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Adolescent characteristics that contribute to family conflict in families with adolescents with ADHD

Olivia Adelle Christensen
James Madison University

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Adolescent Characteristics that Contribute to Family Conflict in Families with
Adolescents with ADHD
Olivia A. Christensen

A thesis submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

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Abstract

Adolescents with Attention Deficit/Hyperactivity Disorder (ADHD) are at a heightened risk of parent/adolescent conflict. Families with adolescents with ADHD tend to experience frequent and intense family conflict which can be problematic to family cohesion. Existing treatments targeting family conflict are minimally effective. The current study explored adolescent characteristics hypothesized to predict family conflict in families with adolescents with ADHD. The relationship between parents' and adolescents' perceptions of conflict was also investigated. In the current study there was not a relationship between parents' and adolescents' perceptions of family conflict indicating disagreement. Adolescents' age and symptoms of depression predicted family conflict regardless of informant. When parents rated conflict, adolescents' symptoms of ADHD, Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), and gender also predicted conflict. Contrary to hypotheses, academic and social impairments did not appear to play a role in the prediction of conflict. Ideas for future research and implications for clinicians are discussed.

Adolescent Characteristics that Contribute to Family Conflict in Families with Adolescents with ADHD

Introduction

Parent/adolescent conflict has been studied and discussed in the literature since the 1950s; however, there is a need for more research in this area because some areas remain unexplored (i.e., adolescents' functioning in relation to conflict). It is important to investigate adolescents' academic and social impairments in relation to conflict, because they are thought to be the source of frequent arguments between parents and their children (Robin, 1998). For example, adolescents with ADHD tend to have poor academic achievement (Barkley, 1992), fail to turn in assignments, are disruptive in class, and argue with teachers (Robin, 1998), which may lead to conflict at home when parents attempt to intervene to get their children to complete their work and behave in class. Adolescents with ADHD also have social impairment which may lead to decreased self-esteem or depression (Robin, 1998) and often become involved with deviant peer groups (Marshall & Molina, 2006). Involvement with deviant peers and decreased self-esteem can lead to arguments with parents, increased frustration, and emotional outbursts on the part of adolescents with ADHD (Salmeron, 2008). Thus, it is important to explore if and to what degree academic and social impairment contribute to family conflict to better understand this relationship.

It is also important to consider variables that have been found to account for parent/adolescent conflict and to consider that conflict is relevant to study because of its effect on the family. Frequent and intense conflict between parents and their children is problematic to family functioning (Patterson, 1982; Steinberg, 2001). Both parent

characteristics and parenting practices have been found to contribute to family conflict. Child/adolescent characteristics have also been linked to family conflict. There are several types of treatment (e.g., Behavioral Parent Training) designed to ameliorate family conflict; however, the effectiveness of these treatments tends to be minimal. Treatments for parent/adolescent conflict may be enhanced by a thorough understanding of the parent and adolescent characteristics and behaviors that contribute to this conflict. In this study I will analyze the relationship between adolescents' social and academic functioning and family conflict because features of these impairments (e.g., deviant peer group involvement, low academic achievement, and low self-esteem) have been associated with negative family interactions. It is hypothesized that academic and social impairment will significantly predict parent/adolescent conflict after accounting for other factors that have previously been studied, specifically, symptoms of Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), Conduct Disorder (CD) and depression, and gender.

In order to investigate the relationship between parent and child characteristics and their relationship, it is important to be able to measure that relationship. Research has demonstrated that there tends to be poor agreement between parents and their children on ratings of family cohesion, conflict, and interactions (Feldman, Wentzel, & Gehring, 1989; Gonzales, Cause, & Mason, 1996; Tein, Roosa, & Michaels, 1994). It is important to study family conflict in an ADHD sample, because ADHD is associated with problematic behaviors (e.g., arguing, impulsivity) that are likely to impact conflict. Frequency and intensity of conflict have not been specifically examined in relation to family conflict and doing so could provide a clear understanding of the parent/adolescent

relationship in regards to conflict. The Conflict Behavior Questionnaire (CBQ) includes indices of frequency and intensity and will be utilized in this study; therefore, this study could provide additional data necessary to understand family conflict in families with adolescents with ADHD.

Frequent and intense family conflict is problematic

There have been many perspectives over the last several decades on the developmental transition from childhood to adolescence and accompanying family conflict, but overall, intense and frequent family conflict is detrimental to family functioning (Patterson, 1982; Steinberg, 2001). Perspectives on family conflict have been inconsistent about whether parent/adolescent conflict is normal and expected and which factors predict conflict. One of the most common perspectives, named the storm and stress period, depicts a period of time when children transition into adolescence and experience identity crises and thus behave with opposition and detach from their parents (Erikson, 1968; Freud, 1958). This theory was scrutinized and several studies conducted in the late 1960s and 1970s provided evidence debunking its standing. For example, several researchers conducted studies using samples of adolescents in school settings rather than clinic settings and in each study found that approximately 75% of adolescents experienced content and pleasant relationships with their parents (Douvan & Adelson, 1966; Kandel & Lesser, 1972; Offer, 1969). Rutter and colleagues (1976) further contradicted the storm and stress perspective by replicating that 75% of adolescents are happy with their relationships with their parents and furthermore found that the other 25% of families experienced conflict during childhood before the transition into adolescence. Results from this study led Rutter and colleagues to conclude that for the

families experiencing conflict, the conflict was not a result of adolescence, but was pre-existing. Thus, the concept that all parents should expect their children to become oppositional, to support their teens disengagement, and to expect family conflict as normative during this developmental period became less accepted and research on family conflict burgeoned.

Steinberg's (2001) perspective which considers the frequency and intensity of conflict is discussed frequently in the literature on family conflict. This perspective states that adolescence is a transitional period of growing autonomy for teens and because of this transition and the trend for adolescents to assert their independence, conflict between parents and adolescents frequently occurs, but normative conflict is low-intensity in nature and often regarding minor every-day family matters. Some degree of family conflict is typical and expected; however, parent/adolescent conflict that is ridden with high-intensity and angry interactions is not typical during this developmental transition (Steinberg, 1990). It is imperative to determine which factors differentiate families with normative levels of family conflict from those with high-intensity negative interactions not only to better understand the developmental aspect of adolescence but also to inform researchers and practitioners so that they can target factors that should be considered in treatment development for families experiencing high levels of conflict.

When investigating parent/adolescent conflict it is necessary to know what degree of family conflict is considered to be problematic and when typical levels of conflict occur during adolescence. Although some levels of conflict between parents and their children are to be expected throughout children's youth, perpetual and escalating rates of conflict are problematic to family functioning. The transition to early adolescence can be

conflict-ridden for many families as adolescents develop a need for autonomy (Small et al., 1983), are required to have a higher number of responsibilities at home and school than they did as children, and experience biological changes. There has been a consensus among researchers that frequency of conflict increases during early adolescence and decreases during mid- to late-adolescence (Montemayor, 1983; Montemayor & Hanson, 1985; Steinberg, 1990). Laursen, Coy, and Collins (1998) expanded upon previous research by conducting a series of meta-analyses that included studies with child and adolescent participants with an age range of 9 to 19 years of age. Laursen and colleagues found that conflict affect (i.e., emotional intensity of arguments) has a tendency to increase from early adolescence to mid-adolescence and that conflict affect (i.e., emotional intensity of disagreements) and adolescents' pubertal maturation were related. Therefore, while the frequency of parent/adolescent conflict may decrease as adolescence progresses, the intensity of conflicts tends to increase. There are numerous possibilities as to causes for the decrease in frequency of family conflict as adolescents' age, such as, less parental monitoring as adolescents get older, maturity of the adolescents, and how much time adolescents spend with their parents compared to time spent with peers or alone.

When investigating parent/adolescent conflict, it is critical to be aware of the negative outcomes that are associated with conflict. Conflict between parents and adolescents has been associated with particularly poor outcomes for adolescents. In fact, heightened family conflict has predicted externalizing behaviors and marijuana and alcohol use during adolescence (Baer, Garnezy, McLaughlin, Pokorny, & Wernick, 1987; Kandel, Kessler, & Marguiles, 1978) and delinquency (Borduin, Pruitt, &

Haenggeler, 1986; Patterson, Capaldi, & Bank, 1991). Adolescents in families with high rates of parent/adolescent conflict have also had higher rates of promiscuity and premarital sexual relations (Inazu & Fox, 1980) and have reported increased instances of running away from home (Adams, Gullotta, & Clancy, 1985) when compared to adolescents in families without high levels of family conflict. In addition, high rates of family conflict predict depression in adolescents (Kashani, Burbach, & Rosenberg, 1988; Puig-Antich, Kaufman, Ryan, Williamson et al., 1993) and even suicide attempts (Tishler, McKenry, & Morgan, 1981). Although many of these findings have potentially serious consequences to adolescents' well-being and health, it is possible that other underlying factors contributed to these outcomes. It is difficult to determine whether conflict has an effect on the development of risky behaviors or vice versa, which is why it is critical to understand what factors contribute to parent/adolescent conflict so that these factors can be identified early to prevent risky behaviors and negative outcomes. Identifying factors that contribute to conflict could also lead to prevention programming for children entering adolescence.

Parenting practices and parent characteristics contribute to family conflict

Parenting practices and behaviors impact parent/adolescent conflict. Parenting practices are behaviors that parents exhibit when interacting with their children (e.g., inconsistent parenting, spanking), whereas parenting characteristics are traits relative to the parents themselves (e.g., psychopathology). Patterson (1982) developed a theory on family coercion in which children's disruptive behaviors are positively or negatively reinforced by parents. In terms of Patterson's theory, a child will exhibit an undesirable behavior whereupon the parent gives the child attention which increases the likelihood

that the child will display the behavior in the future. An example of this is a parent holding a conversation with a teacher when the child interrupts. If the parent gives attention and talks to the child, the child is likely to demonstrate the undesirable behavior (interrupting) in the future. Although this type of situation can promote undesirable behaviors, situations in which negative reinforcement occur are more fundamental to Patterson's coercion theory. Negative reinforcement is used when a child's behavior is followed by removal of an undesirable stimulus and therefore the child is likely to display the behavior in the future. This type of situation can develop into a cycle of coercion that leads to increased disruptive behaviors and even aggression in children (Patterson). A typical example is that of a parent directing the child to perform a task whereupon the child yells or screams which results in the parent yielding and withdrawing the initial request. Therefore, the child's problematic behavior results in escape from the task which increases the likelihood that the child will exhibit the same behavior in the future.

According to Patterson, this cycle of negative interactions tends to continue and increase in intensity. It is likely that parents attempt to avoid yielding to their children's disruptive behaviors but when children's behaviors intensify in response, the parents may acquiesce and the coercive cycle escalates. Patterson described situations in which after children display problematic behaviors parents physically guide their children to complete the designated task. This can cause aggression in children which may result in physical aggression from the parent followed by a tantrum from the child, concluding with the parent finally submitting to the child. This cycle results in continuous and increasing conflict between parents and their children with detrimental consequences to the well-being and cohesion of family interactions.

Parents' use of psychological control and support are associated with factors that are thought to contribute to conflict such as child and adolescent behavior and psychological adjustment during adolescence (Bean, Bush, McKenry, & Wilson, 2003; Galambos et al., 2003). Specifically, a lack of parental support is associated with increases in depressive symptoms in young adolescents (Stice, Ragan, & Randall, 2004). Parenting dimensions consisting of high levels of psychological control (e.g., controlling children's behavior by causing feelings of guilt) have been linked to internalizing and externalizing behaviors in adolescents (Barber, Olsen, & Shagle, 1994; Pettit, Laird, Dodge, Bates, & Criss, 2001). In addition, lower levels of parental support and involvement have been related to aggression and delinquency in adolescents (Simons, Johnson, & Conger, 1994). There is a relationship between depression in adolescence and conflict (Forehand, Furey, & McMahon, 1984; Smith & Forehand, 1986) and between externalizing behavior problems in adolescents and family conflict (Stormshak et al., 2000). Because parenting practices such as psychological control and support are related to depression and externalizing behavior problems amongst adolescents, there also may be a link between these practices and family conflict.

Poor parenting practices are important to consider when discussing parent/adolescent conflict. Poor parenting practices, such as punitive or harsh discipline and inconsistent parenting, can have a negative impact on child behavior which can in turn lead to a cycle of family conflict (Stormshak et al., 2000). Stormshak and colleagues conducted a ground-breaking study on parenting practices in relation to child disruptive behaviors and found that punitive discipline (i.e., yelling, nagging, threatening) predicted elevated rates of oppositional, aggressive, hyperactive, and internalizing behaviors in

children who were behaviorally disruptive. Furthermore, Stormshak et al. found that parents who spanked their children, were physically aggressive, and used punitive discipline had children who presented a pattern of increasing severity in problem behaviors. The results from this study suggest that parents who use harsh discipline likely perpetuate existing behavior problems resulting in increasingly troublesome behavioral issues in their children.

Parental characteristics such as psychopathology are also important to consider when investigating parent/adolescent conflict. Pressman and colleagues (2006) reported a relationship between parents with psychiatric diagnoses and family conflict, and that conflict was a mediator between parent psychiatric diagnosis and child impairment. Characteristics such as paternal mood disorder and substance abuse were associated with family conflict. The findings from the study by Pressman et al. reveal that parental characteristics are related to family conflict and furthermore that conflict that arises between parents and children, possibly because of parents' disorders, can be related to children's impairment.

Previous research has indicated that parenting practices and characteristics have an impact on parent/adolescent conflict, and these should be considered when discussing family conflict and should be regarded as important dimensions in this area of study. The current study focuses on adolescent characteristics because there are characteristics that remain unstudied in adolescent populations in relation to family conflict (i.e., academic and social impairment). It is important to investigate academic and social impairment these as they are hallmarks of ADHD and behaviors associated with social and academic problems are thought to be the source of family arguments (Robin, 1998). Adolescent

characteristics are also the focus of the current study because many of the problem behaviors and impairments associated with ADHD are hypothesized to play a key role in the development of family conflict.

Adolescent characteristics contribute to family conflict

An adolescent characteristic that has been related to parent/adolescent conflict is adolescent depression. Smith and Forehand (1986) found that adolescents' self-reported symptoms of depression predicted family conflict. These results were consistent with previous findings that established a relationship between children's symptoms of depression and perceptions of family interactions (Forehand, Furey, & McMahon, 1984). A notable limitation to Smith and Forehand's findings is that their sample consisted of adolescent females and not males. Females are more likely to experience internalizing symptoms (i.e., depression, anxiety) when compared to males (APA, 2000); however, it would be informative to determine if Smith and Forehand's findings generalize to adolescent males. It is possible that depressive symptoms in sons also may be associated with family conflict, and therefore it is important to consider gender when investigating parent/adolescent conflict.

A frequently discussed child/adolescent characteristic in reference to family conflict is externalizing behavior problems, such as ODD. ODD is characterized by developmentally inappropriate behaviors, such as, defiance, hostile behavior towards authority figures, and disobedience (APA, 2000). This disorder is associated with numerous poor outcomes and impairments for adolescents, and can have a negative impact on family cohesion and parent strain. For example, Evans and colleagues (2009) found that oppositional and defiant behavior were child characteristics that significantly

contributed to caregiver strain for parents of youth with ADHD. In this study, parents of 52 adolescents with ADHD were evaluated over one year. Evans and colleagues concluded that ODD was the best predictor (when compared to symptoms of inattention and hyperactivity, and grade point average) of parent strain suggesting that treating adolescents' behavior problems should be a priority to prevent or reduce parent strain. Because ODD is characterized by defiance towards authority figures, ODD should be an adolescent characteristic that is considered when investigating family conflict as adolescents with ODD are likely to engage in frequent arguments with their parents.

In regards to family conflict, ODD is associated with high levels of family dysfunction (Greene et al., 2002). Greene and colleagues (2002) conducted a clinical trial in which children and adolescents were assessed for ODD and CD to investigate differences between participants with ODD alone, CD alone, or those with both disorders. Results from this study indicated that participants with ODD with or without comorbid CD had significantly greater family impairment, higher rates of family conflict, and poorer family cohesion when compared to participants without ODD. These findings suggest that children and adolescents with ODD, regardless of whether or not they also have CD symptoms, are at risk for family conflict. It is important to include adolescent characteristics, such ODD and CD, when studying family conflict because of the relationships that have been found between these characteristics and family conflict.

In addition to family conflict associated with adolescents with ODD, adolescents with ADHD alone and comorbid ODD are at heightened risk of family conflict (Barkley, 1992). In fact, Barkley and colleagues (1992) examined differences in three groups of adolescents (ADHD alone, ADHD and ODD, and a control group without ADHD) on

frequency of family conflict and negative interactions with parents. Results from this study indicated that both ADHD groups had more parent/adolescent conflict than adolescents in the control group. Furthermore, participants in the ADHD and ODD group had the highest rates of conflict with their parents and endorsed more extreme thoughts about family interactions than did participants in the other two groups. These findings have been replicated (Edwards et al., 2001; Fletcher et al., 1996), and Johnston (1996) expanded upon these findings by investigating differences in parent/child interactions in families with children with ADHD and low levels of ODD, children with ADHD and high levels of ODD, and children without ADHD or ODD. Parents of children with ADHD and both high and low levels of ODD reported more negative interactions with their children than parents of children without ADHD or ODD. These findings suggest that negative interactions between parents and children with ADHD and ODD are likely to occur regardless of the severity of ODD. The aforementioned studies highlight the importance of including ADHD, ODD, and CD as characteristics in studies involving family conflict, and also show the relevance that these characteristics have in treatments that seek to ameliorate family conflict.

Even brief exposure to behaviors resembling disruptive behavior disorders (i.e., ADHD, ODD) in children appears to produce strain that can result in alcohol consumption by caregivers and may result in parent/adolescent conflict. In a study conducted by Pelham and colleagues (1997), researchers trained boys to either act as though they had a disruptive behavior disorder or as though they did not, and the boys interacted with parents of children without ADHD for 20 minutes. The purpose of this study was to assess parents' alcohol consumption and stress in relation to the interaction.

Results indicated that parents who interacted with a disruptive boy reported significantly more stress and they ingested significantly more alcohol than parents who interacted with a non-disruptive boy. These implications from this study are clinically important as the parents interacted with a disruptive child for only 20 minutes which resulted in stress and alcohol consumption. These results can be interpreted in relation to conflict as there is a relationship between parent/adolescent conflict and parental stress (Silverberg & Steinberg, 1987) and there is also a link between children's disruptive behaviors and conflict with parents. The results of the study by Pelham et al. suggest that even brief exposure to children's externalizing behaviors can lead to parent strain, alcohol consumption, and potentially to parent/adolescent conflict.

Child and adolescent characteristics, such as ADHD, ODD, CD, depression, and gender have been found to contribute to parent/adolescent conflict; however, the current body of research examining these characteristics has included studies on symptoms. Functioning in addition to symptoms has not been investigated to date. Examining adolescents' functioning and additional characteristics (e.g., impairment in school and with peers) in relation to family conflict may enable researchers to better understand parent/adolescent conflict.

Parents and adolescents tend to disagree on ratings of conflict

In general, parents and adolescents disagree on ratings of family cohesion, conflict, and interactions (Feldman, Wentzel, & Gehring, 1989; Gehring, Wentzel, & Munson, 1988; Tein, Roosa, & Michaels, 1994), however, this finding was not consistent with Gonzales, Cause, and Mason's (1996) findings in which there was agreement on ratings of family conflict, but not only ratings of family cohesion or parenting practices.

Feldman et al. found that when assessing family characteristics such as cohesion, within family agreement is poor. In contrast, Gonzales et al. found that African American mothers and daughters disagreed on ratings of parenting practices or family cohesion, but showed moderate agreement on ratings of parent/adolescent conflict. The findings from these studies suggest that parents and adolescents tend to differ in their ratings on family conflict and cohesion, however, there are inconsistent findings between studies and none of the samples included families with adolescents with ADHD. Adolescents with ADHD tend to display problematic externalizing behaviors (e.g., impulsivity, comorbid symptoms of ODD) that are associated with heightened levels of family conflict (Barkley, 1992; Barkley et al., 1992; Edwards et al. 2001). Because adolescents with ADHD are at heightened risk for family conflict and adolescents without ADHD tend to disagree with their parents on ratings of conflict, it is likely that the same results will be found in an ADHD sample. If parents and adolescents disagree on ratings of conflict, it will be necessary to examine conflict ratings from both perspectives rather than assuming one perspective is more accurate than the other.

When investigating family cohesion, Feldman, Wentzel, and Gehring (1989) found that parents and their adolescent sons (in sixth grade) disagreed on ratings of agreement during a problem solving task. Families participated in the Family System Test (FAST, Gehring & Feldman, 1988) which is a clinically derived figure placement activity designed to represent within family cohesion and power. Parents and adolescents placed figures that represented all family members on a board to represent relationships and closeness between family members. During a problem solving task, parents and adolescents were instructed to agree on the best way to depict family relationships (i.e.,

how close in proximity the figures should be placed on the board during the task). Scores on the FAST were derived by observers and were measured based on distances between where parents and adolescents placed figures on the board. Results indicated there was virtually no relationship between parents and adolescents agreement on family cohesion during the problem solving task.

Gonzales and colleagues (1996) also investigated parent/adolescent agreement on family characteristics and conflict, but used a sample of African American mothers and their adolescent daughters (mean age was 13). In this study, researchers investigated agreement on parenting practices and parent/adolescent conflict [using parent and adolescent report on the Issues Checklist (IC)] and through observations of discussions between parents and adolescents during which they were instructed to reach an agreement on the most problematic source of family conflict. Gonzales et al. found that participants disagreed on ratings of parenting practices and discipline, but that comparatively there was higher agreement on ratings of conflict ($r = .49$). These results suggest that in African American families, despite disagreement on parenting practices, mothers and adolescents may agree on ratings of conflict.

Although the current studies on parent/adolescent agreement on ratings of conflict are informative, there are some questions that remain unanswered. Specifically, it is unknown if there is agreement in families in which adolescents have ADHD. Furthermore, frequency and intensity are important dimensions of conflict that were not investigated in previous studies on agreement. Parent/adolescent conflict becomes problematic when it occurs frequently and when arguments increase in intensity

(Patterson, 1982; Steinberg, 2001), therefore these two aspects of conflict should be investigated in relation to parent/adolescent agreement.

It is also important to consider ratings of agreement so that researchers can determine how to gather ratings from informants. That is, it is necessary to determine if ratings from parents and adolescents about conflict are essential, and whose ratings should be analyzed in statistical analyses. If there tends to be disagreement between parents and adolescents on conflict, this suggests that in studies examining family conflict parent and adolescent reports should both be investigated.

Identifying adolescent characteristics is important to understanding conflict

One of the reasons that identifying the child and parent characteristics that contribute to parent/adolescent conflict is important is that the findings could inform treatment development. Key characteristics associated with conflict could be prioritized in individual, parenting and family interventions to improve their benefits related to conflict reduction. Current treatments for children and adolescents with ADHD have been minimally effective at reducing parent/adolescent conflict. In a pivotal study investigating differences between treatments for conflict for families with children with ADHD and comorbid ODD, Barkley and colleagues (1992) investigated the effectiveness of a problem-solving communication training (PSCT) program, a behavior management training (BMT) program, and a traditional structural family therapy approach. The PSCT program (see Robin & Fisher, 1989) included training on family-based problem solving, communication skills, and behavior contracting procedures. The BMT program (see Barkley, 1997) consisted of parent training in the areas of positive reinforcement, token economies, appropriate discipline, and other contingency management procedures. The

third treatment was modeled after Minuchin's traditional therapy approach (see Minuchin, 1974; Minuchin & Fishman, 1981). Barkley et al. demonstrated that although there were statistically significant improvements at the group level for all three treatment groups, the within-family changes were not meaningfully different. Specifically, for 70 to 95% of adolescents who participated in the study, the frequency or intensity of family conflict did not show reliable change as a result of treatment. This finding suggests that regardless of the type of treatment families received, they were still engaging in arguments as often and with as much intensity at post-treatment as when treatment was initiated.

Because results from the Barkley et al. study (1992) did not reveal promise as to the effectiveness of treatments for family conflict in families with children with ADHD and ODD, Barkley et al. (2001) sought to determine if a more intense form of parent therapy would reveal success for the same population. This study included twice as many sessions as in the previous study (i.e., 18 compared to 9) and the combination of PSCT and BMT compared to PSCT alone; however, results were mixed. The PSCT/BMT and PSCT alone treatments both showed significant improvement in family conflicts halfway through treatment with neither showing more improvement than the other. This indicates that both PSCT and BMT and PSCT alone are beneficial forms of treatment. When inspecting the reliable change at the individual level, Barkley et al. found that only approximately 23% of families showed change by halfway through or at the end of treatment, and that there were no differences on the individual level between the two types of therapy. Thus, a high portion of families maintained consistent frequencies and intensities of conflict throughout treatment. The implication that can be drawn from these

studies is that a small number of families may benefit from PSCT and BMT treatments, but as a whole the treatments are minimally effective at reducing parent/child conflict. The limited effectiveness of these treatments suggests that there may be adolescent characteristics that are not considered or are unknown which is why investigating other variables such as academic and social impairment in relation to conflict is important.

Understanding which adolescent characteristics contribute to parent/adolescent conflict is important to future development of effective and efficient treatments. Previous research has established that certain child and adolescent characteristics predict parent/adolescent conflict, such as ODD (Greene et al., 2002), ADHD symptoms (Barkley, 1992) and depression (Forehand, Furey, & McMahon, 1984; Smith & Forehand, 1986). These studies have focused on symptoms while research on functioning is lacking, and there is still a need to determine the contribution of depression in a male sample on parent/adolescent conflict. It is clear that current treatments for family conflict, specifically for families with children with ADHD and ODD, are only marginally effective (Barkley et al., 1992; Barkley et al., 2001). The lack of effectiveness of these treatments may be indicative of unknown factors, which is why it is necessary to examine additional characteristics that may better predict family conflict and to expand upon those that are already known to include more than symptomatology. Once these characteristics are determined, children exhibiting these characteristics can be identified early and the negative outcomes associated with family conflict may be prevented before serious consequences occur in adolescence. In addition to possible prevention strategies that can be utilized once adolescent characteristics are identified, practitioners and researchers can

be better informed so that their treatments can be tailored around the needs of families with adolescents that show particular characteristics.

Current study

The purpose of this study is to determine which adolescent characteristics predict parent/adolescent conflict. Specifically, the purpose is to replicate previous findings to determine if adolescent ODD, depression, gender, and ADHD predict parent/adolescent conflict and if adolescents' academic and social impairment and age contribute to conflict, and if they contribute above and beyond the contribution made by ODD, depression, gender, and ADHD. An additional aim of this study will be to examine agreement between parents and adolescents' reports of frequency and intensity of family conflict. The specific questions that will be answered are:

Research question 1: Is there agreement between parents and adolescents with ADHD on the Conflict Behavior Questionnaire (CBQ)?

Research question 2: Do parent ratings of academic and social impairment, and adolescents' age significantly predict conflict and do they predict conflict above and beyond gender and symptoms of ODD/CD, inattention, hyperactivity, and depression?

Method

Overview

A total of 152 adolescents with Attention Deficit/Hyperactivity Disorder (ADHD) and their families participated in baseline evaluations for three separate studies at the Alvin V. Baird Attention and Learning Disabilities Center (ALDC). All measures used in the evaluations have sound psychometric properties. The three studies from which participants were recruited were: The Challenging Horizons Program Consulting Study (CHP-Consulting); the Challenging Horizons Program After School Study (CHP-AS); and the Developing Treatment for Older Adolescents with ADHD (DTA) Project. Evaluation procedures were similar for all three studies. The baseline evaluation consisted of a diagnostic interview, behavior rating scales, and cognitive ability testing. The data gathered from the baseline evaluation will be used to answer the research questions. Specifically, the focus of the current study is on parent and adolescent ratings of family conflict, adolescents' gender and age, parent ratings of adolescents' symptoms of ODD, CD, ADHD and academic and social impairment, as well as adolescents' self-ratings of depression symptoms. Adolescents' diagnoses of ADHD were established during the baseline evaluation. Risks and benefits to participation were explained to participants, and informed consent and assent were obtained prior to the evaluations.

Participants

Participants ($N = 152$) between the ages of 10 and 17 were recruited. The majority of participants were male. See Table 1 for means and standard deviations. Participants attended middle schools and high schools located in the Shenandoah Valley.

Participants were primarily Caucasian (83.8%). The majority of participating families' yearly household incomes were in the \$20,000 to \$40,000 range ($n = 47$, 30.5). Just over one third of parents were separated and approximately one third of parents were married ($n = 52$). See Table 1 for demographic information. Adolescents' composite IQ scores ranged from 73 to 132. All participants and their parents spoke English as their first language.

Recruitment. Recruitment procedures for all three studies were the same; however, recruitment for each study occurred during different years and adolescents of varying ages were recruited. Recruitment for the CHP-Consulting study occurred between March and June of 2002 and 2003 and parents of all fifth-grade students who would be attending local middle schools in the fall were mailed recruitment flyers. Recruitment for the CHP-AS program occurred between March and June of 2005 and 2006 and all parents of students in fifth through seventh-grade who would be attending participating local middle schools the following fall were mailed flyers. Recruitment for the DTA Project occurred between March and June of 2008 and parents of all students in eighth through eleventh grade who would be attending one of two local participating high schools were mailed flyers.

The flyers for all three studies contained information explaining the purpose of the study and the researchers' contact information for parents interested in participating in the studies. Parents contacted the research center in response to recruitment mailings and research staff provided additional information about the study. If parents were interested in participating in the study, research staff pre-screened parents for eligibility by asking questions about their adolescents' behavior using the Disruptive Behavior

Disorders Rating Scale (DBD; Van Eck et al., under review). If parent ratings indicated that the adolescent met the pre-screening criteria (i.e., likely to meet diagnostic criteria for ADHD or if the child had a previous diagnosis of ADHD), then an evaluation was scheduled for the parent and child at the Alvin V. Baird Attention and Learning Disabilities Center (ALDC). If parents endorsed six of the nine items on the DBD as “pretty much” or “very much,” for inattention or hyperactivity/impulsivity it was considered likely that their child would meet diagnostic criteria for ADHD.

Eligibility Criteria. Parents and adolescents completed a variety of measures for researchers to determine whether or not adolescents met specified eligibility criteria to be able to participate in the studies. In order to be eligible to participate, adolescents had to meet the following criteria. Firstly, all adolescents were required to meet diagnostic criteria for one of the three subtypes of ADHD according to parents’ report on the Kiddie Schedule for Affective Disorders or Schizophrenia (K-SADS) or the Diagnostic Interview Schedule for Children (DISC-IV). Diagnosis was based on a comprehensive evaluation which included diagnostic interviews with the parent, and rating scale data from the parent (described in detail below). In addition, all adolescents had to meet criteria for symptom severity and impairment based on parent ratings on the DBD and Impairment Rating Scale (IRS; Fabiano et al., 2006). Impairment across setting was considered present if ratings on the IRS as reported by parents were in the impaired range (rating of 3 or above on a 0 to 6 scale) or parents reported significant impairment on the clinical interview. Symptoms were considered present if a parent reported the symptoms on the DBD as present “pretty much” or “very much” of the time, or if adolescents met criteria based on the diagnostic interview. Second, all adolescents were required to have

an IQ equal to or greater than 80. As with the diagnostic measures, measures used to assess cognitive ability differed between the three studies (i.e., CHP-Consulting, CHP-AS, and DTA project). Third, adolescents were screened for bipolar disorder and schizophrenia and they could not meet diagnostic criteria for these disorders.

Measures

Because participants were involved in three separate studies that were conducted during different years, different diagnostic measures and intelligence batteries were used during the baseline evaluations. The Diagnostic Interview Schedule for Children (DISC-IV) and the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) were diagnostic measures used to assess for ADHD and are considered to be equivalent measures for the purpose of this study. In addition the Kaufman Brief Intelligence Test-II (K-BIT-II) and the Wechsler Intelligence Scale for Children®—Fourth Edition Integrated (WISC-IV) are considered to be equivalent intelligence batteries.

Behavior Assessment Scale for Children, First Edition (BASC; Kamphaus & Reynolds, 1998). The BASC is used to measure disruptive behaviors, mood, and adaptive skills and is designed to screen for a variety of emotional and behavioral disorders in adolescence. Adolescent depression was analyzed in research question 2, therefore only adolescent self-report of depression on this measure was included in this study. Items measured on this scale are ranked on a 4-point scale ranging from “*Never*” to “*Almost always*.” Scores on the items are classified depending on the extent to which the behavior is adaptive or maladaptive to the adolescent’s functioning. Internal consistency for measuring depression with the BASC is acceptable ($\alpha = .80$ to $.82$) and test-retest reliability is low to moderate (.64 to .85; Flanagan, 1995).

Behavior Assessment Scale for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). The BASC-2 is used to measure disruptive behaviors, mood, and adaptive skills and is designed to screen for a variety of emotional and behavioral disorders in adolescence. Adolescent depression was analyzed in research question 2, therefore only adolescent self-report of depression on this measure was included in this study. Items measured on this scale are ranked on a 4-point scale ranging from “*Never*” to “*Almost always*.” Scores on the items are classified depending on the extent to which the behavior is adaptive or maladaptive to the adolescent’s functioning. Internal consistency for measuring depression using the BASC-2 is low to moderate ($\alpha = .67$ to $.88$) and test-retest reliability is also low to moderate ($.63$ to $.84$; Reynolds & Kamphaus).

Conflict Behavior Questionnaire (CBQ; Prinz et al., 1979). This measure was completed by both parents and adolescents during the baseline evaluation. The CBQ was designed to measure both parent and adolescent report of perceived conflict and communication between family members. The parent version of the CBQ contains items on which parents decide whether the items are “mostly true” to “mostly false” for their relationship and the items are endorsed by the parent circling “true” or “false.” Approximately 20 items on the parent version contain statements about their appraisal of their child and approximately 20 items contain statements regarding parents’ perceptions of interactions with their children. The adolescent version of the CBQ similarly contains 20 items regarding adolescents’ appraisal of their parents and 20 items regarding adolescents’ perceptions of interactions with their parents. Items on both versions of the CBQ are counterbalanced so that in some instances a “true” response corresponds to a positive perception and in some instances a “true” response corresponds to a negative

perception. Higher scores on this measure indicate negative perceptions which are indicative of higher rates of conflict. The CBQ has adequate internal consistency ($\alpha = .88$; Prinz et al.). It is important to note that the CBQ does not distinguish between frequency and intensity of conflict. That is, there were not separate subscales for intensity and frequency.

Diagnostic Interview Schedule for Children (DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). This measure was used in the CHP-Consulting Project for diagnostic purposes. The portion of adolescents receiving this measure was 72 out of the total 152. Administered during the baseline visit to establish participant eligibility, the DISC-IV is a semi-structured diagnostic interview used to evaluate children and adolescents for ADHD and other psychiatric disorders (e.g., major depression and ODD) using DSM-IV diagnostic criteria. The DISC-IV was found to have fair to excellent reliability ($\kappa = .42$ to $.81$; Shaffer, Fisher, & Lucas, 2004).

Disruptive Behavior Disorders Rating Scale (DBD; Pelham et al., 1992). This measure was administered to parents in all three studies at the baseline evaluation. This measure was designed to assess the severity of the adolescents' ADHD symptoms as reported by parents. The scale includes 18 symptoms of ADHD (e.g., "Is often easily distracted by extraneous stimuli"), and parents indicate whether a behavior is "not at all", "just a little", "pretty much", or "very much" characteristic of the adolescent. An endorsement of "pretty much" or "very much" is considered to indicate the presence of a symptom for a given item on the DBD. The DBD has excellent internal consistency for the hyperactivity/impulsivity ($\alpha = .88$) and inattentive ($\alpha = .91$) subscales (Van Eck, Finney, & Evans, under review).

Impairment Rating Scale (IRS; Fabiano et al., 2006). This measure was used in all three of the studies and was completed at the baseline evaluation. The IRS is a brief rating scale completed by parents that assesses general functioning across a variety of domains including: relationships with peers, siblings, parents; academic functioning; self-esteem; family impact; and overall severity of impairment. Parents indicate the degree to which they believe functioning in these domains is or is not a problem and the degree to which the adolescent requires or does not require additional treatment. A 7-point visual response scale is used and scores of 4 through 6 indicate impaired behavior for the given domain. This measure has shown acceptable concurrent, discriminant, and convergent validity, and acceptable levels of stability (Pelham, Fabiano, & Massetti, 2005). The IRS is also sensitive to behavior change (Fabiano et al., 2007).

Kaufman Brief Intelligence Test-II (K-BIT-II; Kaufman & Kaufman, 1997).

This measure was used in the DTA Project. The portion of adolescents receiving this measure was 31 out of the total 152. The K-BIT-II is an individually administered measure of verbal and non-verbal intelligence for children, adolescents, and adults. This test was administered at the baseline visit by trained research assistants. The K-BIT-II has adequate evidence for reliability and validity (Kaufman & Kaufman, 1997) and provides standard scores comparable to those provided by comprehensive intelligence batteries, but only requires approximately 30 minutes to administer. The K-BIT-II has high reliability and validity ($\alpha \geq .80$; Kaufman & Kaufman).

Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS;

Kaufman, Birmaher, Brent, Rao et. al., 1997). This measure was used for diagnostic purposes in the CHP-AS Study and the DTA Project. The portion of adolescents

receiving this measure was 82 out of the total 152 participants. The K-SADS is a semi-structured diagnostic interview that was designed to evaluate past and present clinical symptoms in children and adolescents. Parents and adolescents were interviewed at the baseline evaluation by a trained clinician. The K-SADS was found to have excellent reliability ($\kappa = .80$ to $.90$; Kaufman, Birmaher, Brent, Rao et. al.,).

Wechsler Intelligence Scale for Children®—Fourth Edition Integrated (WISC-IV: Wechsler, 2003). This measure was used in the CHP-Consulting Study to assess adolescents' cognitive abilities. The portion of adolescents receiving this measure was 72 out of the total 152 participants. The WISC-IV was administered by a trained clinician to adolescents at the baseline evaluation. This measure was designed to assess the cognitive ability of children and adolescents aged 6 years through 16 years 11 months. The WISC-IV consists of four composite scores, and a full scale IQ score is comprised of the four composite scores. This instrument has been shown to have excellent reliability ($\alpha = .85$ to $.97$; Wechsler, 2003).

Copies of the BASC, BASC-II, CBQ, DBD, and IRS are included in the appendix.

Procedure

After participants were pre-screened to determine if they met the eligibility requirements to participate in the studies, they scheduled a time with research staff to complete a baseline evaluation. This evaluation consisted of a diagnostic interview, behavior ratings scales, and a test of cognitive ability to assess adolescents' IQ. Other assessments were also completed that were relevant to the specific studies. Prior to testing, all parents and adolescents met with research staff to hear an explanation of the

evaluation and other research procedures and answer any questions or concerns. Research staff also provided parents and adolescents with information on the risks and benefits of their participation, told each family that they could withdraw from the evaluation and study at any time, and explained confidentiality procedures. Research staff also explained circumstances under which confidentiality could be broken (e.g., if information is revealed that indicates the existence of past or present child abuse). After thorough explanation of the study, parents were asked to sign consent forms, adolescents were asked to sign informed assent forms, and research staff signed both forms as well. Parents were given photocopies of these forms. Parents and adolescents were also informed that they could take a break from completing the assessments at any time and were given instructions on where the restrooms were located.

Upon completion of the assent/consent forms, a research assistant accompanied the adolescent into a separate room whereupon they initiated the IQ testing, self-report measures, and other rating scales. The parent remained with a clinician and completed the diagnostic interview to assess for ADHD diagnosis, and completed behavior rating scales. It took between two and three hours for parents and adolescents to complete the evaluation procedures for this study. Upon completion, research staff gave each family a gift card that could be accepted anywhere VISA cards were accepted. Participants in the CHP-Consulting and the CHP-AS programs received gift cards valuing \$100.00. Participants in the DTA Project received gift cards valuing \$50.00.

After all baseline evaluations were completed, research staff met to review the findings from the evaluations and discuss each case to determine whether or not

adolescents met eligibility criteria to participate in the research studies. Participants were notified via phone and letter as to their eligibility for the study.

Results

The reporting of results is organized by the research questions. Prior to addressing the research questions, relationships among adolescent characteristics (i.e., predictors) and conflict (i.e., criterion) were evaluated to assess overlap between the predictors and to assess relationships between the predictors and the criterion. The first research question addressed is whether or not parents and adolescents agreed on their perceptions of conflict. The second research question explored is if adolescents' gender and symptoms of hyperactivity, inattention, ODD/CD, and depression predict conflict, and if age and social and academic impairment add to the prediction of conflict.

Relationships among adolescent characteristics and conflict

Before answering the research questions, relationships between adolescent characteristics (i.e., predictors) were assessed to determine if there would be overlap between the predictors which would indicate that predictors were potentially measuring the same thing. That is, if predictors were highly correlated that would indicate that there is little value in including both of them in the analyses. The adolescent characteristics that were evaluated in this study were adolescents' gender, age, symptoms of hyperactivity, inattention, ODD/CD, and depression, and social and academic impairments.

Relationships between adolescent characteristics and parents' and adolescents' perceptions of conflict (i.e., criterion) were also preliminarily investigated. Pearson's correlation coefficient (r) was calculated to examine these relationships. Bivariate correlations are presented in Table 2.

Overall, the predictors that were most often correlated with other predictors were symptoms of ODD/CD and hyperactivity. Parent ratings of hyperactivity were

significantly correlated with other predictors, including: age, symptoms of inattention, social impairment, and symptoms of ODD/CD. Symptoms of inattention were significantly correlated with academic impairment and symptoms of ODD/CD. Age and parent ratings of ODD/CD were negatively correlated, indicating that the younger the participants age the higher the parents' ratings of ODD/CD. Symptoms of ODD/CD were also significantly correlated with social impairment and adolescents' self ratings of depression. These relationships suggest that there was some overlap between predictors, but of the predictors (with the exception of ODD and CD ratings) that were correlated with one another, the correlations were moderate or small ($r \leq .5$) revealing enough independence between them to retain them. Ratings of ODD and CD were highly correlated ($r = .720$), so they were combined into one variable. The new variable, ODD/CD, was created by adding the ODD and CD raw scores together.

In general, parents' ratings of conflict were correlated with nearly all adolescent characteristics whereas adolescents' ratings of conflict with their mothers, and their ratings of conflict with their fathers were not. Parents' ratings of conflict were significantly correlated with adolescents' gender, and symptoms of hyperactivity, inattention, depression, and ODD/CD, and all of these relationships were positive indicating that as symptom ratings increased ratings of conflict increased. The strongest relationships were found between parents' ratings of conflict and adolescents' symptoms of ODD/CD ($r = .592$), hyperactivity ($r = .426$), and depression ($r = .307$). Adolescents' ratings of conflict with their mothers were only significantly correlated with age ($r = .601$) and this relationship was positive revealing that as age increased ratings of conflict also increased. Adolescents' ratings of conflict with their fathers were only significantly

correlated with adolescents' self ratings of depression ($r = -.181$) and this relationship was negative indicating that as symptoms of depression increase ratings of conflict decrease. That is, when parents rated conflict, there were relationships between conflict and adolescents' gender, and symptoms of ADHD, ODD/CD, and depression. When adolescents reported conflict, there was a relationship between conflict with their mothers and adolescent's age, and between conflict with their fathers and adolescents' symptoms of depression.

Disagreement on ratings of conflict

The first research question asked whether or not parents and adolescents agreed on their perceptions of conflict. The answer to this question is important, because if parents' and adolescents' ratings are highly correlated, then their ratings of conflict would be equivalent meaning that their ratings could be combined and one regression equation could be calculated. Pearson's correlation coefficients (r) were calculated to examine the relationship between parent and adolescent ratings of conflict. Participating adolescents rated conflict in relation to their fathers and mothers, so two correlation analyses were conducted. Results indicated that there was not a statistically significant relationship between adolescents' ratings of conflict with their mothers, and parents' ratings of conflict $r = -.01, p = .907$. The relationship between adolescents' ratings of conflict with their fathers, and parents' ratings of conflict was also statistically non-significant, $r = .00, p = .996$. These results are consistent with the hypothesis and indicate that there is not agreement between parents and adolescents on ratings of conflict. Therefore, to answer the second research question, separate regression analyses were conducted; one predicting parents' ratings of conflict, one predicting adolescents' ratings

of conflict with their mothers, and one predicting adolescents' ratings of conflict with their fathers. In summary, parents and adolescents disagreed on how they perceived conflict.

Characteristics that predict parent/adolescent conflict

I sought to determine if adolescent characteristics predict parent/adolescent conflict in a sample of adolescents with ADHD and their parents. I also sought to determine if age and academic and social impairment predicted conflict. Multiple regression analyses were conducted to examine whether or not adolescents' gender, age, academic and social impairment and symptoms of hyperactivity, inattention, depression, and ODD/CD would predict parents' and adolescents' ratings of conflict. These results are reported first. Multiple regression analyses were also conducted to examine the research hypothesis that adolescents' gender and symptoms of hyperactivity, inattention, depression, and ODD/CD would combine to produce a sufficient predictive model, and that the addition of adolescents' academic and social impairment and age would significantly increase the amount of variance explained in ratings of conflict. Three separate regression analyses were examined (i.e., one predicting parents ratings of conflict, one predicting adolescents' ratings of conflict with their fathers, and one predicting adolescents' ratings of conflict with their mothers) each including two models. The first model contained adolescents' gender, and symptoms of hyperactivity, inattention, ODD/CD, and depression. The second model contained academic and social impairment and age in addition to age and symptoms of ADHD, ODD/CD, and depression. Both models were analyzed to predict parents' ratings of conflict,

adolescents' ratings of conflict with their mothers, and adolescents' ratings of conflict with their fathers.

Adolescent ratings of conflict with mothers. This question asked if adolescent characteristics (i.e., gender, age, academic and social impairment, and symptoms of ADHD, ODD/CD, and depression) predict adolescents' ratings of conflict with their mothers. The predictive model containing adolescents' gender, age, academic and social impairment and symptoms of hyperactivity, inattention, depression, and ODD/CD did significantly predict adolescents' ratings of conflict with their mothers [$F(8,140) = 11.912, p < .001, R^2 = .405$]. However, the only predictors that contributed significantly to the model were adolescents' age ($b = 2.138, p < .001$) and symptoms of depression ($b = .139, p < .05$) indicating that the other variables did not contribute to this predictive model.

The nested model including only adolescents' gender, symptoms of inattention, hyperactivity, depression, and ODD/CD was not statistically significant and did not account a significant percentage of variance in conflict. When adolescents' age and academic and social impairment were added to the regression equation, the variance accounted for increased to $R^2 = .405$ [$F(8,140) = 11.912, p < .001$], which was significantly more than the variance accounted for by the first model [$R^2_{\text{change}} = .362, F_{\text{change}}(3,140) = 28.425, p < .001$]. However, contrary to the hypothesis, not all of the predictors contributed to the larger model. Specifically, only adolescents' age ($b = .139, p < .05$) and symptoms of depression ($b = 2.138, p < .001$) significantly contributed to the model. These results indicate that adolescents' age and symptoms of depression are important characteristics in adolescents' perceptions of conflict with their mothers.

Adolescent ratings of conflict with fathers. This question asked if adolescent characteristics (i.e., gender, age, academic and social impairment, and symptoms of ADHD, ODD/CD, and depression) predict adolescents' ratings of conflict with their fathers. The predictive model containing adolescents' gender, age, academic and social impairment and symptoms of hyperactivity, inattention, depression, and ODD/CD did significantly predict adolescents' ratings of conflict with their fathers [$F(8,132) = 2.135$, $p < .05$, $R^2 = .115$]. However, the only predictors that contributed significantly to the model were adolescents' symptoms of depression ($b = -.404$, $p < .05$) and hyperactivity ($b = .401$, $p < .05$) indicating that the other variables did not contribute to this predictive model.

The model including only adolescents' gender, symptoms of inattention, hyperactivity, depression, and ODD/CD was statistically significant [$F(5,135) = 2.448$, $p < .05$] and accounted for a significant percentage of variance in conflict ($R^2 = .037$). When adolescents' age and academic and social impairment were added to the regression equation, the variance accounted for did not significantly increase. Therefore, only findings for the first, smaller model will be presented. In contrast with the hypothesis, adolescents' symptoms of ODD/CD ($b = -.190$, $p = .134$), inattention ($b = -.101$, $p = .602$), hyperactivity ($b = .329$, $p = .084$) did not contribute to the model whereas adolescents' symptoms of depression ($b = -.362$, $p < .05$) did significantly contribute to the model. These results reveal that adolescent's symptoms of depression and hyperactivity, and their age are important characteristics in adolescents' perceptions of conflict with their fathers.

Parent ratings of conflict. This question asked if adolescent characteristics (i.e., gender, age, academic and social impairment, and symptoms of ADHD, ODD/CD, and depression) predict parents' perceptions of conflict. The predictive model including adolescents' gender, age, academic and social impairment and symptoms of hyperactivity, inattention, depression, and ODD/CD significantly predicted parents' ratings of conflict with their children [$F(8,144) = 15.034, p < .001, R^2 = .455$]. The predictors that contributed significantly to the model were adolescents' age ($b = .945, p < .05$), gender ($b = 3.762, p < .05$), symptoms of ODD/CD ($b = .582, p < .001$), hyperactivity ($b = .291, p < .05$), depression ($b = .368, p < .01$) indicating that the other variables did not contribute to this predictive model.

The model including only adolescents' gender, symptoms of inattention, hyperactivity, depression, and ODD/CD was statistically significant [$F(5,147) = 21.903, p < .001$] and accounted for a significant percentage of variance in conflict ($R^2 = .427$). When adolescents' age and academic and social impairment were added to the regression equation, the variance accounted for did not significantly increase. Therefore, findings for the second model will not be presented. In contrast with the hypothesis, adolescents' symptoms of inattention ($b = .028, p = .833$) did not contribute to the model whereas adolescents' gender ($b = 3.563, p < .05$) and symptoms of ODD/CD ($b = .524, p < .001$), hyperactivity ($b = .275, p < .05$), depression ($b = .361, p < .01$) did significantly contribute to the model. These results suggest that adolescents' gender and symptoms of ODD/CD, hyperactivity, and depression serve as important characteristics in parents' perceptions of conflict with their children.

Summary of results. Overall, the most predictive adolescent characteristics across the models and between raters were adolescents' age and symptoms of depression. Because the sample consisted of adolescents with ADHD it was assumed that symptoms of ADHD and impairment would play a larger role in the prediction of conflict than was shown. It is possible that impairments did not play a large role in the prediction of conflict as a result of all of the participants being diagnosed with ADHD. ADHD diagnoses could lead to a restricted range on symptoms and impairment. If participants without ADHD or with other diagnoses had been included in the sample, it is possible that symptoms and impairment related to ADHD could have made a greater contribution to conflict. These results reveal that symptoms of depression and age are important characteristics that should be considered in relation to parent/adolescent conflict.

Discussion

Overview

The findings from this study suggest three general conclusions. First, there were no relationships found between parents' and adolescents' ratings of conflict. This lack of relationships indicated that parents and adolescents disagreed on how often conflict occurred and on the intensity of family conflict. Second, adolescents' gender, age, and symptoms of ODD/CD, hyperactivity, and depression predicted parents' perceptions of conflict. Only age and adolescents' symptoms of depression predicted adolescents' perceptions of conflict with their mothers. Similarly, only depression and hyperactivity predicted adolescents' perceptions of conflict with their fathers. Depression and age appeared to be important in the association with conflict. Third, in contrast with the hypothesis, academic and social impairment were not related to conflict.

Adolescent characteristics associated with family conflict

Age and adolescents' symptoms of depression predicted conflict regardless of who reported (i.e., parent, adolescent). Although age was associated with adolescents' perceptions of conflict with their mothers, this was not the case when adolescents rated conflict with their fathers. Adolescents' symptoms of hyperactivity were associated with parents' perceptions of conflict and with adolescents' perceptions of conflict with their fathers. No other characteristics were related to conflict across informants.

Depression. The finding that depression played a significant role in the prediction of family conflict was consistent with previous research, but depression appeared to play a larger role than was expected. That is, when adolescents' rated conflict with their mothers and conflict with their fathers, depression (adolescents' self-reported symptoms)

was the strongest predictor of conflict and symptoms of ADHD and ODD/CD did not contribute. Previous research has indicated that adolescents' ratings of depression predict family conflict (Forehand, Furey, & McMahon, 1984; Smith & Forehand, 1986) in studies consisting of samples of female adolescents. This study's finding that adolescent depression predicts conflict builds upon previous research by including a sample comprised of adolescents with ADHD and extending it to males (i.e., 77% of participants were male). Contrary to the findings from the current study, Smith and Forehand (1986) found that depression was related to conflict only from daughters' reports on the CBQ, and this relationship was only relevant to conflict between daughters and mothers. The current study extended this finding also using the CBQ by revealing that depression was related to conflict when adolescents' rated conflict with both parents and when parents rated conflict.

Although adolescents' symptoms of depression predicted family conflict, it is important to note that the cause of this relationship is unknown. The findings can be interpreted two ways. First, depression could have an impact on family conflict. That is, adolescents' symptoms of depression (e.g., irritability, disinterest) may impact interactions with their parents and cause them to view their relationship with their parents negatively. It is also possible that symptoms of depression are manifested behaviorally (e.g., adolescents acting out, irresponsible behaviors, irritability) and this could impact family conflict. A second way to interpret this finding is that conflict might have an impact on depression instead of the other way around. For example, if parents and adolescents become involved in perpetual and intense conflict, it is possible that adolescents begin feeling hopeless about their relationship with their parents causing

them to feel depressed. It is also possible that there was a third unmeasured variable that was influencing the relationship between depression and conflict.

Age. Participants' ages ranged from 10 to 17, and the mean age was just over 12 years. Results from the correlational analyses indicated that age was most strongly related to adolescents' ratings of conflict with their mothers. This relationship was positive which suggests that as age increased ratings of conflict with their mothers also increased. Age did not contribute to the prediction of conflict when adolescents rated conflict with their fathers. Age did, however, predict parent rated conflict. This reveals that age predicted conflict when the conflict involved adolescents and their mothers, but not their fathers.

Age may be a more critical factor in the mother/adolescent relationship than in the father/adolescent relationship in regards to conflict. One aspect to consider is that the sample in this study was predominantly male. Perhaps adolescent males relate better to their fathers than their mothers making arguments more likely with their mothers than fathers. There also may be a difference in how mothers and fathers handle their teenagers' growing independence and developmental changes as adolescence progresses. It is possible that mothers are stricter on topics such as curfew and dating than fathers, which could lead to higher instances of arguing between adolescents and their mothers than with their fathers.

Some researchers have explored characteristics that impact the parent/adolescent relationship during this critical developmental period and it appears as though the dominant factors include amount of time mothers verses fathers are engaged with their children and the parents' gender. Collins and Russell (1991) found that time was a factor

influencing parent/adolescent relationships and that mothers spent more time (leisure and care-giving time) with their children than did fathers. If mothers spend more time with their children than fathers during adolescence, it is possible that there are more opportunities for adolescents to engage in arguments with their mothers. Edwards and colleagues (2001) also found that adolescents (male only sample) reported more negative and hostile conflicts with their mothers than with their fathers. This finding, in addition to findings from the current study, indicates that parents' and adolescents' gender may play an important role in family conflict. In summary, mother/adolescent conflict increased with age but father/adolescent conflict did not. This finding is consistent with previous research that suggested that the greater amount of time mothers and adolescents spend together compared to fathers and adolescents, may account for this difference.

Other characteristics. Adolescents' symptoms of ODD/CD and ADHD are characteristics that are often studied and discussed in relation to parent/adolescent or parent/child conflict (e.g., Barkley, 1992; Edwards et al., 2001; Evans, Sibley & Serpell, 2009; Fletcher et al., 1996; Johnston, 1996). In the current study, when parents rated conflict there were more adolescent characteristics that contributed to conflict than when adolescents were the raters. As hypothesized, adolescents' gender, age, and symptoms of hyperactivity, ODD/CD, and depression contributed to parents' ratings of conflict, which was not the case when adolescents rated conflict. It appears as though adolescents' externalizing symptoms are not important when adolescents rate conflict, but these characteristics are important when parents are raters. This finding has not been reported in previous studies as most investigated parents' reports of conflict, therefore, it is unknown if adolescents' externalizing symptoms were important outside of parents'

ratings of conflict. Results from the present study were consistent with previous studies' findings that externalizing symptoms are related to parent-reported conflict, and the finding that adolescents' externalizing symptoms were not important when adolescents rated conflict expands the current literature.

Contrary to the hypothesis, academic and social impairment did not contribute to parent/adolescent conflict nor were they related to conflict. Academic and social impairments have not been reported in previous studies as variables of interest when investigating conflict. It may be that previous studies have similarly found no relationship between impairment and conflict and thus have not reported this finding. This lack of a relationship, in addition to parents' report of conflict indicating that ADHD and ODD/CD symptoms contribute to conflict, may indicate that symptoms should be characteristics of focus when studying conflict. It should be noted that the psychometric properties of the IRS, which was used to measure impairments in this study, are strong (Pelham, Fabiano, & Massetti, 2005) indicating that it is unlikely that there was no relationship between impairments and conflict due to measurement issues. However, there may be aspects of impairment that the IRS does not capture and are related to conflict. It was hypothesized that impairments would be associated with conflict because impairment is associated with symptoms of ADHD and ODD/CD and because impairments can be thought of as the behavioral manifestation of symptoms. The findings from the current study suggest that impairments are not as important as symptoms when studying family conflict.

Differing Perceptions of Conflict

In this study there were three different ratings of conflict; parents' ratings, adolescents' ratings of conflict with their fathers, and adolescents' ratings of conflict with

their mothers. As hypothesized, there was no agreement between parents and adolescents on ratings of conflict. This finding was consistent with previous research that has established that parents and adolescents tend to disagree on conflict, cohesion, and interactions (Feldman, Wentzel, & Gehring, 1989; Gehring, Wentzel, & Munson, 1988; Tein, Roosa, & Michaels, 1994). Barkley and colleagues (2001) investigated parent/adolescent conflict and results from their study showed that adolescents (with ADHD) rated conflict with their mothers and with their fathers lower than mothers and fathers rated conflict (i.e., adolescents rated conflict lower than the parents did). The findings from the study by Barkley and colleagues indicated that agreement between parents and adolescents was low which is consistent with findings from the current study.

It is important to consider context when interpreting results about parents' and adolescents' perceptions of conflict. The CBQ required that parents answer questions about conflict with their children during the last two weeks. Adolescents were required to answer similar questions about conflict with each parent over the last two weeks prior to completing the questionnaire. Scores were interpreted in the following manner: the higher the total score on the CBQ, the more conflict the informant was encountering with the person they completed the questionnaire about. If adolescents had low total scores on the CBQ when rating conflict with their fathers it could be interpreted that they had low levels of conflict with their fathers. Because there was not consistency between parents' and adolescents' ratings, context should be considered. Perhaps because adolescents with ADHD are prone to social impairment, conflict is a part of daily life and they do not regard it as abnormal or take notice of conflict in the same way adolescents or adults without ADHD would. Context could also be applied to who the informant is completing

the questionnaire about. An adolescent with ADHD may have a lot of conflict with his/her parents but not with his/her friends at school.

In addition to context, it is also important to consider what typical ratings of conflict are on the CBQ. All participants in this study had ADHD diagnoses and their scores on the CBQ would likely be different than scores from a non-ADHD sample. In fact, mean scores on conflict in this study were higher than those found in a study by Robin and Foster (1989). Mean scores of 8.4 ($sd = 6.0$, distressed sample) for adolescents' ratings of conflict with their mothers in the study by Robin and Foster differed slightly with those found in this study ($M = 7.7$, $sd = 5.5$). The non-distressed samples' mean scores on ratings of conflict with their mothers were lower ($M = 2.0$, $sd = 3.1$) when compared to those in this study indicating that the current sample had higher scores than the non-distressed sample in the Robin and Foster study. Likewise, adolescents' ratings of conflict with their fathers were also higher in this study ($M = 22.7$, $sd = 12.0$) when compared to the distressed ($M = 7.6$, $sd = 5.4$) and non-distressed ($M = 1.6$, $sd = 1.6$) sample in the Robin and Foster study. It should be noted that almost half of the adolescents who participated in the current study lived in homes in which the parents were divorced, separated, or single. If adolescents resided with one parent and not the other it is possible that this could influence ratings of conflict as their exposure to one parent may be minimal in comparison to the custodial parent. Parents' ratings from the Robin and Foster study could not be compared to those from this study because mothers and fathers answered different forms of the CBQ separately in the Robin and Foster study.

The lack of agreement between parents and adolescents on conflict leads to the question of whose ratings should be used in studies investigating family conflict. In addition, it appears as though there are predictors that are unique to parents' ratings and predictors that are unique to adolescents' ratings of conflict. Specifically, when adolescents rated conflict, age and their self-reported symptoms of depression were important predictors whereas when parents rated conflict, age, gender, and adolescents' symptoms of ODD/CD, hyperactivity, and depression were important predictors. Perhaps parents perceive externalizing symptoms such as ODD/CD and hyperactivity as causes of the behaviors that instigate arguments whereas adolescents attribute the arguments to parents' behaviors (which were not measured in this study). Future research could benefit from gathering information about characteristics of both adolescents and parents to learn what fuels arguments. The inconsistency between parents' and adolescents' perceptions of conflict could suggest that both ratings should be used in future studies.

Limitations

The main limitation in this study was that the sample was not diverse. Nearly 84% of participants in this study were Caucasian. Therefore, these results may not generalize to families of different racial backgrounds. The community from which the sample was recruited was a predominantly rural community which may explain the lack of diversity. In spite of a lack of evidence from previous studies for racial differences in regards to family conflict, research is needed to determine whether or not these differences exist. Knowing this information will help to determine if generalizability is a problem.

Another point to note is that the sample was composed mainly of males. There were 118 males compared to 36 females. This is not surprising or necessarily problematic

in interpreting the results as the gender ratio for males vs. females with ADHD ranges from 2:1 to 9:1 depending on the subtype (i.e., Inattentive, Hyperactive/Impulsive, or Combined type; APA, 2000).

Future directions

Family conflict has been discussed and studied since the 1950s, and treatments seeking to ameliorate family conflict have been minimally successful. Thus, there remains much to learn about family conflict, particularly in families with adolescents with ADHD who are at a heightened risk of conflict (Barkley, 1992).

The most notable finding from this study was that adolescents' age and ratings of depression appeared to play a larger role in the prediction of conflict than was anticipated. These variables have not been the focus of previous research on conflict as adolescents' externalizing behaviors and parenting practices have been. These results suggest that depression and age should be considered in future studies and research should expand upon these dimensions by determining whether depression has an impact on conflict or vice versa. Future researchers seeking to reduce family conflict should measure depression prior to and during the course of studies to determine if depression increases or decreases in relation to conflict.

Indices of functioning were examined in the current study in an effort to expand upon previous research. Although results from the current study indicated that academic and social impairment did not contribute to and were not related to conflict, future investigators should further study impairment in relation to conflict to replicate these findings. Researchers should also explore connections between impairment and symptoms to gain a better understanding of the roles that they play in regards to conflict.

Implications for treatment

Although there are some promising treatments for family conflict (e.g., BPT), overall treatments seeking to reduce family conflict are not very effective. This study examined adolescent characteristics that are thought to impact parent/adolescent conflict in families with adolescents with ADHD. Results from this study indicated that depression and age are dominant predictors of family conflict. Therefore, these factors should be considered by clinicians during the course of treatment. Depression may play a larger role in conflict than was previously considered, and it is a factor that may need to be targeted in relation to conflict. Because directionality of the relationship between depression and conflict is unknown, clinicians should assess depression prior to and throughout the course of treatment.

Another implication for clinicians pertains to academic and social impairment not contributing to conflict. Although impairment was not important in the prediction of conflict, other characteristics (i.e., ODD/CD, hyperactivity, depression, gender) contributed when parents rated conflict. Therefore, it may be that treatment should be centered on symptoms to reduce conflict. Although academic and social impairment were not related to conflict, they were related to externalizing symptoms indicating that they are connected in some way. For example, social impairment was related to adolescents' symptoms of hyperactivity and ODD/CD, and academic impairment was related to symptoms of inattention (See Table 2). These relationships suggest that there is a connection between symptoms and impairment; however, symptoms predicted conflict whereas impairment did not. Further research exploring the role of impairment and

symptoms in relation to conflict is needed to better understand these relationships and to provide practitioners with information on how these characteristics relate to one another.

In addition to characteristics that should be considered in treatment, results from this study imply that clinicians should consider the source of the information they gather. For example, clinicians in practice may only see adolescents or parents during treatment. This could lead to clinicians missing important aspects of the complete picture in terms of what variables may be affecting conflict. It is important, therefore, for clinicians to be mindful of whom their informants are and to be aware that perceptions of conflict differ between parents and adolescents.

Appendix A

Assessment _____ Participant

ID: _____

Conflict Behavior Questionnaire: Adolescent Version for Father

Date: _____

Form being completed for: Bio Father Adoptive Father Stepfather Grandfather
Other: _____

Think back over the last 2 weeks at home. The statements below have to do with you and your father. Read the statement, and then decide if you believe the statement is true. If it is true, then circle *true*, and if you believe the statement is not true, circle *false*. You must circle either true or false, but never both for the same item. Please answer all items. Your answers will not be shown to your parents.

True False 1. My dad doesn't understand me.

True False 2. My dad and I sometimes end our arguments calmly.

True False 3. My dad understands me.

True False 4. We almost never seem to agree.

True False 5. I enjoy the talks we have.

True False 6. When I state my own opinion, he gets upset.

True False 7. At least three times a week, we get angry at each other.

True False 8. My father listens when I need someone to talk to.

True False 9. My dad is a good friend to me.

True False 10. He says I have no consideration for him.

True False 11. At least once a day we get angry at each other.

True False 12. My father is bossy when we talk.

True False 13. The talks we have are frustrating.

True False 14. My dad understands my point of view, even when he doesn't agree with me.

True False 15. My dad seems to be always complaining about me.

True False 16. In general, I don't think we get along very well.

True False 17. My dad screams a lot.

True False 18. My dad puts me down.

True False 19. If I run into problems, my dad helps me out.

True False 20. I enjoy spending time with my father.

Appendix B

Assessment: _____ Participant

ID: _____

Conflict Behavior Questionnaire: Adolescent Version for Mother

Date: _____

Form being completed for: Bio Mother Adoptive Mother Stepmother

Grandmother Other: _____

Think back over the last 2 weeks at home. The statements below have to do with you and your mother. Read the statement, and then decide if you believe the statement is true. If it is true, then circle *true*, and if you believe the statement is not true, circle *false*. You must circle either true or false, but never both for the same item. Please answer all items. Your answers will not be shown to your parents.

True False 1. My mom doesn't understand me.

True False 2. My mom and I sometimes end our arguments calmly.

True False 3. My mom understands me.

True False 4. We almost never seem to agree.

True False 5. I enjoy the talks we have.

True False 6. When I state my own opinion, she gets upset.

True False 7. At least three times a week, we get angry at each other.

True False 8. My mother listens when I need someone to talk to.

True False 9. My mom is a good friend to me.

True False 10. She says I have no consideration for her.

True False 11. At least once a day we get angry at each other.

True False 12. My mother is bossy when we talk.

True False 13. The talks we have are frustrating.

True False 14. My mom understands my point of view, even when she doesn't agree with me.

True False 15. My mom seems to be always complaining about me.

True False 16. In general, I don't think we get along very well.

True False 17. My mom screams a lot.

True False 18. My mom puts me down.

True False 19. If I run into problems, my mom helps me out.

True False 20. I enjoy spending time with my mother.

Appendix C**CONFLICT BEHAVIOR QUESTIONNAIRE---PARENT VERSION**

Name of parent: Date:

I am completing this form regarding my child:

Think back of the last 2 weeks at home. The statements below have to do with you and your child. Read the statement and then decide if you believe that the statement is true.

If it is true, then circle **True**, and if you believe the statement not to be true, circle **False**.

You must circle either True or False, but never both for the same item. Please answer all items. Answer for yourself, without talking it over with anyone.

True False 1. My child is easy to get along with.

True False 2. My child is well behaved in our discussions.

True False 3. My child is receptive to criticism.

True False 4. For the most part, my child likes to talk to me.

True False 5. We almost never seem to argue.

True False 6. My child usually listens to what I tell him/her.

True False 7. At least three times a week, we get angry at each other.

True False 8. My child says I have no consideration of his/her feelings.

True False 9. My child and I compromise during arguments.

True False 10. My child often doesn't do what I ask.

True False 11. The talks we have are frustrating.

True False 12. My child often seems angry at me.

True False 13. My child acts impatient when I talk.

True False 14. In general, I don't think we get along very well.

True False 15. My child almost never understands my side of the argument.

True False 16. My child and I have big arguments about little things.

True False 17. My child is defensive when I talk to him/her.

True False 18. My child thinks my opinions don't count.

True False 19. We argue a lot about rules.

True False 20. My child tells me he/she thinks I am unfair.

Appendix D

Parent DBD Rating Scale

Child's Name: _____ Form Completed by:

Grade: _____ Date of Birth: _____ Sex: _____ Date

Completed: _____

Check the column that best describes your/this child. If you are unsure of an answer, please feel free to make an educated guess. Columns from to left to right read, "Not at All," "Just a Little," "Pretty Much," and "Very Much."

*Scoring: Not at all=0; Just a Little=1; Pretty much=2; Very much=4

1. often interrupts or intrudes on others (e.g., butts into conversations or games)
2. has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)
3. often argues with adults
4. often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others)
5. often initiates physical fights with other members of his or her household
6. has been physically cruel to people
7. often talks excessively
8. has stolen items of nontrivial value without confronting a victim (e.g., shoplifting, but without breaking and entering; forgery)
9. is often easily distracted by extraneous stimuli
10. often engages in physically dangerous activities without considering possible consequences (not for the purpose of thrill-seeking), e.g., runs into street without looking
11. often truant from school, beginning before age 13
12. often fidgets with hands or feet or squirms in seat
13. is often spiteful or vindictive
14. often swears or uses obscene language
15. often blames others for his or her mistakes or misbehavior
16. has deliberately destroyed others' property (other than by fire setting)
17. often actively defies or refuses to comply with adults' requests or rules
18. often does not seem to listen when spoken to directly
19. often blurts out answers before questions have been completed
20. often initiates physical fights with others who do not live in his or her household (e.g., peers at school or in the neighborhood)
21. often shifts from one uncompleted activity to another
22. often has difficulty playing or engaging in leisure activities quietly
23. often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
24. is often angry and resentful
25. often leaves seat in classroom or in other situations in which remaining seated is expected
26. is often touchy or easily annoyed by others
27. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
28. often loses temper
29. often has difficulty sustaining attention in tasks or play activities
30. often has difficulty awaiting turn
31. has forced someone into sexual activity
32. often bullies, threatens, or intimidates others
33. is often "on the go" or often acts as if "driven by a motor"
34. often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
35. often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
36. has been physically cruel to animals
37. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
38. often stays out at night despite parental prohibitions, beginning before age 13 years
39. often deliberately annoys people
40. has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery)
41. has deliberately engaged in fire setting with the intention of causing serious damage
42. often has difficulty organizing tasks and activities
43. has broken into someone else's house, building, or car
44. is often forgetful in daily activities
45. has used a weapon that can cause serious physical harm to others (e.g., a bat, brick, broken bottle, knife, gun)

Appendix E

Child ID#: _____ Form Completed By: _____

Date: _____

Impairment Rating Scale-- Parent

Please mark an "X" on the lines at the points that you believe reflect the severity of your child's problems in this area and whether he or she needs treatment or special services for the problems. Please consider behavior during the last two months when making your ratings. Please do not leave any of the items blank.

(1) How your child's problems affect his or her relationship with other children

No Problem | _____ |

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

(2) Regardless of whether your child is popular or unpopular with peers, does he or she have a special, close "best friend" that he or she has kept for more than a few months? (Please circle)

YES NO

(3) How your child's problems affect his or her relationship with brothers or sisters (if has no brothers or sisters, check here and skip to #4 _____)

No Problem | _____ |

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

(4) How your child's problems affect his or her relationship with you (and your spouse if present)

No Problem | _____ |

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

(5) How your child's problems affect his or her academic progress at school

No Problem | _____ |

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

(6) How your child's problems affect his or her self-esteem

No Problem | _____ |

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

(7) How your child's problem affect your family in general

No Problem | _____ |

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

(8) Please mark an "X" on the following line at the point that you believe reflects the overall severity of your child's problem in functioning and overall need for treatment.

No Problem |_____|

Extreme Problem

Definitely does not need treatment or Definitely needs treatment or
special services special services

Parent Impairment Rating Scale © CTADD

*Scores range from 0 to 6 based on where they fall on the scale (0=No problem; 6=Extreme problem).

References

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., Text Revised). Washington D.C.: Author.
- Baer, P. E., Garmezy, L. B., McLaughlin, R. J., Pokorny, A. D., & Wernick, M. J. (1987). Stress, coping, family conflict, and adolescent alcohol use. *Journal of Behavioral Medicine, 10*, 449-466.
- Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parent psychological and behavioral control and youth internalized and externalized behaviors. *Child Development, 65*, 1120-1136.
- Barkley, R. A. (1997). *Defiant children: A clinician's manual for parent training* (2nd ed.). New York: Guilford Press.
- Barkley, R. A., Anastopoulos, a. D., Guevremont, d. G., & Fletcher, K. F. (1992). Adolescents with attention deficit hyperactivity disorder: Mother-adolescent interactions, family beliefs and conflicts, and maternal psychopathology. *Journal of Abnormal Child Psychology, 20*, 263-288.
- Barkley, R. A., Edwards, G., Laneri, M., Fletcher, K. & Metevia, L. (2001). The efficacy of problem-solving communication training alone, behavior management training alone, and their combination for parent-adolescent conflict in teenagers with ADHD and ODD. *Journal of Consulting and Clinical Psychology, 99*, 926-941.
- Barkley, R. A., Guevremont, D. G., Anasopoulos, A. D., & Fletcher, K. F. (1992). A comparison of three family therapy programs for treating family conflicts in adolescents with attention deficit hyperactivity disorder. *Journal of Consulting and Clinical Psychology, 60*, 450-462.

- Bean, R. A., Bush, K. R., McKenry, P. C., & Wilson, S. M. (2003). The impact of parental support, behavioral control, and psychological control on the academic achievement and self-esteem of African American and European American adolescents. *Journal of Adolescent Research, 18*, 523-541.
- Borduin, C. M., Pruitt, J. A., Henggeler, S. W., Blaske, D. M., & Mann, B. J. (1985, August). Interaction patterns in Black, lower-class families with delinquent males. Paper presented at the meeting of the American Psychological Association, Los Angeles, CA.
- Collins, W. A. & Russell, G. (1991). Mother-child and father-child relationships in middle childhood and adolescence: A developmental analysis. *Developmental Review, 11*, 99-136.
- DeKemp, R. A. T., Scholte, R. H. J., Overbeek, G., & engels, R. G. (2006). Early adolescent delinquency. *Criminal Justice and Behavior, 33*, 488-510.
- Douvan, E. & Adelson, J. (1966). The adolescent experience. In Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.
- Edwards, G., Barkley, R. A., Laneri, M., Fletcher, K., & Metevia, L. (2001). Parent-adolescent conflict in teenagers with ADHD and ODD. *Journal of Abnormal Child Psychology, 29*, 557-572.
- Erikson, E. (1968). Identity: Youth and crisis. In Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.

- Evans, S. W., Sibley, M., & Serpell, Z. N. (2009). Changes in caregiver strain over time in young adolescents with ADHD: The role of oppositional and delinquent behavior. *Journal of Attention Disorders, 12*, 516-524.
- Fabiano G., Pelham W. E., Gnagy E. M., Waschbusch D. A., Lahey B. B., Chronis A. M., Onyango A. N., Kipp H., Williams A. (2007). The single and combined effects of multiple intensities of behavior modification and methylphenidate for children with attention deficit hyperactivity disorder in a classroom setting. *School Psych Review, 36*, 195–216.
- Fabiano, G. A., Pelham, W. E., Waschbusch, D. A., Gnagy, E. M., Lahey, B. B., Chronis, A. et al. (2006). A practical measure of impairment: psychometric properties of the impairment rating scale in samples of children with attention deficit hyperactivity disorder and two school-based samples. *Journal of Clinical Child and Adolescent Psychology, 35*, 369–385.
- Feldman, S. S., Wentzel, K. R., & Gehring, T. M. (1989). A comparison of the views of mothers, fathers, and pre-adolescents about family cohesion and power. *Journal of Family Psychology, 3*, 39-60.
- Flanagan, R. (1995). A review of the Behavior Assessment System for Children (BASC): Assessment consistent with the requirements of the Individuals with Disabilities Education Act (IDEA). *Journal of School Psychology, 33*, 177-186.
- Fletcher, K., Fischer, M., Barkley, R. a., & smallish, L. (1996). Sequential analysis of mother-adolescent interactions of ADHD, ADHD/ODD, and normal teenagers during neutral and conflict discussions. *Journal of Abnormal Child Psychology, 24*, 271-297.

- Forehand, R., Furey, W. M., & McMahon, R. J. (1984). The role of maternal distress in a parent training program to modify child non-compliance. *Behavioral Psychotherapy, 12*, 93-108.
- Freud, A. (1958). Adolescence. In Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.
- Galambos, N. L., Barker, E. T., & Almeida, D. M. (2003). Parent do matter: Trajectories of change in externalizing and internalizing problems in early adolescence. *Child Development, 74*, 578-594.
- Gehring, T. M. & Feldman, S.S. (1988). Adolescent's perceptions of family cohesion and power: A methodological study of the Family System Test. *Journal of Adolescent Research, 3*, 33-52.
- Gonzales, N. A., Cauce, A. M., & Mason, C. A. (1996). Interobserver agreement in the assessment of parental behavior and parent-adolescent conflict: African American mothers, daughters, and independent observers. *Child Development, 67*, 1483-1498.
- Inazu, J. K. & Fox, G. L. (1980). Maternal influence on sexual behavior of teenage daughters. *Journal of Family Issues, 1*, 81-102.
- Johnston, C. (1996). Parent characteristics and parent-child interactions in families of nonproblem children and ADHD children with higher and lower levels of oppositional-defiant behavior. *Journal of Abnormal Child Psychology, 24*, 85-103.

- Kandel, D. & Lesser, G. (1972). Youth in two worlds. In Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.
- Laursen, B., Coy, K. C., & Collins, W. A. (1998). Reconsidering changes in parent-child conflict across adolescence: A meta-analysis. *Child Development, 69*, 817-832.
- Marshal, M. P. & Molina, B. S. (2006). Antisocial behaviors moderate the deviant peer pathway to substance use in children with ADHD. *Journal of Clinical Child and Adolescent Psychology, 35*, 216-226.
- Minuchin, S. (1974). Families and family therapy. Cambridge, MA: Harvard University Press.
- Minuchin, S. & Fishman, H. C. (1981). Family therapy techniques. Cambridge, MA: Harvard University Press.
- Montemayor, R. (1983). Parents and adolescents in conflict: All families some of the time and some families most of the time. *Journal of Early Adolescence, 3*, 83-103.
- Montemayor, R. & Hanson, E. (1985). A naturalistic view of conflict between adolescents and their parents and siblings. *Journal of Early Adolescence, 5*, 23-30.
- Offer, D. (1969). The psychological world of the teenager. In Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.
- Patterson, G. R. (1982). Coercive family process. In Danforth, J. S., Barkley, R. A., & Stokes, T. F. (1991). Observations of parent-child interactions with hyperactive

- children: Research and clinical implications. *Clinical Psychology Review*, *11*, 703-727.
- Patterson, G. R., Capaldi, D., & Bank, L. (1991). An early starter model for predicting adolescent delinquency. In Pepper, D. J. & Rubin, K. H. (Eds.), *The development and treatment of childhood aggression*, 139-168. Hillsdale, NJ: Erlbaum.
- Pelham, W. E., Fabiano, G. A., & Massetti, G. M. (2005). Evidence-based assessment of attention deficit hyperactivity disorder in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, *34*, 449-476.
- Pelham, W. E., Lang, A. R., Atkeson, B., Murphy, D. A., Gnagy, E. M., Greiner, A. R., et al. (1997). Effects of deviant child behavior on parental distress and alcohol consumption in laboratory interactions. *Journal of Abnormal Child Psychology*, *25*, 413-424.
- Petit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E., & Criss, M. (2001). Antecedents and behavior-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development*, *72*, 583-598.
- Pressman, L. J., Loo, S. K., Carpenter, E. M., Asarnow, J. R., Lynn, D., McCracken, J. T., et al. (2006). Relationship of family environment and parental psychiatric diagnosis to impairment in ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*, 346-354.
- Puig-Antich, J., Kaufman, J., Ryan, N. D., Williamson, D. et al., (1993). The psychosocial functioning and family environment of depressed adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, *32*, 244-253.

- Robin, A. L. (1998). Enhancing academic success. In *ADHD in Adolescents*, 255-296. New York: The Guilford Press.
- Robin, A. L. & Foster, S. L. (1989). *Negotiating Parent-Adolescent Conflict: A behavioral-Family Systems Approach*. New York: The Guilford Press.
- Rutter, M., Graham, P., Chadwick, O., & Yule, W. Adolescent turmoil: Fact or fiction. In Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, *11*, 1-19.
- Salmeron, P. A. (2009). Childhood and adolescent attention-deficit hyperactivity disorder: Diagnosis, clinical practice guidelines, and social implications. *Journal of the American Academy of Nurse Practitioners*, *21*, 488-497.
- Shaffer, D. Fisher, P., & Lucas, C. (2004). The Diagnostic Interview Schedule for Children (DISC). In *Comprehensive handbook of psychological assessment: Personality assessment*, 256- 270. Hoboken, NJ: John Wiley & Sons, Inc.
- Silverberg, S. B. & Steinberg, L. (1987). Adolescent autonomy, parent-adolescent conflict, and parental well-being. *Journal of Youth and Adolescence*, *16*, 293-312.
- Simons, R. L., Johnson, C., & Conger, R. D. (1994). Harsh corporal punishment versus quality of parental involvement as an explanation of adolescent maladjustment. *Journal of Marriage and the Family*, *56*, 591-607.
- Small, S. A., Cornelius, S., & Eastman, G. (1983). Parenting adolescent children: A period of adult storm and stress. In Silverberg, S. B. & Steinberg, L. (1987). *Adolescent autonomy, parent-adolescent conflict, and parental well-being*. *Journal of Youth and Adolescence*, *16*, 293-312.

- Smith, K. A. & Forehand, R. (1986). Parent-adolescent conflict: Comparison and prediction of the perceptions of mothers, fathers, and daughters. *Journal of Early Adolescence, 6*, 353-367.
- Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In Feldman, S. Shirley (Ed); Elliott, Glen R. (Ed). (1990). *At the threshold: The developing adolescent.* (pp. 255-276). Cambridge, MA, US: Harvard University Press.
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.
- Stice, E., Ragan, J., & Randall, P. (2004). Prospective relations between social support and depression: Differential direction of effects for parent and peer support? *Journal of Abnormal Psychology, 113*, 155-159.
- Stormshak, E. A., Bierman, K.L., McMahon, R. J., & Lengua, L. J. (2000) Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology, 29*, 17-29.
- Tein, J., Roosa, M. W., & Michaels, M. (1994). Agreement between parent and child reports on parental behaviors. *Journal of Marriage and the Family, 56*, 341-355.
- Tishler, C. L., McKenry, P. C., & Morgan, K. C. (1981). Adolescent suicide attempts: Some significant factors. *Suicide and Life-threatening Behavior, 11*, 86-92.
- Van Eck, K., Finney, S. J., & Evans, S. W. Parent Report of ADHD Symptoms of Early Adolescents: A Confirmatory Factor Analysis of the Disruptive Behavior Disorders Scale. Manuscript is under review.

Table 1. Demographic information.

	Frequency	Percent
Gender		
Male	118	76.6%
Female	36	23.4%
Race		
Caucasian	129	83.8%
African American	7	4.5%
Hispanic	10	6.5%
Asian	2	1.3%
Other	4	2.6%
Yearly Household Income		
\$0-\$20,000	23	14.9%
\$20,000-\$40,000	47	30.5%
\$40,000-\$60,000	30	19.5%
\$60,000-\$80,000	27	17.5%
\$80,000-\$100,000	11	7.1%
\$100,000-\$120,000	6	3.9%
\$120,000-\$140,000	4	2.6%
Marital Status		
Married	52	33.8%
Separated	55	35.7%
Divorced	17	11.0%
Single	24	15.6%

*Note: $N = 152$.

Table 2. Bivariate correlations.

	Age	Gender	ODD/C D	Hyper	Inattent	Depress	Ac.Impa ir	Soc.Imp air	Conflict -Mom	Conflict -Dad	Conflict -Parent
Age	1	--	--	--	--	--	--	--	--	--	--
Gender	-.175*	1	--	--	--	--	--	--	--	--	--
ODD/C D	-.295*	.048	1	--	--	--	--	--	--	--	--
Hyper	-.169*	.146	.478**	1	--	--	--	--	--	--	--
Inattent	.019	.098	.255**	.366**	1	--	--	--	--	--	--
Depress	.026	-.040	.227**	.116	.046	1	--	--	--	--	--
Ac. Impair	.107	-.137	.037	-.020	.227**	.139	1	--	--	--	--
Soc.Imp air	.031	-.025	.198*	.232**	.116	.106	.112	1	--	--	--
Conflict -Mom	.601**	-.025	-.086	-.078	-.001	.155	.065	.032	1	--	--
Conflict -Dad	.141	-.142	-.128	.038	-.034	-.181*	.103	-.077	-.175*	1	--
Conflict -Parent	-.065	.179*	.592**	.426**	.213**	.307*	-.055	.087	-.010	.000	1

***Note.** *indicates statistical significance at the $<.05$ level and ** indicates statistical significance at the $<.01$ level. "Hyper" stands for symptoms of hyperactivity, "Inattent" stands for symptoms of inattention, "Depress" is symptoms of depression, "Ac. Impair" stands for academic impairment, and "Soc. Impairment" stands for social impairment. "Conflict-Mom" represents adolescents' ratings of conflict with their mothers, "Conflict-Dad" represents adolescents' ratings of conflict with their fathers, and "Conflict-Parent" represents parents' ratings of conflict with their children.