem for you and your partner?						
	Yes	No	N/A (No partner)	Not at All	A Little	Somewhat	Much	Very Much		
1. Disagreement over household rules (e.g., bedtime, play areas)	O	O	O	O	O	O	O	O	O	O
2. Disagreement over type of discipline (e.g., smacking children)	O	O	O	O	O	O	O	O	O	O
3. Disagreement over who should discipline the children	O	O	O	O	O	O	O	O	O	O
4. Fighting in front of the children	O	O	O	O	O	O	O	O	O	O
5. Inconsistency between parents/caregivers	O	O	O	O	O	O	O	O	O	O
6. Children preventing parents/caregivers from being alone	O	O	O	O	O	O	O	O	O	O
7. Disagreement about sharing childcare workloads	O	O	O	O	O	O	O	O	O	O
8. Inability to resolve disagreements about childcare	O	O	O	O	O	O	O	O	O	O
9. Discussions about childcare turn into arguments	O	O	O	O	O	O	O	O	O	O
10. Parents/caregivers undermining each other (i.e., not backing each other up)	O	O	O	O	O	O	O	O	O	O
11. Parents favoring one child over another	O	O	O	O	O	O	O	O	O	O
12. Lack of discussion between parents about childcare	O	O	O	O	O	O	O	O	O	O
13. Lack of discussion about anything	O	O	O	O	O	O	O	O	O	O
14. One parent 'soft' and one parent 'tough' with children	O	O	O	O	O	O	O	O	O	O
15. Children behave worse with one parent than the other	O	O	O	O	O	O	O	O	O	O
16. Disagreement over what is bad behavior	O	O	O	O	O	O	O	O	O	O

Friendship Quality Scale

The following questions will ask about about your relationship with your best friend/closest peer. Please answer these questions as best you can for that best friend/close peer. There are no right or wrong answers.

	Not True	Somewhat Not True	Equally Not True and True	Somewhat True	Really True
1. My friend and I spend all our free time together.	O	O	O	O	O
2. My friend thinks of fun things for us to do together.	O	O	O	O	O
3. My friend and I go to each other's houses after school and on weekends.	O	O	O	O	O
4. Sometimes my friend and I just sit around and talk about things like school, sports, and things we like.	O	O	O	O	O
5. I can get into fights with my friend.	O	O	O	O	O
6. My friend can bug me or annoy me even though I ask him/her not to	O	O	O	O	O
7. My friend and I can argue a lot.	O	O	O	O	O
8. My friend and I disagree about many things.	O	O	O	O	O
9. If I forgot my lunch or needed a little money, my friend would loan it to me.	O	O	O	O	O
10. My friend helps me when I am having trouble with something.	O	O	O	O	O
11. My friend would help me if I needed it.	O	O	O	O	O
12. If other kids were bothering me, my friend would help me.	O	O	O	O	O
13. My friend would stick up for me if another kid was causing me trouble.	O	O	O	O	O
14. If I have a problem at school or at home, I can talk to my friend about it.	O	O	O	O	O
15. If there is something bothering me, I can tell my friend about it even if it is something I cannot tell to other people.	O	O	O	O	O
16. If I said I was sorry after I had a fight with my friend, he/she would still stay mad at me.	O	O	O	O	O
17. If my friend or I do something that bothers the other one of us, we can make up easily.	O	O	O	O	O
18. If my friend or I have a fight or argument, we can say "I'm sorry" and everything will be alright.	O	O	O	O	O
19. If my friend had to move away, I would miss him/her.	O	O	O	O	O
20. I feel happy when I am with my friend.	O	O	O	O	O
21. I think about my friend even when my friend is not around.	O	O	O	O	O
22. When I do a good job at something, my friend is happy for me.	O	O	O	O	O
23. Sometimes my friend does things for me, or makes me feel special.	O	O	O	O	O

The Alabama Parenting Questionnaire, Global Report, Parent Version

The following are a number of statements about your family. Please rate each item as to how often it TYPICALLY occurs in your home. The possible answers are Never, Almost Never, Sometimes, Often, and Always.

	Never	*Almost Never*	*Sometimes*	*Often*	*Always*
1. You have a friendly talk with your child	O	O	O	O	O
2. You let your child know when he/she is doing a good job with something.	O	O	O	O	O
3. You threaten to punish your child and then do not actually punish him/her.	O	O	O	O	O
4. You volunteer to help with special activities that your child is involved in (such as sports, boy/girl scouts, church youth groups).	O	O	O	O	O
5. You reward or give something extra to your child for obeying you or behaving well.	O	O	O	O	O
6. Your child fails to leave you a note or to let you know where he/she is going.	O	O	O	O	O
7. You play games or do other fun things with your child.	O	O	O	O	O
8. Your child talks you out of being punished after he/she has done something wrong.	O	O	O	O	O
9. You ask your child about his/her day in school.	O	O	O	O	O
10. Your child stays out in the evening past the time he/she is supposed to be home.	O	O	O	O	O
11. You help your child with his/her homework.	O	O	O	O	O
12. You feel that getting your child to obey you is more trouble that it's worth.	O	O	O	O	O
13. You compliment your child when he/she does something well.	O	O	O	O	O
14. You ask your child what his/her plans are for the coming day.	O	O	O	O	O
15. You drive your child to a special activity.	O	O	O	O	O
16. You praise your child if he/she behaves well.	O	O	O	O	O
17. Your child is out with friends you don't know.	O	O	O	O	O
18. You hug or kiss your child when he/she does something well.	O	O	O	O	O
19. Your child goes out without a set time to be home.	O	O	O	O	O
20. You talk to your child about his/her friends.	O	O	O	O	O
21. Your child is out after dark without an adult with him/her.	O	O	O	O	O

The Alabama Parenting Questionnaire, Global Report, Parent Version (Continued)

	Never	*Almost Never*	*Sometimes*	*Often*	Always
22. You let your child out of a punishment early (like lift restrictions earlier than you originally said).	O	O	O	O	O
23. Your child helps plan family activities.	O	O	O	O	O
24. You get so busy that you forgot where your child is and what he/she is doing.	O	O	O	O	O
25. Your child is not punished when he/she has done something wrong.	O	O	O	O	O
26. You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school.	O	O	O	O	O
27. You tell your child that you like it when he/she helps out around the house.	O	O	O	O	O
28. You don't check that your child comes home at the time she/he was supposed to.	O	O	O	O	O
29. You don't tell your child where you are going.	O	O	O	O	O
30. Your child comes home from school more than an hour past the time you expect him/her.	O	O	O	O	O
31. The punishment you give your child depends on your mood.	O	O	O	O	O
32. Your child is at home without adult supervision.	O	O	O	O	O
33. You spank your child with your hand when he/she has done something wrong.	O	O	O	O	O
34. You ignore your child when he/she is misbehaving.	O	O	O	O	O
35. You slap your child when he/she has done something wrong.	O	O	O	O	O
36. You take away privileges or money from your child as a punishment.	O	O	O	O	O
37. You send your child to his/her room as a punishment.	O	O	O	O	O
38. You hit your child with a belt, switch, or other object when he/she has done something wrong.	O	O	O	O	O
39. You yell or scream at your child when he/she has done something wrong.	O	O	O	O	O
40. You calmly explain to your child why his/her behavior was wrong when he/she misbehaves.	O	O	O	O	O
41. You use time out (make him/her sit or stand in a corner) as a punishment.	O	O	O	O	O
42. You give your child extra chores as a punishment	O	O	O	O	O