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Family Conflict and Family Cohesion: Their Relationship to Youths' Problem Behaviors

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ABSTRACT

This study tested the hypotheses that family conflict and family cohesion would be significant predictors of youths' problem behaviors after controlling for demographic variables and other family process variables. The sample included 156 adolescents, teachers, and parents. Adolescents and parents completed three self-report family functioning instruments (FACES II, SFI, FES); all sources completed the CBCL. Adolescents' reports supported both hypotheses. Results varied when mothers' and fathers' reports were used. Fathers' reports showed only family conflict to be significant, and mothers' reports showed only family cohesion to be significant. Teachers' reports showed no significant results. Implications of these results are discussed.

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CHAPTER 1. INTRODUCTION

Adolescent behavior problems have grown in number over the years until they have become the largest group of children's mental health problems and the focus of many empirical studies (Aunola, Stattin, & Nurmi, 2000; Friman et al., 2000; Hoagwood, Kelleher, Feil, & Comer, 2000; Frick, 1994). Nichols and Schwartz (1995) reported "conduct problems in general are estimated to make up from one-third to one-half of all child and adolescent referrals" (p. 563). Behavior problems are commonly grouped into two categories, internalizing and externalizing (Achenbach, 1991). According to Achenbach (1991), internalizing behaviors include withdrawn behaviors, somatic complaints, anxiety, and depression. Externalizing behaviors include delinquent and aggressive behaviors. Clinical social workers and other mental health therapists also treat adolescents with problems such as eating disorders, attention-deficit/hyperactivity disorder, bipolar disorder, and substance abuse (Hersen & Ammerman, 1995).

Family therapists and clinical social workers often treat adolescent behavior problems. A basic belief held by these professionals is that "people are products of their social context, and that any attempt to understand them must include an appreciation of their families" (Nichols & Schwartz, 1995, p. 106). Family is defined most often in the research without specifying a particular structure (i.e. two biological parents and children), but instead family is seen "as the unit responsible for providing children with an environment that serves their physical and emotional needs" (Holman, 1983, p. 22). Families may consist of people related biologically or by marriage, adoption, or foster care. For the purposes of this study, family will refer to parents or guardians with children in the home because adolescents with behavior problems are the primary focus.

Family Conflict and Family Cohesion 2

Generally, social workers and family therapists hold a systems view of the family that declares “the interrelationships of the family members create a whole (family) that is greater than the sum of its parts” (Holman, 1983, p. 25). Thus, an attempt is made often by therapists and clinical social workers to bring together the whole family or have their therapeutic interventions target family interactions. This reflects the basic premise of family therapists that “changes in family context [or interactions] create powerful changes in people and their problems” (Nichols & Schwartz, 1995, p. 106). Numerous schools of family therapy exist, however, “each with distinctly different ways of conceptualizing and treating families” (Nichols & Schwartz, 1995, p. 1).

The purpose of this study was to examine the relationship two important aspects of family functioning have on youths' behavior problems, namely family conflict and family cohesion. It was hypothesized that family conflict would be a significant predictor of youths' behavior problems after controlling for age, sex, race, and income; more specifically, as family conflict increased, youth problems would also increase. Secondly, it was hypothesized that family cohesion would be a significant predictor of youths' behavior problems after controlling for demographic variables as well as family conflict; more specifically, as family cohesion decreased, behavior problems would increase. Uncovering specific dimensions of family functioning that predict adolescent behavior problems was a challenge made many years ago by Gurman and Kniskern (1978, in Walsh, 1993), and it has yet to be met.

These two family dimensions were chosen to be the most salient dimensions associated with behavior problems because of their prominence in theories and existing research (Nichols & Schwartz, 1995; Walsh, 1993). In an effort to improve on existing

research, however, other family dimensions hypothesized to relate to behavior problems in youth were included as control variables, but they were not expected to be significant after controlling for family conflict and family cohesion.

Youth will be used in this study to refer to children and adolescents (9-18).

Several studies included children as young as nine in their studies, and these were not separated from the older adolescent group. Therefore, for simplicity's sake this age range will be referred to as adolescents. The terms youth and adolescents will be used interchangeably throughout this paper.

Literature Review

Defining the Concept of Family Functioning

Family therapies are governed by a systems orientation; this is the idea that certain processes are in place in families. Family functioning “is conceptualized according to organizational principles governing interaction. Such processes involve the integration and maintenance of the family unit and its ability to carry out essential tasks for the growth and well-being of its members, such as the nurturance and protection of offspring...” (Walsh, 1993). This broad definition is supported by clinical theories of family therapy (i.e. Bowen, 1978; Haley, 1976; Minuchin, 1974; Weakland, Fisch, Watzlawick, & Bodin, 1974) as well as empirical theories of family functioning (i.e. Beavers & Hampson, 1990; Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson, 1989; Moos & Moos, 1981; Epstein, Bishop, & Levin, 1978). The different theories, however, vary in their selections and definitions of various aspects of family functioning (Walsh, 1993). A review of the aforementioned clinical and empirical family functioning theories revealed some commonalities among the various theories. An attempt to delineate

completely all the processes mentioned by every family therapist and researcher would be beyond the scope of this study. Therefore, two major aspects of family functioning that appeared in multiple theories and as previously stated have empirical evidence to support their connection with adolescent behavior problems were included in this study. The most prominent dimensions found in the research were conflict and cohesion. These will be defined and then empirical studies containing these variables will be reviewed.

Conflict

Several theories reviewed included family conflict. Moos and Moos (1981) included a specific but narrow definition of family conflict. They defined it as the amount of openly expressed anger, aggression, and conflict among family members. Beavers and Hampson (1990) also included overt/covert fighting, arguing, blaming, acceptance of personal responsibility, and negative feeling tone in the family. Beavers and Hampson (1990) as well as Haley (1976), on the other hand, did not define conflict, but targeted the family's ability to resolve or accept differences as the important process for family functioning.

Minuchin's (1974) and Bowen's (1978) theories also stressed the process of resolving conflict. They added the stipulation that in order for conflict resolution to be healthy, it must be done without triangulating, which is involving a third family member in the conflict. Minuchin (1974) also added that it must be done without detouring, which is one family member transferring feelings about the conflict to another family member. Each of these theories carried the implication that the more family conflict that exists, the more problems the children would exhibit.

Cohesion

All of the theories reviewed included some form of cohesion in their conceptualization of family functioning. Not all of them defined this dimension the same way, however. Olson (1993) provided perhaps the clearest definition of cohesion. He stated, “family cohesion is defined as the emotional bonding that family members have toward one another” (p. 105). Epstein, Bishop, and Levin’s theory (1978) also used the terms “emotional bonding”, but they labeled this dimension as affective involvement. Hampson and Beavers (1993) expected family members to have “empathy for each other’s feelings, interest in what each other has to say, and expectation of being understood” (p. 83). Similarly, Moos and Moos (1981) conceptualized cohesion to include the degree of commitment, help, and support family members provide for one another.

Olson (1993) stated, “specific concepts or variables that can be used to diagnose and measure the family cohesion dimensions are: emotional bonding, boundaries, coalitions, time, space, friends, decision-making, and interests and recreation” (p. 105). The terms “boundaries” and “coalitions” need more explanation. Minuchin (1974), like Olson (1993), used the term “boundaries”, which he defined as “the rules defining who participates [in the family or small groups within the family] and how” (p. 54). Epstein and his colleagues (1993) used the term “behavior control”, which had a very similar definition to “boundaries”. They defined “behavior control” as the “pattern the family adopts for...situations involving interpersonal socializing behavior both between family members and with people outside the family” (p. 152). Minuchin (1974) stated, “the clarity of boundaries within a family is a useful parameter for the evaluation of family

functioning” (p. 54). “Boundaries” that are too strict, or rigid, keep family members emotionally distant from one another. “Boundaries” that are too diffuse, or almost nonexistent, do not allow family members enough emotional distance from one another.

Both Olson (1993) and Minuchin (1974) stressed the importance of “coalitions.” This term refers to small groups, or subsystems, within the family that bond together. Examples of family coalitions include the marital couple, mother-daughters, and father-sons. Both theorists agreed these coalitions are healthy as long as members do not become unable to mingle with other family members or gang up on other family members. Theories implied that family cohesion is important to the well-being of the offspring. Therefore, it was hypothesized that lower family cohesion would result in more adolescent behavior problems.

Family Functioning Validity Review

Existing research was reviewed to see if empirical evidence existed to support a relationship between family conflict as well as family cohesion and problems family therapists propose to treat, specifically youth behavior problems. In order to be included in this review, the study must have included some measure of family conflict or family cohesion and a measure of adolescent behavior problems as described earlier. Twelve studies were found to meet these criteria (reader is referred to Appendix A). First, a substantive review was conducted examining the relationship between family functioning and adolescent internalizing and externalizing behaviors according to the individual dimensions. Second, a validity review using Cook and Campbell's (1979) validity framework was applied to the studies. They included construct validity, statistical conclusion validity, internal validity, and external validity in their framework.

Substantive Review

Studies were examined in order to discover the strength of the relationships among the chosen variables, the amount of variance family functioning dimensions were able to explain in the outcome variables, if some dimensions of family functioning were more relevant to the outcome variables than others, and other variables which were theorized to mediate or moderate the relationship between these variables.

Conflict

Information involving the construct of conflict, specifically “marital conflict”, and its effects on youths’ problem behaviors was available in the child and family literature and has been reviewed elsewhere (Buehler, Anthony, Krishnakumar, Stone, Gerard, & Pemberton, 1997). Only two studies were found which reported analyses between family conflict and internalizing or externalizing behaviors (Graber, Brooks-Gunn, Paikoff, & Warren, 1994; Shagle & Barber, 1993). This is surprising considering the evidence in other bodies of literature connecting at least marital conflict and youth problem behaviors. Ten correlations were reported, ranging between .10 and .43, and they all indicated higher conflict was associated with more behavior problems. Graber et al. (1994) reported partial correlations. For example, the correlation between family conflict and depression was .27 controlling for cohesion (as family conflict increased so did depression), but it was not reported as significant. Furthermore, they also reported a correlation of .32 between both family conflict and aggression (as family conflict increased so did aggression); one time they controlled for depression, and another time they controlled for cohesion. Neither time was family conflict reported as significant. Significant correlations were reported between family conflict and self-derogation (.29, p

$\leq .01$) and family conflict and suicidal ideation (.21, $p \leq .01$) (as family conflict increased so did self-derogation and suicidal ideation) (both reported in Shagle & Barber, 1993).

Shagle and Barber (1993) were the only researchers to conduct more than correlational analyses. They conducted structural equation analyses using family conflict, marital conflict, and parent-child conflict as separate variables. They used three items to measure family conflict; they seemed to focus on mode of expression (throwing things or hitting each other). They hypothesized that self-derogation would mediate the relationship between the three conflict variables (family conflict, marital conflict, and parent-child conflict) and suicidal ideation; they reported the path from family conflict to self-derogation significant (.25, $p \leq .01$). All three types of conflict explained 18% of the variance observed in self-derogation; family conflict was not separated from the other variables. After considering the relationship with self-derogation, the direct path between family conflict and suicidal ideation was not significant. These researchers did not use any control variables. This study does provide a small amount of evidence that family conflict is significant to self-derogation, which may be considered an internalizing behavior problem.

Considering the child and family research mentioned previously and the evidence they provided of the importance of marital conflict to adolescent problem behaviors, it is curious that only two of the correlations between family conflict and adolescent problem behaviors were significant. The marital conflict literature has stated the importance of breaking marital conflict down into separate dimensions, specifically frequency, intensity, mode of expression, chronicity, content, and degree of resolution. The family functioning research has not defined their construct so specifically. Perhaps this has

made a difference in the results of significance. One of the reasons why family conflict might be important, as opposed to just marital conflict, is that some conflict is child generated. Sibling rivalry also may play a part in family conflict. Future research might address this issue further. No information was found giving the variance of youth problem behaviors explained by family conflict. In fact, family conflict was not included as a variable in any of the multiple regression analyses conducted in the studies reviewed. Researchers can easily correct this in the future by using hierarchical multiple regression analyses and including family conflict in a separate step a priori. Furthermore, no observational methods were found linking family conflict and adolescent behavior problems. It is acknowledged that observational methods are expensive, but if possible future researchers should consider adding this piece of cross-method evaluation.

Cohesion

The most research was conducted measuring family cohesion and its relationship with internalizing and externalizing behaviors of adolescents (Barber & Buehler, 1996; Cumsille & Epstein, 1994; Gfellner, 1994; Graber et al., 1994; Kelley, 1994; Lindahl & Malik, 1999; Prange, Greenbaum, Silver, Friedman, Kutash, & Duchnowski, 1992; Rait, Ostroff, Smith, Cella, Tan, & Lesko, 1992; Rudd, Stewart, & McKenry, 1993; Stewart, McKenry, Rudd, & Gavazzi, 1994; Summerville, Kaslow, Abbate, & Cronan, 1994). Nine correlations were reported between cohesion and internalizing behaviors, seven of which were significant ($p \leq .05$). Significant correlations ranged from $-.23$ to $-.50$, and these correlations were in the expected direction providing some evidence that lower family cohesion was connected to an increase in internalizing problems such as depression. Only two studies reported nonsignificant correlations. Summerville et al.

(1994) conducted ANOVA analyses and reported a significant relationship between depression and family cohesion [$F(2, 47) = 3.8, p \leq .05$].

Fifteen correlations were reported between family cohesion and externalizing behavior problems. Eight were significant correlations, and these ranged from -.17 to -.63. Noteworthy is the fact that four more correlations ranged from -.27 to -.32, but these were not reported significant. This could be due to a number of factors, some of which will be discussed later. Once again, though, these correlations were in the expected direction, meaning lower family cohesion was associated with more behavior problems.

These studies were examined also for information regarding the amount of variance in adolescent behavior problems cohesion was able to predict. Very few studies reported this type of information. Of the seven studies to include some type of multiple regression analyses, only two separated the family functioning results from the other variables assessed. In the study conducted by Rait et al. (1992), the authors still kept cohesion and adaptability in the same step; they reported an R^2_{chg} of .06 (nonsignificant) for the ability of cohesion ($\beta = -.23$) and adaptability ($\beta = .11$) together to predict youth behavior problems. The authors reported cohesion and adaptability to predict significantly other youth outcomes, such as self-esteem and global competence; they stated that the nonsignificant results for problem behaviors “may be attributable to the limited variability in the number of problem behaviors reported” (p. 390).

Barber and Buehler (1996) also reported family cohesion to be a significant predictor of both internalizing and externalizing behaviors in youth. Using hierarchical multiple regression analyses, these researchers controlled for grade and gender in the first

step and regressed cohesion and enmeshment (as separate terms) onto aggression, delinquency, anxiety/depression and withdrawn behaviors in the second step.

“Enmeshment” was defined as “family patterns that facilitate psychological and emotional fusion among family members, potentially inhibiting the individuation process and the development and maintenance of psychosocial maturity (Barber & Buehler, 1996, p. 433). Both cohesion and enmeshment were significant predictors of aggression, anxiety/depression, and withdrawal ($R^2_{\text{chg}} = .08, .14, \text{ and } .10$ respectively). Only cohesion was a significant predictor of delinquency ($R^2_{\text{chg}} = .09$). Noteworthy is the fact that the direction of influence of these variables, cohesion and enmeshment, is in the opposite direction of each other. As predicted, cohesion was related significantly and negatively to youth problem behaviors ($B = -.24$ with aggression; $B = -.30$ with delinquency; $B = -.29$ with anxiety/depression; $B = -.24$ with withdrawal, all $p \leq .01$). On the other hand, enmeshment was related significantly and positively to aggression, anxiety/depression, and withdrawal ($B = .14, .26, \text{ and } .22$, all $p \leq .01$).

Elsewhere, Prange et al. (1992) reported cohesion as one variable that was a significant predictor of conduct disorder ($B = -.31, t = -6.2$ for adolescent reports; $B = -.15, t = -3.0$ for parental reports; both $p \leq .01$), depression ($B = -.18, t = -3.6, p \leq .01$ for adolescent reports), and externalizing behaviors ($B = -.28, t = -5.3, p \leq .01$ parental reports). Variables such as age, self-derogation, parental substance abuse, and adaptability were able to predict from 13% to 22% of the variance in these behaviors. Additionally, cohesion was one of several predictors of Indian adolescents' problem behaviors, but not White adolescents' (Gfellner, 1994). According to Cumsille and Epstein's (1994) and Stewart's et al. (1994) results, it was considered a nonsignificant

predictor of adolescent depression after entering other variables into the equation such as satisfaction with family functioning and communication.

One study contained an observational method used to assess family cohesion and linked it to boys' externalizing behaviors (Lindahl & Malik, 1999). The authors reported a negative correlation between family cohesiveness and boys' externalizing behaviors ($r^2 = .36$ for mothers' ratings; $.39$ for fathers' ratings, both $p < .01$). The researchers conducted hierarchical multiple regression analyses, but they did not report specific results for the amount of variance in externalizing behaviors that family cohesion explained. In this study the emphasis was on the difference ethnicity made in family cohesion and boys' externalizing behaviors. They reported that family cohesion was moderated by whether or not boys were Hispanic; the relationship between family cohesion and externalizing behaviors was stronger for Hispanic families than European American families (Lindahl & Malik, 1999).

As for covariates, they were as varied as the many foci of the studies. Several variables directly related to the outcome the researcher chose; for example, self-derogation, parental substance abuse, depression severity, and economic stress were significant predictors of problem behaviors in youth. Not all studies included these variables. A few variables appeared more often in the studies. First and most frequent was gender. Four out of six studies reported gender as a significant predictor of youths' behavior problems. Other significant predictors of behavior problems included family income, age/grade of youth, and Hispanic/non-Hispanic, but these variables had very limited empirical evidence for their roles. Future research needs to carefully consider

which variables to include; no study can include all significant predictors of youth behavior problems.

Other Family Functioning Dimensions

A few other family functioning dimensions were found in the existing research and deserve mention in this study. This review of the literature uncovered one study that linked family organization to adolescent behavior problems (Kelley, 1994). Kelley (1994) defined family organization as “the extent to which organization and scheduling are involved in family activities and responsibilities” (p. 105). She used the Parent Dimensions Inventory (PDI) (Slater & Power, 1987, in Kelley, 1994). The focus of her study was the effects of military fathers’ deployment on children’s internalizing and externalizing behaviors. She conducted ANOVA analyses examining the effects of family organization on internalizing and externalizing behaviors of the children based on time factors such as predeployment, middeployment, and postdeployment phases of the fathers. She found organization to be significantly correlated with internalizing and externalizing behaviors prior to the fathers’ deployment ($r = -.29$ for internalizing; $-.31$ for externalizing, both $p \leq .05$). Correlations for middeployment and postdeployment phases were lower and were not reported significant ($r = -.17, -.08$ for internalizing respectively, and $r = -.16, -.09$ for externalizing, NS). These correlations were in the expected directions, suggesting that lower reports of organization in families results in more behavior problems. The researcher did not report variance explained in the outcome variables. Unfortunately, she did not control for other variables, even though she measured other family factors such as cohesion, organization, and consistency of parenting.

Construct Validity

According to Cook and Campbell (1979), construct validity refers to the validity with which one can infer that the variables as operationalized measure the construct as defined. Several steps must be taken to adequately assess construct validity. One must first examine the ways in which the constructs have been measured, including the various instruments themselves and the various methods used. Second, Cook and Campbell (1979) also suggested that in order to assure that the operations all refer back to one construct and not to other, or confounding, constructs researchers need to assess the internal consistency of the operations. Cronbach's alpha is typically what is used to estimate this (Pedhazur & Schmelkin, 1991). Third, evidence may be provided by the extent to which some particular measure relates (convergent validity) or does not relate (discriminant validity) to other measures. Fourth, utilizing reports from different sources also provides information about construct validity. Evidence for construct validity will be reviewed first for conflict and then cohesion following the aforementioned format.

Conflict

Measures and internal consistency. Very few instruments were found that proposed to assess family conflict, viewing the entire family as the unit of analysis, as opposed to marital conflict, which views the spouses as the unit of analysis. The Family Environment Scale (FES) developed by Moos and Moos (1994) includes a measure of family conflict. The authors defined family conflict as "the amount of openly expressed anger and conflict among family members" (p. 1). The subscale contained nine items, which family members complete using a True-False format. Higher scores indicate more conflict in the family. They operationalized the construct by including items that

assessed the dimensions of frequency (i.e. “We fight a lot in our family”) and mode of expression (i.e. “Family members sometimes get so angry they throw things” and “Family members sometimes hit each other”). The authors reported an internal consistency estimate of .75 for this subscale.

The Self-Report Family Inventory (SFI) (Beavers, Hampson, & Hulgus, 1990) is another instrument that contains a subscale designed to assess the conflict dimension of family functioning as conceptualized in the Beavers Systems Model of Family Functioning (Beavers & Hampson, 1990); they viewed family conflict as the family’s ability to resolve or accept differences. The authors operationalized family conflict by assessing overt fighting, arguing, blaming, acceptance of personal responsibility, and negative feeling tone in the family. The conflict subscale contains twelve items scored on a five-point Likert scale; lower scores were indicative of higher conflict. The authors did not provide reliability estimates separately for the conflict subscale (Beavers & Hampson, 1990). No other instruments were found that measured family conflict.

Convergent and discriminant validity. As further evidence of construct validity, comparisons can be made between instruments designed to measure the same construct (convergent validity) and those designed to measure different constructs (discriminant validity) (Cook & Campbell, 1979; Pedhazur & Schmelkin, 1991). Ideally this would be done between different methods of measurement (i.e. self-report and observational), but multiple self-report measurements can provide some evidence (Cook & Campbell, 1979). Beavers, Hampson, and Hulgus (1990) reported a correlation of -.68 between the SFI and the FES conflict subscales.

This result can be contrasted with correlations between measures of family conflict and a different construct, providing evidence of discriminant validity. Beavers, Hampson, and Hulgus (1990) reported an average correlation of $-.05$ between conflict and a social desirability scale using the SFI. Within the general scheme of family functioning, correlations between constructs expected to be related, but different, were found. The correlation between SFI conflict and FES cohesion was $.48$ and between SFI cohesion and FES conflict was $.49$ (Beavers, Hampson, & Hulgus, 1990).

Multisources. Some experts have stated that using multiple sources is comparable to using multiple methods when evaluating construct validity (Pedhazur & Schmelkin, 1991). Therefore, one should find higher correlations within the same construct using different sources than across constructs using the same sources. However, other experts have stated that this is not necessarily the case; for example, one person's view of the family may differ greatly from another person's view (Olson, 1992). Unfortunately, no studies were found which used a multitrait-multisource comparison. This is a weakness in existing literature; researchers can provide construct validity evidence if they include multiple measures in their design.

In summary, family conflict is a construct that had only weak evidence of construct validity in extant literature. Only two instruments were uncovered that assessed family conflict, and only one had evidence of internal consistency. Very little has been done to assess convergent and discriminant validity with existing measures. Furthermore, no research was uncovered that provided evidence for validity by comparing sources or methods. A study that included multiple measures and multiple sources for comparison would be an improvement on existing studies.

Cohesion

Measures and internal consistency. Several instruments were found in the literature that proposed to measure cohesion. One instrument was the Family Adaptability and Cohesion Scale (FACES) (Olson, 1992). As stated previously, Olson (1992) defined cohesion as “the degree to which family members are separated from or connected to their family” (p. 1). The cohesion scale contained sixteen items. Cohesion was operationalized by assessing emotional bonding, boundaries, coalitions, time spent together, physical proximity of family members, knowing each others’ friends, including members in decision-making, and shared interests. Higher scores were indicative of more cohesion. The author reported an internal consistency estimate of .87 for this subscale.

Similarly, Moos and Moos (1994) developed the Family Environment Scale (FES). The authors conceptualized cohesion as “the degree of commitment, help, and support family members provide for one another” (p. 1). The cohesion subscale contained nine items. They operationalized the construct by assessing whether family members enjoy spending time together, volunteer to help around the house, back each other up, get along well together, and offer support for one another. As with the FACES, higher scores indicate more cohesion in the family. The authors reported an internal consistency estimate of .78 for this subscale.

The Self-Report Family Inventory (SFI) (Beavers, Hampson, & Hulgus, 1990) also contained a cohesion subscale as conceptualized in the Beavers Systems Model of Family Functioning (Beavers & Hampson, 1990). The authors defined cohesion as closeness, togetherness, and tendencies to enjoy time and activities together. All five

items on this subscale included the idea of the family doing things together. The authors chose to use lower scores to represent more cohesion in the family. The authors provided an internal consistency estimate of .86 for this subscale.

Only one observational method was found that included a measure of cohesion, the System for Coding Interactions and Family Functioning (SCIFF) (Lindahl & Malik, 1999). The authors stated, “cohesiveness represented the unity, comfort, togetherness, and closeness observed in the family” (p. 16). In order to conduct this observational method, families were first videotaped in a laboratory; they were asked to discuss a recent conflict between parents and child (all three had to be involved in the conflict). They were asked to discuss the problem and then try to reach a solution in twelve minutes. Two raters who had each received 15 hours of training in the SCIFF system coded each tape. They watched each tape at least three times, rating cohesion on the entire sequence of discussion. Ratings were rated on a scale of 1 (family was distant emotionally and lacked empathy toward one another) to 5 (family seemed close emotionally and supportive of one another). The authors reported a correlation between parent self-report of cohesion (the authors did not state which parent) and their observational assessment of cohesion of .55 (Lindahl & Malik, 1999). Other observational methods did not include a specific measure for cohesion, but used an overall assessment of family functioning.

Convergent and discriminant validity. As with the family conflict construct, convergent validity evidence was gathered for family cohesion. A correlation of .55 was reported between the observational method uncovered (SCIFF) and a parent self-report measure of cohesion. Furthermore, correlations between the self-report measures

reviewed would provide more evidence of convergent validity. According to Beavers and Hampson (1990), the correlation between the cohesion subscales of FACES and SFI was $-.81$ and SFI and FES was $-.65$.

These results can be contrasted to correlations between measures of cohesion and a different construct, providing evidence of discriminant validity. Beavers, Hampson, and Hulgus (1990) reported an average correlation of $-.06$ between cohesion and a social desirability scale using the SFI. Olson (1992) reported a correlation of $.39$ between the cohesion subscale of FACES and a social desirability subscale. Within the general scheme of family functioning, correlations between constructs expected to be related, but different, were found. Correlations were reported between cohesion and adaptability using the FACES; they ranged from $-.06$ to $.39$ (Prange et al., 1992; Stewart et al., 1994). All of these correlations between different constructs were lower than the correlations for within the construct of cohesion.

Multisources. Only one article contained a multitrait-multisource matrix using cohesion as measured by FACES (Prange et al., 1992). Their results showed same trait, different source comparison ($r = .23$ between adolescent and parent reports of cohesion) to be similar to correlations with different traits and the same source ($r = .19$ for parent and $r = .36$ for adolescent reports between cohesion and adaptability). No other evidence was found for multisource comparisons.

Some evidence was provided through this review for family cohesion construct validity. Multiple measurements exist each defining and operationalizing the construct of cohesion slightly differently and all with good internal consistency, pointing to measurement of one construct as opposed to confounding constructs. Furthermore,

convergent and discriminant validity were found for cohesion. Research was weak, however, using multitrait-multisource or multimethod comparisons. Only one research study was found to use a multisource comparison. Improvements can be made by utilizing more than one method, which can be costly, or more than one measure and source of the cohesion construct, which would not be as costly as multiple methods.

Statistical Conclusion Validity

Cook and Campbell (1979) defined statistical conclusion validity as “whether it is reasonable to presume covariation given a specified alpha level and the obtained variances” (p. 41). They continued by outlining several threats to statistical conclusion validity. An exhaustive list would be too extensive for this paper, but a few of the most common threats included low statistical power (Type II error), false positive association (Type I error), low reliability of measures, and missing data (Cook & Campbell, 1979). These will be addressed one at a time applying them first to conflict and then cohesion.

Conflict

Type II error. Cook and Campbell (1979) stated, “the likelihood of making an incorrect no-difference conclusion (Type II error) increases when sample sizes are small, and alpha is set low” (p. 42). Cohen (1988) explained in detail the relationship between sample size, alpha (Type I error), effect size, and power (Type II error). Briefly, a researcher can determine what sample size is needed to detect a desired effect size given the conventional alpha level and conventional power. More specifically, using tables (Cohen, 1988) or computer programs, a researcher will find that at least 100 subjects are necessary if alpha is conventionally set at .05 and power at .80 with a desire to detect a medium effect size (.30 by Cohen’s, 1988 standards). If a researcher does not have

enough power to detect the expected effect size, an erroneous conclusion that no relationship exists between the variables is more likely to be reached (Type II error) (Pedhazur & Schmelkin, 1991).

Using the above information, studies that included family conflict were reviewed. Graber et al. (1994) had a sample size of 116, alpha of .05, and found correlations of .10, .25, and .43 between family conflict and behavior problems including aggression, delinquency, and hyperactivity. Based on the above explanation of power and its relationship to the other factors of sample size, alpha, and effect size, it is not surprising that the .10 correlation was not found significant. Furthermore, one may make a case that the correlation is not large enough to be considered important and therefore the null hypothesis of no relationship between the variables was appropriately not rejected (Cohen, 1988).

Shagle and Barber (1993) had a sample size of 473, alpha of .05, and found an effect size of .29 between family conflict and self-derogation and .21 between family conflict and suicidal ideation. By the above standards set by Cohen (1988), these researchers had adequate statistical power to detect a medium effect size between the variables.

Type I error. Cook and Campbell (1979) explained the Type I error as concluding that two variables covary when in fact they do not. By convention, this alpha rate is set at .05, which would indicate that there is a five out of 100 chance of incorrectly rejecting the null hypothesis. A problem can arise, however, if a researcher conducts multiple comparison tests and does not correct for the overall alpha rate (Cook & Campbell, 1979).

In the articles reviewed, Graber et al. (1994) conducted ANOVA and MANOVA analyses. The authors did not state whether they controlled for inflated alpha with their multiple comparisons. The reader does not know whether the Type I error was increased with the addition of multiple tests or whether the researchers controlled for inflated alpha without reporting this. Shagle and Barber (1993) set alpha at .05 or greater, which kept their Type I error rate low.

Low reliability. Measurement reliability, or consistency with which an instrument measures a construct and is free from random error, is vital to statistical conclusion validity because “unreliability inflates standard errors of estimates and these standard errors play a crucial role in inferring differences between statistics...” (Cook & Campbell, 1979, p. 43). Lower reliability leads to erroneous conclusions using tests of significance. Therefore, it is important for researchers to conduct and report reliability estimates for their measures used. A high reliability estimate is desirable; in the past some have been satisfied with .70 or greater (Nunnally, 1978), but more recently the standard has been raised to .80 or greater (Bloom, Fischer, & Orme, 1995).

Graber et al. (1994) used the conflict subscale of the FES in their research, modifying it to a four-point Likert scale instead of the True-False format as originally designed. Using Cronbach’s alpha, they reported a reliability estimate of .78.

Shagle and Barber (1993) used three items as indicators of family conflict. Instead of using Cronbach’s alpha, an inter-item correlation statistic, they used linear structural equation analysis (LISREL; Joreskog & Sorbom, 1989, in Shagle & Barber, 1993). They stated that “the program uses raw item indicators to measure hypothesized constructs (latent or unobserved variables), and it simultaneously conducts a factor

analysis of the indicators for each latent variable..." (Shagle & Barber, 1993, p. 968).

The loading of each item on the latent construct is in essence a reliability estimate. They reported estimates between .56 and .66 for their three items. No other studies using measures of family conflict were found.

Missing data. Missing data can be problematic for at least two reasons. First, as already has been mentioned, statistical power depends in part on sample size; respondents with missing data can lower that sample size and subsequently the power of the tests of significance (Pedhazur & Schmelkin, 1991). Second, data may not be missing randomly and may bias results if steps are not taken to analyze and control for missing data (Orme & Reis, 1991; Cohen & Cohen, 1983). Thus, in either case erroneous conclusions may be drawn if missing data is not reported and analyzed.

Neither of the studies that included family conflict commented on missing data. The study by Shagle and Barber (1993) appeared to have a difference of 35 from the number of participants they stated initially ($\underline{n} = 473$) and the number they reported were used for the LISREL analysis ($\underline{n} = 438$); this amount of missing data does not appear to be significant (Cohen & Cohen, 1983). Interestingly, the study by Graber et al. (1994) appeared to have more participants according to their analysis ($\underline{n} = 213$) than their initial report of number of participants ($\underline{n} = 193$); no explanation for this was found in the study.

In summary, with regards to studies including family conflict, the evidence for statistical conclusion validity is mixed. Both articles appeared to have sufficient power, and missing data did not appear problematic. However, measures/items included in the studies fell below the desired .80 standard (but Graber et al., 1994, was above the previous standard of .70). Furthermore, the reader has to be cautious in interpreting

results from the Graber et al. (1994) study because of the possibility of an inflated Type I error rate. Researchers can improve on existing studies by considering statistical conclusion validity a priori.

Cohesion

Type II error. Studies that also included a measure of family cohesion were reviewed for statistical conclusion validity evidence. Using the minimum number of 100 subjects as mentioned previously, weak power can be presumed for three of the studies reviewed (Cumsille & Epstein, 1994; Kelley, 1994; Rait et al., 1992). Each of these researchers sampled fewer than 100 subjects. Cumsille and Epstein (1994) conducted multiple regression analyses and reported nonsignificant results for cohesion in predicting depression. They used a sample of 79, and they did not report individual statistics for the family cohesion variable. Kelley (1994) conducted two sets of ANOVA procedures; the first used a sample of 47, and the second used a sample of 28. Both of these were extremely small samples. The focus of her study was on the effects of peacetime and wartime deployment on families and children. She reported the following Pearson correlations between family cohesion using the FACES and internalizing behaviors: -.42 predeployment, -.50 middeployment, and -.38 postdeployment (all $p \leq .01$); for cohesion and externalizing behaviors, she reported -.27 (NS) for predeployment, -.37 middeployment, and -.34 postdeployment (both $p \leq .05$). Even though the author had a small sample size, she was still able to find significant the medium to large correlations found in her study.

Rait et al. (1992) sampled 88 adolescents receiving cancer treatments. They reported nonsignificant results between family cohesion (FACES) regressed onto youth

behavior problems (Beta = -.23), controlling for five other variables in the model. The authors attributed this nonsignificant result to the possibility of little variance in behavior problems reported; it could also be attributed to the small sample size. Other studies appeared to have sufficient power to detect at least medium effect sizes.

Type I error. Most of the studies that included family cohesion did not state explicitly their alpha level, but in the results, they reported significance at the .05 or .01 level. Therefore, each individual test had at least a five out of 100 chance of erroneously rejecting the null hypothesis. However, Gfellner (1994) conducted 54 ANOVA analyses, and she did not report using a multiple comparison test. If confidence is to be placed in the results of studies, researchers must establish a priori the chance they are willing to take of incorrectly rejecting the null hypotheses and use a comparison test to control for multiple tests.

Low reliability. Out of the eleven studies reviewed that included a measure of family cohesion, only four reported their samples' reliability estimates (Barber & Buehler, 1996; Cumsille & Epstein, 1994; Graber et al., 1994; Stewart et al., 1994). Graber et al. (1994) used the FES subscale of family cohesion and reported a reliability estimate of .87. Similarly, Barber and Buehler (1996) reported a reliability estimate using four items from the Colorado Self-Report of Family Functioning Inventory (Bloom, 1985, in Barber & Buehler, 1996) of .83; they preset a condition that items must meet "a primary factor loading greater than .50 and at least .20 difference between primary and secondary coefficients" (p. 435). Graber et al. (1994) made a statement grouping all their measures together and stated alphas ranged "from .67 to .94; 65% of alphas were greater than .80 and only two were below .70" (p. 825). Cumsille and Epstein (1994) and

Stewart et al. (1994) reported reliability estimates of FACES cohesion subscale of .83-.93. Unfortunately, the other seven studies did not report their samples' reliability estimates. This is necessary because low reliability of measures may be one reason for not finding a significant relationship between variables; if the measures of the two variables have a lot of random error, they are less likely to correlate (Pehazur & Schmelkin, 1991).

Missing data. Most of the studies reviewed had no comments on missing data. Prange et al. (1992) compared subjects with missing data and those without; they reported a significant difference with adolescents in residential placements having more missing data than those in school placements as well as those with completed data having higher IQs than those with missing data. The authors stated these differences represented a possible sampling bias, but they did not use any method for controlling for this bias.

A thorough examination of the investigation by Summerville et al. (1994) revealed that they had a significant amount of missing data on their family functioning measures. They disclosed a sample size of 121, but their actual sample size was 50, computed by looking at the degrees of freedom for the family cohesion test. This represented only 41% of their full sample. Unfortunately, the authors did not comment on this large amount of missing data. They did not appear to have missing data on other variables included in their assessment. No other authors commented on, nor appeared to have significant amounts of, missing data.

In summary, the majority of the studies that included a measure of family cohesion appeared to have adequate statistical conclusion validity. The majority of studies had sufficient sample size, alpha, and power to detect at least a .30 effect size, and

all but two controlled for Type I errors. The weakest link in the chain of evidence for statistical conclusion validity was in the area of reliability of measures; only four out of eleven studies reported reliability results. The reader is left to wonder whether the other studies have adequate reliability. Finally, missing data did not appear problematic for most studies, but this should be addressed to provide the readers with further confidence in the results of the studies. Researchers can improve on existing studies by considering these threats to statistical conclusion validity before conducting their studies and overtly report these for their readers.

Internal Validity

Cook and Campbell (1979) defined internal validity as the confidence one has to conclude that there is a causal relationship between two variables as measured. They stated steps that a researcher needs to take to assure internal validity. First, researchers must establish a relationship exists between the two variables. Second, they need to show that the one variable causes the other variable, or is time ordered before it. And third, they need to rule out other plausible explanations for the relationship between the two variables, possibly by controlling variables thought responsible. Theories and research articles were reviewed to see how they provided evidence for internal validity between family conflict and cohesion and youth behavior problems.

Several theories were found linking family functioning, or family processes, in general to individual family members' behaviors. These will be reviewed collectively for conflict and cohesion, and then research articles will be reviewed separately for each concept. Most family therapies have a premise that the family's interactions affect individual family members' behavior and vice versa (Minuchin, 1974; Haley, 1976;

Watzlawick, Weakland, & Fisch, 1974). Knowing one group of factors (i.e. family conflict and family cohesion) allows therapists and researchers to predict and potentially change the other (i.e. youths' behavior problems) (Walsh, 1993). Some theorists see the family as the socialization unit for the child and thus problems encountered in the family shape the individual (Bell, 1979). Furthermore, "stress-coping research ... provides a framework for understanding how youth cope when their immediate environment places high demands on them" (Gerard & Buehler, 1999, p. 344-345). Family conflict and family cohesion may act as stressor and buffer for youths' problem behaviors. Children's stress and resiliency research also has been primarily concerned with identification of factors that magnify the risk and buffer the youth from harm. Quality of family relationships has been examined; researchers have been concerned with family conflict as a risk factor and family cohesion as a buffer (Garmezy, 1981; Rutter, 1978). From theories such as these, a causal relationship between the family functioning variables and adolescents' behavior problems is proposed. Now, the empirical studies must be reviewed to garner evidence for this proposed relationship.

Conflict

Relationship between variables. The existing literature has provided evidence for a direct relationship between family conflict and youth behavior problems (r between .10 and .43) (Graber et al., 1994; Shagle & Barber, 1993). Shagle and Barber (1993) provided some evidence that family conflict is a separate construct from marital conflict and parent-child conflict; even after controlling for both of these in their model, family conflict remained a significant predictor of youth self-derogation and indirectly of depression. Research is weak in this area as two studies are not enough to establish a

solid relationship between family conflict and youths' behavior problems, and only one study used predictor analyses.

Cause before effect. As Cook and Campbell (1979) pointed out, probably the most difficult aspect to determine internal validity is to establish the one variable, in this case family conflict, causes the second variable, youths' behavior problems. They stated that one of the ways to do this is to establish time priority. The article by Graber et al. (1994) included a longitudinal study, but they did not measure the same constructs at each stage. Unfortunately, they only included the measure of family conflict and adolescent behavior problems at time 2, and they only conducted correlational analyses between these variables.

Besides correlational analyses, other types of analyses may provide some evidence of a causal link between two variables even using cross-sectional data. Hierarchical multiple regression (HMR) and structural equation modeling (SEM) are designed to test how well certain variables can predict other variables (Pedhazur & Schmelkin, 1991). Shagle and Barber (1993) conducted causal path analysis using SEM. They theorized that family conflict, as well as marital and parent-child conflict, would be an important predictor of adolescent suicide ideation directly as well as indirectly through self-derogation. They stated they thought it was important to examine these three individual variables simultaneously in order to rule out a spurious connection because of their association with each other. These results supported family conflict and parent-child conflict having an indirect effect on suicide ideation through self-derogation (adjusted GFI= .94); these variables did not have a significant direct effect on suicide ideation, however.

Family control variables. Shagle and Barber (1993) considered marital conflict and parent-child conflict as other possible family variables that may impact both family conflict and adolescent outcomes; they found evidence, however, that family conflict maintained a separate relationship with adolescent outcomes even when these variables were all considered together. No other variables were considered in the literature containing family conflict and youths' behavior problems.

From this brief review of internal validity for the concept of family conflict, theoretically the causal relationship between family conflict and adolescents' behavior problems has been established, but the research is weak empirically. If longitudinal research can be done, researchers should compare family conflict at one time to behavior problems seen at a later time. If longitudinal research cannot be conducted, researchers should use analytical strategies that will allow tests of predictive or causal models such as HMR or SEM (Pedhazur & Schmelkin, 1991). Finally, researchers need to give more thought to control variables that may be responsible for the relationship observed between family conflict and youths' behavior problems.

Cohesion

Relationship between variables. Evidence was provided in the substantive review of this paper for an empirical relationship between cohesion and youths' behavior problems. Significant correlations ranged from $-.23$ to $-.50$ between cohesion and internalizing behaviors. These correlations provided some evidence that lower family cohesion was connected to an increase in internalizing problems such as depression. Significant correlations between cohesion and externalizing behaviors ranged from $-.17$ to $-.63$; these correlations provided some evidence that lower family cohesion was

connected to an increase in externalizing problems. Empirical evidence for this relationship to be causal still needs to be provided.

Cause before effect. As when reviewing family conflict, only one study that included family cohesion conducted longitudinal research (Graber et al., 1994). Unfortunately, they only measured family cohesion and behavior problems at time two and did not regress these variables onto each other. Three other studies only provided correlational support for the link between family cohesion and behavior problems (Kelley, 1994; Rudd, Stewart, & McKenry, 1993; Summerville et al., 1994).

Seven studies reviewed included multiple regression analyses, which provide some support to a causal link between the variables (Lindahl & Malik, 1999; Barber & Buehler, 1996; Cumsille & Epstein, 1994; Gfellner, 1994; Stewart et al., 1994; Prange et al., 1992; Rait et al., 1992). As mentioned previously in the substantive review section, mixed results were found. Three studies did not find cohesion to be a significant predictor of adolescents' behavior problems (Cumsille & Epstein, 1994; Stewart et al., 1994; Rait et al., 1992), while the other four studies did (Barber & Buehler, 1996; Gfellner, 1994; Lindahl & Malik, 1999; Prange et al., 1992). The reader is reminded about evidence gathered for statistical conclusion validity for Cumsille and Epstein (1994) and Rait et al. (1992); these were shown to have insufficient statistical power to detect a possible significant relationship. However, the nonsignificant result reported by Stewart et al. (1994) is not as easily explained. Perhaps the control variables examined in this study would explain their results (see section below). Two of these nonsignificant findings were linking cohesion specifically to depressive symptoms in adolescents

(Cumsille & Epstein, 1994; Stewart et al., 1994); perhaps the relationship is not causal between family cohesion and adolescent depression.

Four studies that used multiple regression reported family cohesion to be a significant predictor of adolescent outcomes used internalizing and externalizing behaviors as the outcome variable (Barber & Buehler, 1996; Gfellner, 1994; Lindahl & Malik, 1999; Prange et al., 1992); one study did not (Rait et al., 1992). These studies provided a little evidence for internal validity; future studies should strive to include an analytical model that will allow for testing of a predictive or causal relationship between variables.

Control variables. Of the seven studies reviewed that included multiple regression analyses with cohesion, several different constructs were regressed onto youths' behavior problems along with cohesion. Demographic variables considered were age or grade (Barber & Buehler, 1996; Prange et al., 1992), gender (Cumsille & Epstein, 1994; Prange et al., 1992), and race (Lindahl & Malik, 1999). Age, or grade, and gender were found to be significant in predicting youths' outcomes most of the time.

Five of the seven studies included a measure of adaptability (Cumsille & Epstein, 1994; Gfellner, 1994; Stewart et al., 1994; Prange et al., 1992; Rait et al., 1992). In only one case was adaptability found to be a significant predictor of externalizing behaviors (Prange et al., 1992). Other family variables included in research that were found to be significant included satisfaction with family functioning (Cumsille & Epstein, 1994), life events, which included stressful events the adolescent or family may have experienced (i.e. family member lost a job or became pregnant) (Stewart et al., 1994), and enmeshment, which is viewed as psychological control (Barber & Buehler, 1996). As

these family concepts were contained only in one study each, limited evidence exists as to their importance. In the future, researchers need to carefully consider a priori family variables that may be relevant to adolescent outcomes such as internalizing and externalizing behaviors.

This internal validity review for the causal connection between family cohesion and youths' outcomes revealed both strengths and weaknesses in the literature. Consistently, family cohesion and adolescents' outcomes have been significantly related. Furthermore, more often than not, cohesion was found to significantly predict behavior problems even after controlling for other variables theorized to relate. However, researchers still need to consider other variables that may be responsible for this relationship and include them simultaneously in research studies to rule out a spurious relationship between family cohesion and youths' behavior problems. Researchers also need to consider how variables are time ordered. An attempt needs to be made to measure family cohesion at one time and youths' behavior problems later.

External Validity

The last piece of validity to be considered was external validity. This refers to the validity to generalize conclusions first to the sample's population and then across different populations, settings, or times (Cook & Campbell, 1979).

Conflict

Due to the limited number of studies that included family conflict, generalizability will of course be limited. First, these studies were reviewed for ability to generalize their results back to their samples' populations and then to some general population. Both studies used volunteer samples recruited from schools in the communities. One

community was in Tennessee (Shagle & Barber, 1993), and the other community was in a large city in the Northeast (Graber et al., 1994). Shagle and Barber (1993) reported their participation rate was 65%. Graber et al. (1994) did not report their participation rate. Neither group compared their sample to the community from which it was drawn. Therefore, the reader cannot make an informed decision as to how well the results can be generalized to the respective communities. Both studies' authors noted that selection bias might have been present. Furthermore, they also stated that the samples were mostly white, middle- to upper-middle class students. Both studies reported a significant relationship between family conflict and adolescent outcomes. Caution must be taken, though, not to generalize these results to other ethnic and socioeconomic classes without empirical evidence that this is appropriate.

Cohesion

Due to more studies that included a measure of cohesion, the populations from which the samples were drawn were more diverse and thus can potentially be generalized to more varied populations. The ways in which the samples were drawn from their target populations were reviewed. None of the studies included a random sampling procedure. The majority of the studies used a volunteer, community sample. For example, Barber and Buehler (1996) used a volunteer sample in Tennessee public schools and were able to obtain a 65% participation rate. Others did not comment on their participation rate (Graber et al., 1994; Rudd et al., 1993; Stewart et al., 1994). Three out of four of these studies reported a significant relationship between cohesion and youths' outcomes (Barber & Buehler, 1996; Graber et al., 1994; Rudd et al., 1993).

Two studies contained clinic samples. Cumsille and Epstein (1994) obtained their sample from families who attended an outpatient clinic, but they simply stated “95 families who included at least one adolescent child between the ages of 13 and 19 were selected for the study” (p. 205). All families signed an agreement to participate confidentially in research; no further explanation was provided (i.e. total number of families eligible to participate). Summerville et al. (1994) also obtained a clinic sample; they sampled youths who attempted suicide and had a 97% participation rate. Summerville et al. (1994) reported cohesion to be significant with suicide attempts, but Cumsille and Epstein (1994) did not.

A few studies were designed to target special populations. For example, Rait et al. (1992) targeted cancer survivors; they reported “fewer than 10%” declined to participate (p. 388). Kelley (1994) selected military families for her target population; she recruited through family meetings and posters. She did not state how many were eligible to participate. Neither study tried to compare their results back to their population in terms of demographic characteristics or any other method. A final special population targeted was youth already identified as seriously emotionally disturbed (SED) (Prange et al., 1992). The authors stated they studied a subsample of a larger national study. It appeared they included just a subsample because of age and family composition (12 years and older who had contact with their family within the last six months). They included demographic information of their subsample but did not compare this to the national sample. However, they did provide comparisons to a normative sample provided by the author of the instrument they used; they used these

results to support their conclusions that families with an SED adolescent report lower cohesion than normative families.

Two studies made a special point to compare White, or European American, adolescents to another ethnic group. Gfeller (1994) compared White adolescents to Indian adolescents. She discussed briefly the characteristics of the chosen population (i.e. number eligible to participate and ethnic background), but she did not report how the sample was chosen. She chose 118 Indian adolescents and matched them with 118 White adolescents on gender, grade, family structure, and mother's education. She stated her results were comparable to an early study conducted with Indian youth. The results were close for both groups (lower cohesion being associated with more problems), but cohesion was a significant predictor of behavior problems for Indian families not Whites. Lindahl and Malik (1999) also compared two ethnic groups, European Americans and Hispanics. She found in both cases cohesion was a significant predictor of boys' externalizing behavior problems, with lower cohesion predicting more behavior problems. However, she found that ethnicity moderated this relationship in fathers' reports; Hispanic families had a stronger relationship between cohesion and externalizing behavior problems according to fathers' reports. Cumsille and Epstein (1994) reported their sample contained 60% White and 30% Black, but they did not conduct any analyses with race as a covariate or comparison variable. Prange et al. (1992) reported 71% White and 19% Black, but they did not use race as a covariate either. Finally, Summerville et al. (1994) used a sample of all African Americans; their results were similar to those with almost all European Americans.

The socioeconomic status (SES), like ethnicity, was drawn mostly from one group, middle- to upper-middle class (Barber & Buehler, 1996; Lindahl & Malik, 1999; Rait et al., 1992; Stewart et al., 1994). Cumsille and Epstein (1994) reported their sample to still be in the middle class range, but labeled it lower middle class. Prange et al. (1992) reported 38% of their sample at or below poverty level and compared this group to those above poverty level; they did not find this variable to be a predictor of behavior problems. Summerville et al. (1994) reported their sample to all be from the lower SES group. The other two studies did not comment on SES (Gfellner; 1994; Rudd, Stewart, & McKenry, 1993).

In summary, considerations to external validity should be made explicit by future researchers. Very few researchers have made an effort to compare their sample to the population from which it was drawn; this can be done fairly easily by gathering demographic information about the community from which the sample was drawn and reporting comparisons. Furthermore, most authors of instruments designed to measure family conflict and cohesion have provided normative data; future researchers could improve external validity by stating these results together for comparison. Finally, mixed evidence has been presented about income/SES. Future researchers should either state overtly the level of income of their entire sample if it is homogeneous or include income as a covariate to determine if it is significantly related to outcome measures. By openly considering these areas, researchers provide readers with information necessary to make appropriate generalizations and conduct more research with populations for which comparisons are not appropriate.

Hypotheses

Following this review, it was hypothesized that (1) family conflict would be a significant predictor of youths' behavior problems after controlling for age, sex, race, and income; more specifically, as family conflict increased, youth problems would increase. (2) Secondly, it was hypothesized that family cohesion would be a significant predictor of youths' behavior problems after controlling for demographic variables as well as family conflict; more specifically, as family cohesion decreased, behavior problems would increase. (3) Lastly, both conflict and cohesion would remain significant predictors of youths' behavior problems after controlling for select other family functioning dimensions.

CHAPTER 2. METHOD

Design and Procedure

This study was a school-based survey of students enrolled at the eighth and ninth grade campus of Science Hill High School, in Johnson City, Tennessee. Science Hill High School is the only high school in the sociologically diverse community in upper East Tennessee. Science Hill High School had over 2,300 students enrolled in grades 8-12; they reported race composition of 85.1% European American, 12.3% African American, and 1.1% Asian. Two separate campuses compose the high school, an eighth and ninth grade campus, and tenth- twelfth grade campus. Due to the different ways the ninth grade and eighth grade is arranged, students were not selected in the same ways in both grades. From the ninth grade campus, students eligible to participate in this study were ninth graders enrolled in English 9 (N= 350). English was chosen because it is a required class. Eighth graders at Science Hill High School are assigned randomly to teams, consisting of four to five homerooms per team. Two teams were arbitrarily chosen (N= 212).

Five English teachers on the ninth grade campus and eight eighth grade teachers were approached in person. The study was explained to them, and all of the teachers agreed to participate. The teachers offered extra credit to students who returned consent forms as an incentive for students to participate. Letters explaining the research study and parental consent forms were distributed to all the students in the chosen classes (N= 562). Students were asked to take the letters and parental consent forms home to their parents. Consent forms were obtained first from the parents, and then assent forms were collected from the students on the day the surveys were given (Appendix B). Reminder

letters were mailed to parents approximately one week after the initial letter was sent home.

After consent forms were returned, arrangements were made with teachers to administer the surveys during class time, at a time that would be least disruptive for the teacher. Due to teachers' schedules, surveys were administered on multiple days over a period of one month. Students were briefed on the contents of the surveys and asked to sign assent forms; these were collected before the surveys were distributed. Students took on average approximately one hour to complete the surveys.

After students completed their surveys, parents were mailed their surveys and asked to complete and return them within two weeks; stamped, self-addressed envelopes were provided for return of the surveys. Teachers were also given Teacher Report Forms (Achenbach, 1991) and asked to return them within two weeks. Teachers were compensated \$3 per form they returned.

Participants

One hundred fifty-eight students returned parental consent forms (28%). One student subsequently refused to participate, and another student moved before the survey was distributed. The resulting sample size was 156 students. The sample consisted of 63 eighth and 93 ninth graders, ranging in age from 12-15 years old (mean age= 14). It consisted of 37.8% males and 62.2% females. Race was comprised of 89.7% European American, 3.8% African American, 1.9% Asian, and 4.5% other. The racial background of this sample is similar to what the Johnson City School System reported for the composition of the school with the exception of the African American population being underrepresented in this sample (3.8% in the sample compared to 12.3% in the school

system). Mean income was \$50-59,000. Seventy-four percent of the sample reported living with both biological parents. Not all parents completed surveys, even though they consented to participate initially. Fifty-four percent of the sample had at least one parent participate by returning a survey; thirty-eight percent had two parents return surveys. Teachers completed Teacher Report Forms on all 156 students. See Table 1 for demographic information.

Measures

Control variables

Age, gender, race, and family income were used as control variables because previous research has suggested these are significantly related to adolescent behavior problems.

Table 1. Sample Demographic Information

Variables/ sources	N	%
Source		
Adolescents	156	100
Mothers (M)	81	52
Fathers (F)	64	41
Teachers	156	100
Both M & F	60	39
Gender		
Males	59	37.8
Females	97	62.2
Race		
European American	140	89
African American	6	3.8
Asian	3	1.9
Family Structure		
Both biological parents	115	73.7
Mom only	19	12.3
Dad only	1	.01
Grandmother only	1	.01
Other	20	12.8

Adolescent behavior problems

Adolescent behavior problems were assessed using Achenbach's (1991) measures of internalizing and externalizing behaviors. Measures of behavior problems were completed by adolescents, parents, and teachers; specifically, these included the Youth Self-Report Form (YSR), Child Behavior Checklist (CBCL), and Teacher Report Form (TRF). Externalizing problems included delinquent and aggressive behaviors. Internalizing problems included withdrawn behaviors, somatic complaints, and anxious/depressed symptoms. These served as the dependent variables in this study. The Achenbach (1991) forms contained 113 items. Items used a three-point scale for ratings. For both scales, higher scores were indicative of more problems. Achenbach (1991) reported test-retest reliability estimates of .93 for the externalizing scale and .89 for the internalizing scale. Reliability estimates for this sample using Cronbach's alpha ranged from .89-.95 for the externalizing scales and .79-.94 for the internalizing scales. Dependent variables' reliability estimates are in Table 2.

Table 2. Reliability for Dependent Variables

	Youth	Mothers	Fathers	Teachers
Externalizing	.89 (155) [1]	.93 (74) [7]	.95 (58) [6]	.93 (156) [0]
Internalizing	.91 (155) [1]	.94 (73) [8]	.94 (58) [6]	.79 (156) [0]

() indicates n; [] indicates missing data

Self-Report Family Inventory (SFI)

The SFI (Beavers & Hampson, 1990) is a self-report measure that contains a subscale designed to assess the conflict dimension of family functioning as conceptualized in the Beavers Systems Model of Family Functioning (Beavers & Hampson, 1990). They viewed family conflict as the family's ability to resolve or accept differences. Adolescents and their parents completed this measure. The SFI assesses overt fighting, arguing, blaming, acceptance of personal responsibility, and negative feeling tone in the family. The conflict subscale contains twelve items scored on a five-point Likert scale; lower scores were indicative of higher conflict. The authors did not provide reliability estimates separately for the conflict subscale (Beavers, Hampson, & Hulgus, 1990). Reliability estimates for this sample ranged from .77-.83.

Family Environment Scale (FES)

The FES (Moos & Moos, 1994) is also a self-report measure containing a subscale designed to assess family conflict. Adolescents and their parents completed this measure. Moos and Moos (1994) conceptualized family conflict as "the amount of openly expressed anger and conflict among family members" (p. 1). The subscale contains nine items scored on a True-False format; higher scores are indicative of more conflict in the family. They operationalized conflict by including items that assessed frequency, openness of the conflict, criticizing of family members, and physical hitting. The authors reported an internal consistency estimate of .75; this sample's reliability estimates were .58-.81. Mothers' reports of family conflict were .58; a decision was made by the researcher to keep scales in the analyses if two out of three sources had

reliability estimates above .70. Therefore, mothers' reports of conflict on the FES subscale were kept in subsequent analyses.

Overt Conflict Items

In order to assess an overt conflict style within the family, the following items from Buehler et al. (1998) were added (1) How often does your family have disagreements/arguments? (2) When your family members disagree with one another, how often do they do the following in front of you (so you can see or hear)? (a) Call each other names; (b) Threaten each other; (c) Yell at each other; (d) Insult (show disrespect for) each other; (e) Tell each other to shut up; (f) Hit, slap, or push each other. The response scale ranged from 1 meaning never happens to 4 happens very often. Adolescents and parents completed these items. Higher scores indicated more overt conflict in the family. This was considered important because of its contribution to adolescent internalizing and externalizing behavior problems. The reliability estimates for this scale were all above .85.

Cohesion

Family Adaptability and Cohesion Evaluation Scale (FACES II)

Adolescents and their parents completed the Family Adaptability and Cohesion Evaluation Scale version II (Olson, 1992). It is a self-report measure that contains a subscale designed to assess family cohesion. Olson (1992) defined cohesion as "the degree to which family members are separated from or connected to their family" (p. 1). The subscale contained sixteen items; higher scores meant more cohesion. Areas of cohesion they assessed to operationalize the construct included emotional bonding, boundaries, coalitions, time spent together, physical proximity of family members,

knowing each others' friends, including members in decision-making, and shared interests. FACES II was chosen over FACES III because the authors reported higher alpha reliabilities with FACES II (.87 as opposed to .77) and stated concurrent validity for FACES II is higher than for FACES III (Olson, 1992). The reliability estimates obtained for this sample ranged from .80-.87.

FES

The FES (Moos & Moos, 1994) contains a subscale that assesses cohesion; adolescents and their parents completed this subscale. The authors conceptualized cohesion as "the degree of commitment, help, and support family members provide for one another" (p. 1). This concept was operationalized by including nine items, which asked family members to rate the statement as true or false for their family. Items assessed if family members support one another, back each other up, spend time together, and help each other around the house. Higher scores were indicative of more cohesion within the family. Authors reported internal consistency reliability estimates of .78, and test-retest estimates of .86. Reliability estimates for this sample were .64- .76. Fathers' cohesion estimates were .64, which was below the preset level of .70; however, due to the other two sources' estimates being acceptable, fathers' scores were also included in subsequent analyses.

SFI

The Self-Report Family Inventory (Beavers, Hampson, & Hulgus, 1990) also contains a subscale designed to assess the cohesion dimension of family functioning as conceptualized in the Beavers Systems Model of Family Functioning (Beavers & Hampson, 1990). Adolescents and their parents completed this measure. The authors

defined cohesion as closeness, togetherness, and tendencies to enjoy time and activities together. The cohesion subscale contains five items scored on a five-point Likert scale; higher scores were indicative of lower cohesion. The authors did not provide internal consistency reliability estimates separately for the cohesion subscale (Beavers, Hampson, & Hulgus, 1990), but test-retest reliability estimates ranged from .50 to .70 for cohesion. For this sample Cronbach's alpha ranged from .40-.52. Due to the low reliability estimates, the SFI family cohesion subscale was not used in subsequent analyses. Conflict and cohesion reliability estimates are in Table 3.

Family control variables

An effort was made to keep all measures intact when they were administered. Therefore, family functioning dimensions other than conflict and cohesion were assessed. In an effort to provide evidence that conflict and cohesion would still be related to adolescent externalizing and internalizing behaviors above and beyond other family functioning dimensions, the dimensions that received reliability estimates above .70 were entered as a group in a third step. These included the following dimensions:

Adaptability

As mentioned previously, adolescents and their parents completed the Family Adaptability and Cohesion Evaluation Scale version II (Olson, 1992). It is a self-report measure that contains a subscale designed to assess family adaptability. Olson (1992) defined adaptability as "the ability of a marital or family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress" (p. 1). He operationalized this construct by using fourteen items that measured assertiveness, control, discipline, negotiation style, role relationships, and

Table 3. Conflict and Cohesion Reliability

Conflict	Adolescents	Mothers	Fathers
SFI	.80 (156) [0]	.83 (80) [1]	.77 (62) [2]
FES	.81 (154) [2]	.58 (78) [3]	.73 (64) [0]
Overt	.90 (156) [0]	.89 (80) [1]	.87 (64) [0]
Cohesion			
FACES	.87 (155) [1]	.86 (81) [0]	.80 (63) [1]
SFI	.40 (154) [2]	.52 (81) [0]	.52 (62) [2]
FES	.76 (154) [2]	.75 (76) [5]	.64 (63) [1]

() indicates n; [] indicates missing data

relationship rules. The author reported a reliability estimate of .78; this samples' estimate ranged from .69 to .80.

Expressiveness

Two measures were used that included a subscale assessing expressiveness. First, the SFI contained five items designed to measure this concept. The authors defined the construct as the degree to which family members can openly convey affection toward one another. Items assessed if family members pay attention to each other's feelings, hug and touch each other, and if they express warmth and caring toward one another. The authors reported test-retest reliability estimates ranging from .70 to .89. The reliability estimates for this sample ranged from .69 to .81. The subscale was kept in subsequent analyses because two of the three sources achieved above .70 reliability estimates.

The FES also contained a subscale assessing expressiveness. Moos and Moos (1994) defined this concept as "the extent to which family members are encouraged to express their feelings directly" (p. 1). They used nine items to assess this dimension; they operationalized the construct by assessing how much family members can state their feelings to one another, say anything out loud, do things on the spur of the moment, and talk openly about money. The authors reported reliability estimate of the subscale of .69. This samples' reliability estimates ranged from .39 to .50; therefore, this subscale was not included in the final analyses.

Moral/Religious

Moos and Moos (1994) included a subscale in the FES they defined as "the emphasis [the family places] on ethical and religious issues and values" (p.1). The concept was operationalized by assessing whether the family attends church regularly,

says prayers, talks about religious meanings of holidays, believes in the Bible, and believes in strict right and wrong. The authors reported a reliability estimate of .78; this samples' estimates ranged from .70 to .79.

Organization

Moos and Moos (1994) included a subscale in the FES designed to assess organization of the family; they defined this construct as "the degree of importance of clear organization and structure in planning family activities and responsibilities" (p. 1). The authors reported an internal consistency reliability estimate of .76; this samples' estimates ranged from .71 to .77.

Sibling relationships

Four items were used to assess the role siblings play in the behavioral outcome of adolescents (1) My siblings help me with problems; (2) My siblings hit, slap, or yell at each other often; (3) If I had a personal problem, I could talk to one of my siblings about it; and (4) My siblings make me feel worse when I have a personal problem. The response scale was the same as for the overt conflict items (1-never to 4-very often). Higher scores were more indicative of problems between siblings. Adolescents and their parents were asked to complete these items. These items were added because although "family functioning" seems to implicitly include siblings, the role siblings play needs to be assessed explicitly. These items were not included in the final analyses, however, because the reliability estimates were below .70.

Specific reliability results for each of the variables included in the final analyses are in Table 4.

Table 4. Reliability for Family Control Variables

	Youth	Mothers	Fathers
Adaptability	.80 (155) [1]	.75 (81) [0]	.69 (63) [1]
Expressiveness	.81 (156) [0]	.76 (80) [1]	.69 (63) [1]
Moral/Religious	.75 (155) [1]	.79 (76) [5]	.70 (63) [1]
Organization	.73 (155) [1]	.77 (77) [4]	.71 (64) [0]

() indicates n; [] indicates missing data

CHAPTER 3. RESULTS

Descriptive analyses were conducted first. Means and standard deviations for all variables of interest are reported in Table 5. Secondly, zero-order correlations were computed. Multitrait-multisource matrices for both dependent and independent variables were constructed to allow comparison within traits and across traits. In addition, correlations between variables of interest were computed to determine first if a relationship between them existed. Lastly, hierarchical multiple regression analyses were conducted to test each hypothesis. All tests of significance are two-tailed tests because a significant result in either direction was considered important. Level of significance was set at $\leq .05$.

Table 5. Means and St. Deviation

Variable	Adolescents			Mothers			Fathers		
	N	M	SD	N	M	SD	N	M	SD
SFI- Conflict	156	47.06	7.20	80	50.00	5.89	62	49.06	5.01
FES- Conflict	154	2.69	2.53	78	1.96	1.68	64	2.14	2.07
Overt Conflict	156	13.45	4.82	80	12.29	3.45	64	12.28	2.98
FACES- Cohesion	155	58.48	10.29	81	64.89	8.50	63	63.49	6.84
FES- Cohesion	154	6.49	2.30	76	7.92	1.61	63	7.62	1.58
FACES- Adaptability	155	45.74	8.00	81	48.23	5.83	63	47.20	4.59
SFI- Expressiveness	156	19.21	4.41	81	21.91	2.94	63	21.06	2.94
FES- Moral/Religious	155	6.88	2.06	76	7.49	2.03	63	7.54	1.76
FES- Organization	155	5.59	2.39	77	6.67	2.30	64	6.25	2.19
CBCL- Externalizing	156	11.69	7.95	74	5.09	5.68	58	4.66	6.40
CBCL- Internalizing	156	13.16	9.59	73	6.22	6.84	58	3.50	4.63

Teachers' means and standard deviations were for externalizing: N= 154; M= 1.87; SD= 4.56; internalizing: N= 155; M= 2.79; SD= 3.61.

Zero-Order Correlations

Zero-order correlations were computed to assess the relationships among all the variables. Correlations between the dependent variables were all positive and in the expected direction. Except for teacher/internalizing and dad/internalizing, there is a statistically significant correlation across raters for the same construct ($r = .29-.79$ for externalizing; $r = .04-.65$ for internalizing). Results are in Table 6.

Zero-order correlations were also computed between sources for both conflict and cohesion variables. All of the correlations between conflict variables were significant; strength of the relationships ranged from .29 to .80. All correlations were in the expected directions. Conflict correlations are reported in Table 7. Cohesion correlations were not all significant. Strength of the correlations ranged from .01 to .66; all correlations were in the expected directions. Cohesion correlations are reported in Table 8.

Due to the high, significant correlations within sources for each variable, scale scores were converted to standard scores for each measure and then averaged to combine the different measurements. A multi-trait/multi-source matrix was then computed to compare strength of correlations. Correlations among the conflict variables were all close in strength ranging from .31 to .41 and significant in the expected direction. Correlations among the cohesion variables ranged from .15 to .34 with only one of them being significant (fathers and mothers), but all were in the expected direction.

Correlations across constructs between conflict and cohesion had mixed results. A negative correlation was expected between the two variables; three of the correlations, however, were positive. Two correlations were significant (adolescents-adolescents and

Table 6. Correlations between Dependent Variables

EXT					INT			
	Youth	Mother	Father	TRF	Youth	Mother	Father	TRF
EXT	1.0	.52 **	.50 **	.29 **	.61 **	.21	.45 **	-.01
Youth		(73)	(55)	(153)	(155)	(72)	(55)	(154)
		1.0	.79 **	.47 **	.23	.79 **	.74 **	.02
Mother			(51)	(72)	(73)	(75)	(51)	(73)
			1.0	.41 **	.33 **	.64 **	.90 **	.33*
Father				(55)	(55)	(50)	(58)	(55)
				1.0	.03 (153)	.27	.16	.15
TRF						(71)	(55)	(156)
INT					1.0	.30 *	.46 **	.23 **
Youth						(72)	(55)	(154)
						1.0	.65 *	.28 *
Mother							(50)	(72)
							1.0	.04
Father								(55)
								1.0
TRF								

* $p \leq .05$; ** $p \leq .01$

EXT= Externalizing behaviors; INT= Internalizing behaviors

TRF= Teacher's Report Form

Table 7. Zero-order Correlations between Conflict Variables

		SFI			FES			Overt		
		Ad	Mo	Fa	Ad	Mo	Fa	Ad	Mo	Fa
SFI	Ad	1.0 (156)	.40** (80)	.30* (62)	-.80** (154)	-.39** (78)	-.34* (64)	-.69** (156)	-.41** (80)	-.43** (64)
	Mo		1.0 (80)	.37** (57)	-.34** (79)	-.62** (77)	-.51** (59)	-.39** (80)	-.60** (79)	-.38** (59)
	Fa			1.0 (62)	-.39** (62)	-.51** (55)	-.63** (64)	-.29* (62)	-.39** (56)	-.53** (62)
FES	Ad				1.0 (154)	.41** (77)	.43** (64)	.76** (154)	.45** (79)	.51** (64)
	Mo					1.0 (78)	.58** (57)	.39** (78)	.76** (77)	.50** (57)
	Fa						1.0 (64)	.43** (64)	.51** (58)	.67** (64)
Overt	Ad							1.0 (156)	.49** (80)	.52** (64)
	Mo								1.0 (80)	.52** (58)
	Fa									1.0 (64)

* $p \leq .05$; ** $p \leq .01$; () is the sample size for that correlation pair

Table 8. Zero-order Correlations for Cohesion Variables

		FACES			FES		
		Adolescents	Mothers	Fathers	Adolescents	Mothers	Fathers
FACES	Adolescents	1.0 (155)	.35** (80)	.21 (63)	.64** (154)	.22 (75)	.19 (63)
	Mothers		1.0 (81)	.41** (58)	.27* (80)	.66** (76)	.31* (60)
	Fathers			1.0 (63)	.01 (63)	.40** (55)	.50** (62)
FES	Adolescents				1.0 (154)	.08 (75)	.23 (63)
	Mothers					1.0 (76)	.23 (54)
	Fathers						1.0 (63)

* $p \leq .05$; ** $p \leq .01$; () is the sample size for that correlation pair

adolescents-fathers). The correlations between sources and across averaged, standardized conflict and cohesion constructs are reported in Table 9.

Lastly, in order to first establish a relationship between variables of interest and the dependent measures, correlations were computed between independent variables and dependent variables. These are reported in Table 10 for adolescents and teachers and Table 11 for mothers and fathers.

Covariates that were found to have a significant relationship at the zero-order level with externalizing and internalizing behaviors included sex (teachers' and mothers' reports of externalizing), age (mothers' and fathers' reports of externalizing), and income (adolescents' reports of externalizing and internalizing, teachers' reports of internalizing, and mothers' reports of internalizing). Even though race was not found to be significant with the dependent variables at this level, the decision was

Table 9. Correlations between Conflict and Cohesion

	CONFLICT			COHESION		
	Youth	Mothers	Fathers	Youth	Mothers	Fathers
CONFLICT						
Youth	1.0 (154)	.32** (75)	.41** (62)	-.52** (154)	.01 (75)	.05 (62)
Mothers		1.0 (76)	.31* (54)	-.04 (75)	-.20 (73)	-.00 (54)
Fathers			1.0 (62)	-.26* (62)	.07 (54)	-.06 (61)
COHESION						
Youth				1.0 (154)	.20 (75)	.15 (62)
Mothers					1.0 (76)	.34* (54)
Fathers						1.0 (62)

* $p \leq .05$; ** $p \leq .01$; () is the sample size for that correlation pair

Table 10. Correlations between Variables of Interest and Behavior Problems for Adolescents

	Adol Ext	TRF Ext	Adol Int	Teacher Int
Sex	-.13	-.26**	.11	-.02
Age	-.04	-.07	-.10	-.15
Race	.04	-.02	.09	.03
Income	-.17*	-.11	-.31**	-.20**
Conflict	.56**	.12	.42**	.03
Cohesion	-.51**	-.13	-.46**	-.04
Adaptability	-.49**	-.16*	-.45**	-.16*
Expressiveness	-.34**	-.17*	-.29**	-.04
Moral/religious	-.12	-.15	-.10	-.06
Organization	-.22**	-.05	-.16*	.06

All independent variables were adolescents' reports

* $p \leq .05$; ** $p \leq .01$

Table 11. Correlations between Variables of Interest and Behavior Problems for Mothers and Fathers

	Mother Ext	Father Ext	Mother Int	Father Int
Sex	-.23*	-.09	-.16	.10
Age	-.29**	-.30*	-.18	-.17
Race	-.13	-.13	-.05	-.13
Income	-.11	-.07	-.27*	-.03
Conflict	-.13	.52**	-.01	.48**
Cohesion	-.26*	-.30*	-.28*	-.27*
Adaptability	-.21	-.16	-.27*	-.18
Expressiveness	-.23*	-.25	-.25*	-.26*
Moral/religious	-.05	.06	-.22	.04
Organization	-.23	-.31*	-.40**	-.25

Variables of interest were same source as behavior problems

* $p \leq .05$; ** $p \leq .01$

made to still include it in further analyses due to the mixed results in previous research.

Family variables found to be significant with the dependent variables included conflict (adolescents' and fathers' reports of both externalizing and internalizing), cohesion (adolescents', mothers', and fathers' reports of both externalizing and internalizing), adaptability (adolescents' and teachers' reports of both externalizing and internalizing, mothers' reports of internalizing), expressiveness (adolescents' and mothers' reports of both externalizing and internalizing, fathers' and teachers' reports of internalizing), and organization (adolescents' reports of both externalizing and internalizing, mothers' reports of internalizing, and fathers' reports of externalizing). Support was found for a significant relationship at the zero-order level between family conflict and problem behaviors for adolescents' and fathers' reports of behavior problems, but not mothers' or teachers' reports. Support was found for a significant

relationship at the zero-order level for all familial reports of behavior problems and family cohesion, but not teachers' reports of behavior problems.

Hierarchical Multiple Regression Analyses

Hierarchical multiple regression (HMR) analyses were conducted to test hypotheses. Eight separate HMR analyses were conducted using the different sources' reports of externalizing and internalizing problems separately. This was chosen as an appropriate strategy based on previous research reviewed (Hemmelgarn, James, Ladd, & Mitchell, 1995; Jensen et al., 1988; Offord et al., 1996). In addition, due to the number of parents who did not participate, sample size would have been significantly reduced if all sources' data were combined.

Due to the high, significant correlations within sources for conflict and cohesion, for each measure, scores were converted to standard scores and then averaged to combine the different measurements. These standardized, averaged scores were used in all HMR analyses. This process also avoided multicollinearity problems. When information was missing for the dependent variable, the subject was dropped from that analysis as suggested by Cohen and Cohen (1983). To increase statistical power, mean substitution was used for variables with missing data. By including mean substitution of independent variables with missing values (fewer than 10% missing data) as opposed to listwise or pairwise deletion, one increases the power of the parametric tests by including cases that would otherwise be eliminated from analyses. This was another procedure suggested by Cohen and Cohen (1983).

Income was the only variable with more than ten percent missing data. A procedure suggested by Orme and Reis (1991) was used in which a dichotomous variable was created that was coded 0 if data were missing for income and 1 if data were not missing for income, and this variable was included with the control variables. Orme and Reis (1991) stated that when this missing income variable is significantly associated with the dependent variable, then income is missing nonrandomly. Interpretation of the income variable must then be made with caution.

Regression coefficients and appropriate tests of significance are presented for all variables included in the models. For nominal level data, unstandardized regression coefficients are reported. For continuous level data, both standardized and unstandardized regression coefficients are reported in the tables (Pedhazur & Schmelkin, 1991).

Control Variables

For all HMR analyses, control variables were entered on the first step; these included sex (0 = males, 1 = females), age, race (European American=1; African American/Other= 0), missing income (0 = income missing; 1 = income not missing) and income. The missing income variable was significant in only one analysis, which indicated that income was missing randomly most of the time. For the analysis with adolescents' reports of their internalizing behaviors as the dependent variable, income was missing nonrandomly.

Income was a significant control variable in three of the eight analyses. Lower income was associated with more externalizing behaviors according to adolescents'

reports ($\underline{B} = -.18$, $\underline{t} = -2.22$, $\underline{p} = .03$). Lower income was also associated with more internalizing problems according to adolescents' reports ($\underline{B} = -.33$, $\underline{t} = -4.24$, $\underline{p} = .00$), and teachers' reports ($\underline{B} = -.37$, $\underline{t} = -2.46$, $\underline{p} = .02$). It must be noted that the income missing variable was significant in adolescents' reports of internalizing behaviors; this means that the income variable was not missing randomly and a third unknown variable may be involved in the relationship between adolescents' reports of internalizing behavior problems and income. Examination of the unstandardized regression coefficient for the missing income variable revealed that adolescents with income missing had lower internalizing behavior scores than those without income missing, after controlling for the other variables in the equation ($\underline{b} = -4.14$, $\underline{t} = -2.29$, $\underline{p} = .02$) (Orme & Reis, 1991).

Age was also a significant control variable, but only in two of the analyses. Younger children had more externalizing problems according to both mothers' reports ($\underline{B} = -.40$, $\underline{t} = -3.15$, $\underline{p} = .00$) and fathers' reports ($\underline{B} = -.41$, $\underline{t} = -2.84$, $\underline{p} = .01$). Sex was a significant control variable in two analyses. Mothers reported more externalizing problems in boys than girls ($\underline{b} = -1.31$, $\underline{t} = -2.11$, $\underline{p} = .04$), as did teachers ($\underline{b} = -2.43$, $\underline{t} = -3.19$, $\underline{p} = .00$). Race was also a significant control variable in one analysis. European American adolescents reported more internalizing problems than African American/Other adolescents ($\underline{b} = 4.88$, $\underline{t} = 2.01$, $\underline{p} = .05$).

The models for just the control variables entered in the first step were able to explain from six to twenty-two percent of the variance in externalizing problems and

from seven to seventeen percent of the variance in internalizing problems. Results of all control variable analyses are found in Tables 12 and 13.

Table 12. HMR Results for Control Variables and Externalizing Behaviors

	<u>R</u>	<u>R</u> ²	<u>b</u>	<u>B</u>	<u>T</u>	<u>p</u>
Adolescents	.24	.06				.11
Sex			-2.23		-1.68	.10
Age			.01	.00	.02	.99
Race			1.53		.71	.48
Income missing			-1.71		-1.07	.29
Income			-.72	-.18	-2.20	.03
Mothers	.47	.22				.02
Sex			-1.31		-2.11	.04
Age			-2.94	-.40	-3.15	.00
Race			-1.66		-.71	.48
Income missing			2.70		1.01	.32
Income			.48	.18	1.35	.18
Fathers	.40	.16				.12
Sex			-.09		-.06	.96
Age			-3.68	-.41	-2.84	.01
Race			1.43		.35	.73
Income Missing			1.53		.32	.75
Income			.30	.09	.65	.52
Teachers	.28	.08				.03
Sex			-2.43		-3.19	.00
Age			-.33	-.05	-.61	.54
Race			-.07		-.05	.96
Income Missing			.14		.16	.88
Income			-.26	-.11	-1.36	.18

Table 13. HMR Results for Control Variables and Internalizing Behaviors

	<u>R</u>	<u>R</u> ²	<u>B</u>	<u>B</u>	<u>T</u>	<u>p</u>
Adolescents	.41	.17				.00
Sex			2.02		1.35	.18
Age			-.73	-.06	-.69	.49
Race			4.88		2.01	.05
Income missing			-4.14		-2.29	.02
Income			-1.76	-.33	-4.24	.00
Mothers	.33	.11				.26
Sex			-.36		-.22	.83
Age			-.69	-.23	-1.66	.10
Race			1.45		.52	.61
Income missing			1.28		.40	.69
Income			-.37	-.18	-1.29	.20
Fathers	.32	.11				.35
Sex			1.46		1.15	.26
Age			-1.85	-.28	-1.89	.06
Race			.78		.26	.80
Income Missing			3.20		.90	.37
Income			.26	.11	.76	.45
Teachers	.27	.07				.06
Sex			-.22		-.36	.72
Age			-.69	-.14	-1.63	.11
Race			1.12		1.15	.25
Income Missing			.54		.74	.46
Income			-.33	-.20	-2.46	.02

Hypothesis 1: Conflict

It was hypothesized that conflict would be a significant predictor of adolescent behavior problems after controlling for sex, age, race, and income. More specifically, higher conflict would be associated with more behavior problems. To test this hypothesis, the conflict variable was entered into the HMR equation on the second

step after the control variables were entered on the first step. Conflict was a significant predictor of both externalizing and internalizing problems in four out of eight analyses; conflict was not significant with mothers' or teachers' reports of either externalizing or internalizing problems. Results were in the expected direction, with more conflict being associated with more behavior problems. The percentage of variance in externalizing behaviors that conflict was found to explain ranged from one (teachers' reports) to twenty-nine percent (adolescents' reports). The percentage of variance in internalizing behaviors that conflict was found to explain ranged from zero (teachers' reports) to eighteen percent (adolescents' and fathers' reports). Specific results are in Table 14.

Hypothesis 2: Cohesion

It was hypothesized that cohesion would be a significant predictor of adolescents' externalizing and internalizing problems after controlling for sex, age, race, income, and conflict. More specifically, as cohesion decreased, behavior problems would increase. To test this hypothesis, cohesion was entered on the third step of the analyses, following demographic variables on the first step and conflict on the second step. As with conflict, cohesion was a significant predictor of both externalizing and internalizing problems in four out of eight analyses; cohesion was significant with adolescents' and mothers' reports of both externalizing and internalizing problems. Results were in the expected direction. The percentage of variance in externalizing behaviors that cohesion was found to explain ranged from zero (teachers' reports) to ten percent (mothers' reports). The percentage of variance

in internalizing behaviors that cohesion was found to explain ranged from zero (teachers' reports) to fifteen percent (mothers' reports). Specific results are in Table 15.

Table 14. HMR Conflict Results

	<u>R</u>	<u>R</u> ² _{chg}	<u>b</u>	<u>B</u>	<u>t</u>	<u>p</u>
Externalizing						
Adolescents	.59	.29	10.72	.55	8.09	.00
Mothers	.49	.02	1.84	.16	1.32	.19
Fathers	.57	.16	6.80	.46	3.39	.00
Teachers	.30	.01	1.06	.09	1.17	.25
Internalizing						
Adolescents	.59	.18	10.13	.43	6.35	.00
Mothers	.40	.05	3.01	.23	1.81	.08
Fathers	.53	.18	5.17	.48	3.42	.00
Teachers	.27	.00	.21	.02	.29	.77

Table 15. HMR Cohesion Results

	<u>R</u>	<u>R</u> ² _{chg}	<u>b</u>	<u>B</u>	<u>t</u>	<u>p</u>
Externalizing						
Adolescents	.64	.06	-2.64	-.30	-3.85	.00
Mothers	.58	.10	-2.34	-.34	-2.86	.01
Fathers	.58	.02	-1.24	-.15	-1.21	.23
Teachers	.31	.00	-.41	-.08	-.83	.41
Internalizing						
Adolescents	.64	.07	-3.28	-.31	-3.98	.00
Mothers	.55	.15	-3.13	-.41	-3.33	.00
Fathers	.56	.03	-1.18	-.19	-1.54	.13
Teachers	.27	.00	.05	.01	-.12	.91

Hypothesis 3: Family Control Variables

It was hypothesized that conflict and cohesion would remain significant predictors of adolescents' behavior problems after controlling for other select family functioning variables. To test this hypothesis, the family control variables were entered on the fourth step collectively; these included adaptability, expressiveness,

moral/religious, and organization. The only control variable found significant was in mothers' reports of internalizing behaviors. Mothers' reports of organization were significantly related to mothers' reports of internalizing behaviors ($B = -.38$, $t = -2.68$, $p = .01$). As organization decreased, internalizing behavior problems increased.

Conflict remained significant for adolescents' and fathers' reports even after adding the control variables. Cohesion remained significant to behavior problems only for adolescents' reports of both externalizing and internalizing behaviors after accounting for the family control variables. The amount of variance in externalizing problems accounted for by the control variables ranged from one (adolescents' reports) to five percent (mothers' and fathers' reports). These results are in Table 16.

The amount of variance in internalizing problems accounted for by family control variables ranged from two (adolescents' reports) to twelve percent (mothers' reports). Specific results for internalizing reports may be found in Table 17.

Table 16. HMR Family Control Variables Included for Externalizing Behaviors

	<u>R</u>	<u>R</u> ² _{chg}	<u>b</u>	<u>B</u>	<u>t</u>	<u>p</u>
Adolescents	.65	.01				.70
Conflict			7.02	.36	4.302	.00
Cohesion			-2.49	-.28	-2.29	.02
Adaptability			-.11	-.11	-1.17	.24
Expressiveness			.05	.03	.26	.80
Moral/Religious			-.19	-.05	-.70	.49
Organization			.27	.08	1.05	.30
Mothers	.62	.05				.42
Conflict			.05	.00	.03	.98
Cohesion			-1.58	-.23	-1.27	.21
Adaptability			-.05	-.05	-.32	.75
Expressiveness			-.29	-.14	-.83	.41
Moral/Religious			.45	.16	1.21	.23
Organization			-.58	-.22	-1.49	.14
Fathers	.58	.05				.08
Conflict			6.99	.42	5.35	.00
Cohesion			-.20	-.06	-.58	.57
Adaptability			-.09	.01	.07	.94
Expressiveness			-.44	-.27	-2.68	.01
Moral/Religious			.35	.16	2.01	.05
Organization			-.11	-.12	-1.36	.18
Teachers	.34	.03				.43
Conflict			.65	.06	.55	.58
Cohesion			.10	.02	.13	.90
Adaptability			-.04	-.07	-.57	.57
Expressiveness			-.07	-.07	-.54	.59
Moral/Religious			-.34	-.15	-1.72	.09
Organization			.16	.08	.85	.40

Table 17. HMR Family Control Variables Included for Internalizing Behaviors

	<u>R</u>	<u>R</u> ² _{chg}	<u>b</u>	<u>B</u>	<u>t</u>	<u>p</u>
Adolescents	.65	.02				.48
Conflict			5.81	.25	2.97	.00
Cohesion			-2.94	-.28	-2.27	.03
Adaptability			-.12	-.10	-1.02	.31
Expressiveness			-.05	-.02	-.24	.81
Moral/Religious			-.23	-.05	-.69	.49
Organization			.46	.12	1.50	.14
Mothers	.65	.12				.06
Conflict			1.43	.11	.87	.39
Cohesion			-1.86	-.24	-1.34	.19
Adaptability			.15	.13	.86	.40
Expressiveness			-.45	-.19	-1.18	.24
Moral/Religious			-.17	-.05	-.42	.68
Organization			-1.14	-.38	-2.68	.01
Fathers	.55	.05				.07
Conflict			5.33	.44	5.50	.00
Cohesion			-.43	-.02	-.21	.84
Adaptability			-.11	-.03	-.33	.74
Expressiveness			-.33	-.28	-2.78	.01
Moral/Religious			.38	.14	1.76	.08
Organization			-.03	-.07	-.79	.43
Teachers	.34	.04				.15
Conflict			-.32	-.04	-.34	.73
Cohesion			.23	.06	.37	.71
Adaptability			-.12	-.26	-2.12	.04
Expressiveness			-.04	.05	.43	.88
Moral/Religious			-.12	-.07	-.79	.43
Organization			.23	.15	1.56	.12

CHAPTER 4. DISCUSSION

Substantive Summary

The results of this study provided mixed evidence to support the hypotheses that family conflict and family cohesion independently predict adolescents' externalizing and internalizing behavior problems after controlling for demographic and control family variables. More specifically, family conflict was a significant predictor of both externalizing and internalizing problems, but only in four out of eight analyses. Results were in the expected direction, with more conflict being associated with more behavior problems. The second hypothesis also had support as evidenced by family cohesion being a significant predictor of both externalizing and internalizing problems. As with the first hypothesis, however, family cohesion was significant in four out of eight analyses. Results were in the expected direction, with lower cohesion being associated with more behavior problems. Lastly, conflict remained a significant predictor of externalizing and internalizing problems in the four analyses even after controlling for other family variables. Cohesion, however, remained significant only for one of the analyses.

Results differed across reporters. Adolescents' and fathers' data confirmed the first hypothesis that family conflict would be a significant predictor of behavior problems after controlling for demographic variables. However, mothers' and teachers' data did not show family conflict to be a significant predictor of either outcome variable.

Adolescents' and mothers' data supported the second hypothesis that family cohesion would be a significant predictor of both externalizing and internalizing behaviors in adolescents after controlling for demographic variables and family conflict. Family cohesion was not significantly related to problem behaviors according to fathers' and teachers' data.

Adolescents' and fathers' data supported the third hypothesis of family conflict being significant even after controlling for family cohesion and other family control variables. Only adolescents' data confirmed that family cohesion would remain significant after controlling for family conflict and other family control variables. Mothers' data showed no significant predictors for externalizing behaviors, and only organization was significant with internalizing behaviors. Adolescents' reports of adaptability were a significant predictor of teachers' reports of internalizing behaviors.

Possible Explanations for Findings

The differences among adolescents, mothers, and fathers are interesting. Adolescents rated their problem areas higher than their parents did. The variation in the adolescents' reports contributed to being able to find a relationship with other variables such as conflict and cohesion. Perhaps it is a characteristic of teens to exaggerate or focus on problem areas more than their parents. On the other hand, perhaps youth are more sensitive to stressful events such as family members fighting. Another possible explanation may be that adolescents fight themselves with others in the family more than mothers or fathers do. They may be involved in fighting with each of their parents as well as siblings. Another explanation may be that adolescents

may be more likely to disclose honestly the level of conflict in their families than their parents may. Mothers and fathers may be more concerned about how results will be interpreted and thus minimize problems.

Differences in results were found between mothers and fathers. With fathers' reports, conflict was a significant predictor of youths' behavior problems. With mothers' reports, cohesion was a significant predictor of youths' behavior problems. These differences are difficult to explain. One reason mothers' reports of conflict may not have been significant is the FES conflict subscale achieved a reliability estimate below .70 ($\alpha = .58$); this measure was combined with two other measures to represent family conflict. In speculation as to why mothers differed in their view of family conflict, consideration was given to the thought that perhaps mothers minimized conflict that their families experience or possibly family members do not fight as much in the presence of their mothers. However, comparison of the means on the conflict subscales revealed no significant differences between mothers and fathers, although fathers rated conflict slightly higher. Similarly, fathers' FES cohesion subscale achieved a reliability estimate below .70 ($\alpha = .64$); perhaps this combined with the other subscales affected the results. Consideration was given also to the thought that perhaps fathers may not pay attention to the emotional support that family members give to each other. However, once again the means for mothers' and fathers' reports of cohesion were not significantly different. The only significant difference was noted between mothers' and fathers' reports of internalizing behavior problems. Fathers rated these lower than mothers did. This may show a tendency for fathers not to notice

problems that are not easily seen such as withdrawn or anxious behaviors. This result seems to lend support to the stereotype that mothers are more “in tune” with their children’s feelings, although the result that mothers still reported fewer problems than the youth themselves is noteworthy.

It was not surprising, and was consistent with other studies, that teachers’ reports were not significantly related to adolescents’ reports of family conflict and family cohesion. Teachers reported very few problems in externalizing and internalizing behaviors. This may have been one reason why this study was unable to find significant results with their data.

The question remains, “knowing these differences exist between sources, is it important to keep the data separate or better to combine them in some way?” If one takes the view that adolescents tend to exaggerate or focus too much on their problems, then averaging scores would take the adolescents’ views into account, but put it in perspective with others’ views. This may be the best strategy to use when the purpose is to view trends in large groups. Perhaps in therapy, it still may be useful to have the differing views of family members separated. Finding the specific areas where disagreements are provides a focus for therapy. Intervening in such a way as either to help the adolescents view conflict in a new perspective or actually to reduce the conflict in the family will help reduce the adolescents’ problem behaviors.

Comparisons to Existing Studies

The results of this study have some similarities to other studies reviewed. On the zero-order level, evidence from all reports supported a relationship between both

family conflict and family cohesion and behavior problems. These results are similar to other studies that included either family conflict (Graber et al., 1994; Shagle & Barber, 1993) or family cohesion (Barber & Buehler, 1996; Graber et al., 1994; Lindahl & Malik, 1999; Prange et al., 1992). Leaving analyses at the zero-order, however, is not sufficient because a spurious relationship cannot be ruled out. Utilizing predictor analysis, Shagle's and Barber's (1993) results were similar to this study. They included family conflict with other variables simultaneously and found family conflict still to be related significantly to an adolescent outcome. Their study provided some evidence that family conflict is significant beyond other variables, and this study supported that finding. Four studies reviewed used HMR analyses like this study and found similar results of family cohesion significantly predicting externalizing and internalizing behaviors (Barber & Buehler, 1996; Gfeller, 1994; Lindahl & Malik, 1999; Prange et al., 1992). The study by Prange et al. (1992) found similar results linking cohesion to externalizing behaviors, but their results differed for internalizing behaviors. They reported cohesion as nonsignificant. Like this study, most studies that included adaptability did not find it to be significant with youths' problem behaviors either (Cumsille & Epstein, 1994; Gfeller, 1994; Rait et al., 1992; Stewart et al., 1994). These findings for family conflict and family cohesion suggest to researchers and social workers that when presented with youths' problem behaviors, one can almost expect the family to be having intense disagreements and lack emotional support for one another.

Consistent with other studies, this study found gender to be a significant predictor of externalizing behaviors in three out of four analyses (mothers, fathers, and teachers), with boys being reported with more problems. Mothers and fathers also reported younger children as having more externalizing problems than older children. This is consistent also with the literature reviewed. Income was found to be a significant predictor of externalizing problems according to adolescents' reports. Teachers and adolescents reported income to be significant with internalizing behaviors. These mixed results were similar to what was reviewed previously in this paper. Race was found only to significantly predict internalizing behaviors according to adolescents. This may have been significant in other instances if there had been more diversity in the sample. This was mentioned in other studies with similar results and compositions of their samples. These provide evidence for researchers that they need to include these demographic variables to help explain the variation in youths' problem behaviors. Furthermore, social workers and therapists can expect gender, age, and income to play a role in their clients' problem behaviors and address these issues.

Strengths and Contributions to Existing Research

This study has several strengths and provided unique contributions to the field of family studies. First, no other existing studies were found that included multiple measures of family conflict or family cohesion. Multiple measures of constructs provided more evidence for construct validity. Second, multiple sources were used to provide different pictures of both the families' and the adolescents' problem behaviors.

Evidence supported the view that different sources have different views of the problems and their potential causes (Hemmelgarn, James, Ladd, & Mitchell, 1995; Jensen et al., 1988; Offord et al., 1996). Third, the inclusion of a multitrait-multisource matrix provided more evidence for construct validity for both conflict and cohesion, although results were greater for conflict than cohesion. This matrix also provided further evidence for convergent and divergent validities. All of these together improve construct validity for family conflict and family cohesion, and this was one of the strongest points in this study.

Fourth, in an attempt to improve internal validity, pertinent demographic as well as family functioning variables in addition to family conflict and family cohesion were included in this model. No other models were found that included measures of family conflict and family cohesion plus additional control family variables and several demographic variables. These included altogether provided support that these constructs are two of the most salient when considering family functioning and youths' behavior problems. It also allowed other variables that may be responsible for the observed relationship to be ruled out as confounding variables.

Fifth, statistical conclusion validity was considered *a priori*. This study included a sample size of over 100 adolescent subjects and their teachers, which reduced the Type II error rate for these analyses. To maintain sufficient statistical power, mean substitution was used with missing data. As stated previously, by including mean substitution of independent variables with missing values (fewer than 10% missing data) as opposed to listwise or pairwise deletion, one increases the power

of the parametric tests by including cases that would otherwise be eliminated from analyses. This was a procedure suggested by Cohen and Cohen (1983). Type I error rate was set conventionally at $\leq .05$ for all tests of statistical significance. Measures had to be found reliable (above .70) before they were entered into the analyses. Four exceptions were made to this rule. Fathers' adaptability and fathers' expressiveness scales had reliability estimates of .69. These were included even with lower reliability estimates because the other sources' estimates were acceptable.

A last consideration to statistical conclusion validity was missing data. One reason the information from the various sources was not combined was because of the differences in sample sizes between the adolescents and their parents. By treating these sources separately, the statistical conclusion validity was preserved instead of having large amounts of missing data. Income was the only variable with above 10% of information missing. In order to test what effect missing data had on the results, the procedure suggested by Orme and Reis (1991) was implemented. The variable of income missing was significant in one analysis, adolescents' reports of internalizing behaviors. In this analysis, the income variable was found to be a significant predictor of internalizing behaviors, but this result must be viewed cautiously, because income was not missing randomly. Perhaps adolescents with more internalizing problems were too embarrassed to report income or too shy to guess what their family incomes were. Overall, missing data were not problematic in this study.

Also in considering internal validity, HMR analyses were used and step-by-step changes in variance were reported. Therefore, readers were able to see unique

contributions of each variable to the outcome variables. This is an improvement over existing research as several studies reviewed only included correlational analyses. The use of more sophisticated analyses, such as HMR, allows researchers to make statements that family conflict and family cohesion may predict youths' problem behaviors.

Lastly, this study included several family functioning variables simultaneously in order to help determine what specific areas affect youths' problem behaviors. As mentioned previously, organization and adaptability had minimal support for their significance. These results are interesting, and they were unable to be compared to other results due to the uniqueness of this study. Future studies may want to explore these areas to see if the results are the same.

Limitations of this Study

Undoubtedly, there are limitations to this study. The only limitation in the area of construct validity was that only self-report measures were used in this study. Further substantiation of the relationship between the constructs of family conflict and family cohesion would be provided if multiple methods of measuring each construct were included.

In considering statistical conclusion validity, the low sample size for mothers and fathers reduced statistical power for those analyses. Eighty mothers and 64 fathers returned surveys. These both fall below the 100 subjects needed for adequate power. Another factor possibly affecting the participation was the length of the survey. It included 175 general and family functioning questions plus an additional 120 items for

the outcome measures. One of the students who originally agreed to participate glanced through the survey and refused to complete it due to the length. A few parents returned portions of the survey incomplete as well. A couple of fathers commented on their CBCLs that their opinions are the same as their children's. These were entered as incomplete data. Additional data appeared to be missing due to failure to look on the back for questions. If respondents rushed through the survey, this may have affected results. Perhaps the families experiencing intense conflict or families who are distant from each other emotionally (representing low cohesion) did not respond. If these families had participated, results would have contained more variation, and possibly stronger relationships between the variables could have been found.

Another statistical conclusion validity concern was the low reliability of some measures. In particular, the SFI cohesion subscale achieved Cronbach's alpha estimates of .40-.52. Five items comprised this scale. Careful scrutiny of the items revealed a couple of items that did not seem consistent with the other items or construct definition. For example, one item was worded, "Our happiest times are at home." Respondents may enjoy doing things together with family members, but they enjoy going out rather than staying home. Another item included three separate ideas together, independence, arguments, and relying on each other. Respondents may have thought that these were not related and may have wanted to answer each part differently. In order to achieve higher reliability estimates, items need to be more closely related.

The reliability of the SFI leadership subscale was also extremely low (.23-.34). This subscale contained three items, but they seemed to be related (“There is confusion in our family because there is no leader”; “The grownups in this family are strong leaders”; and “One person controls and leads our family”). The authors reported a test-retest reliability estimate of .41, which was not much higher than what was found in this study.

Low reliability estimates were also found for the sibling relationship subscale (.52 and .53 for mothers and fathers, respectively). Adolescents’ reports were acceptable (.78). It appeared to this author that the reason for the lower estimates for parents was some confusion in the directions. Some parents made comments in the margins that they were not sure whether they should answer these questions from their own families of origin or for their adolescents. Other evidence that directions were not clear included some parents’ comments that these questions did not apply (as if the adolescents had no siblings) when the adolescents did answer the questions and reported having at least one sibling. If these questions are to be used in the future to add to our understanding of family relationships and functioning, the researcher needs to explicitly state whose siblings are to be considered.

Further limitations were found in the area of internal validity. First, only cross-sectional data were included. Due to the lack of ability to collect longitudinal data, prove time order of family variables before youths’ behavior problems, or manipulate the family variables, one cannot truly establish that family conflict and family cohesion caused the behavior problems reported. This represents a weakness in

internal validity for this study. Researchers in the future should try to conduct longitudinal studies and regress family variables at one time onto youths' behavior problems at a later time. The possibility that youths' behavior problems cause family conflict and a decrease in family cohesion also needs to be considered. The effects observed in this study may be bi-directional and not as simple as presented here. In order to help establish a causal connection between these variables, experimental research could be conducted to determine if family therapists intervening to lower family conflict and raise family cohesion improves adolescents behaviors.

Furthermore, the relationships observed among family conflict, family cohesion, and youths' behavior problems may still be due to some other variable(s) that were not measured. Some studies have proposed that individual differences may play a role in the problems families experience and an individual's problem behaviors. These may include biological factors or even environmental factors (Garmezy, 1981). Other family functioning processes may also be responsible or more salient than family conflict and family cohesion. This study made an attempt to measure and include a few of these, but other variables need to be considered.

Some limitations were present also in the area of external validity. First, the sampling method was not a random sample, and it was not representative of the target population. One of the major problems encountered in this study was the low participation rate given the number of students eligible to participate. Out of approximately 500 students eligible to participate, 156 completed surveys. Parents may have been unwilling to take the 45 minutes needed to complete the surveys as

described on the consent form. Even more disappointing, only 84 of those students had parents return surveys, even though the parents consented to participate originally. Perhaps participation could have been increased if more incentive were available. Due to limited funding for this project, the researcher was unable to compensate families financially for their time. Instead, only extra credit was offered to students who returned consent forms. This did not seem enough incentive for some students, however. Some teachers commented that it appeared that only the upper level students were completing surveys due to motivation for the extra credit. Results might have been slightly different, perhaps providing more variance in behavior problems, if a wider variety of students and their families had participated. Teachers, however, were offered \$3 per teacher report form they completed, which seemed to motivate some teachers to participate.

Another possibility to consider is that the wording on the consent form may have caused certain people to think they were not eligible to participate. The consent forms and letters mentioned the study was concerned about how families function, but they did not define family. If the forms had explicitly stated that single parent families as well as nontraditional families were included, perhaps the participation rate would have been higher. A bias was noted in the sample that the majority of students who participated were from homes with two biological parents (73.7%). Washington County/Johnson City census data revealed that 20.7 % of the households reported two biological parents and natural children present and 5.9% were single-parent female-headed households.

A further limitation is the composition of the sample. One and a half times more females responded than males. In addition, the sample was mostly composed of middle-class, European Americans from families with two biological parents. Furthermore, as previously stated, teachers observed that students who were motivated to achieve academically were the ones who participated. These represent selection bias in the sample. Due to the selection biases, the reader must be careful not to generalize the results to any group other than high academic students of upper middle-class European American families. Other research has suggested that family cohesion may be more important to other ethnic groups than it is to European Americans when considering behavior problems (Gfeller, 1994). Furthermore, one may argue that adolescents on the high end of the academic scale may be higher functioning and have fewer behavior problems than other adolescents. Considering the research suggested that race, income, and gender were significantly correlated with adolescent behavior problems, the lack of variance in these variables may have limited the significant findings in the results. In spite of these limitations, this study did a reasonable job examining the ability of family conflict and family cohesion to predict adolescents' externalizing and internalizing behavior problems.

Implications for Practice and Suggestions for Future Research

Evidence was presented that higher family conflict and lower family cohesion predict greater behavior problems in adolescents, especially according to adolescents themselves. This study has implications for family functioning theories and social workers who work with troubled families and as family therapists.

Implications for Theories of Family Functioning

If one accepts the definition of family functioning as being the processes important to the “well-being of its members,” then models of family functioning need to include aspects shown to have a direct effect on its members. Global terms and assessment of family functioning do not provide enough information to therapists and researchers about what precisely is negatively affecting a family member. They suggest no specific area in which to intervene to make a difference. Therefore, theories of family functioning need to delineate specific areas or processes that directly affect individuals’ outcomes. This study provided evidence that theorists need to consider the specific dimensions of family conflict and family cohesion. Existing theories previously reviewed in this paper will be evaluated based upon the findings presented in this study.

Olson et al. (1989) included only cohesion and adaptability in his model of family functioning. The FACES instrument this theory spawned is the one most researchers use. By using this instrument, researchers are agreeing with Olson that these two dimensions adequately define the concept of family functioning. Originally, Olson proposed these dimensions to have a curvilinear relationship with behavior

problems (1989). That is to say, those families reporting a lot of cohesion as well as those reporting very little cohesion both are associated with behavior problems.

Recently, however, Olson has conceded that the empirical evidence using self-reports does not support this curvilinear relationship (Olson, 1992).

Evidence from this study supported Olson's (1989) theory that cohesion is important to the well being of family members, at least according to adolescents and mothers. This study also provided minimal evidence that adaptability was important to adolescent outcomes as put forth by Olson (1989). However, Olson did not include conflict as a dimension of family functioning, and this study provided evidence that family conflict is important to consider. Therefore, Olson (1989) underrepresented the concept of family functioning. Furthermore, this study did not support Olson's original theory of a curvilinear relationship between family variables and youths' outcomes. A linear relationship was observed between the constructs examined.

The Beavers Model of Family Functioning (Beavers & Hampson, 1990) included a few more dimensions than Olson's (1989) theory. They included conflict, cohesion, leadership, and expressiveness. As mentioned previously, this study provided support for the dimensions of conflict and cohesion. This study did not find the leadership scale to be reliable, and therefore, it was not included in the final analyses. More work needs to be done to determine if the dimension of leadership is related to behavior problems and needs to be defined specifically in the concept of family functioning. This model represents an improvement over Olson's model, but adaptability may need to be included as well as the other dimensions.

Moos and Moos (1981) declared they developed their scale atheoretically, but the areas they assess represent the dimensions they consider important in the concept of family functioning. They included conflict, cohesion, organization, control, moral/religious, achievement orientation, intellectual/cultural, active/recreational, and expressiveness. Not all of these dimensions have empirical evidence to support their relationship to individual family members' outcomes. The dimensions of control, achievement orientation, intellectual/cultural, active/recreational, and expressiveness were not included in the final analyses of this study because the items for these scales were not found reliable. In the future, researchers should assess the relationship these dimensions have with youths' internalizing and externalizing behaviors, and only include in the definition of family functioning the dimensions important to individual members' outcomes to avoid overrepresentation of the concept of family functioning.

Implications for Clinical Social Workers

Special attention needs to be placed on inquiring about conflict and cohesion in the family when help is sought for youths' problem behaviors. These results also suggest that special consideration needs to be given to the differences in perceptions between adolescents and their parents. Adolescents may be more stressed than parents by the fighting and lack of support they perceive. Perhaps by reducing the amount of conflict in the family and increasing the emotional support family members give each other, families and clinical social workers will reduce externalizing and internalizing problems.

This study also has implications for school social workers in addition to outpatient mental health social workers. Teachers and adolescents differed in their reports of youths' problem behaviors. Even though the teachers did not report very many problems in the students who were high academic achievers, the adolescents themselves reported several problems, both externalizing and internalizing. This implies that teachers, guidance counselors, and social workers should include this group in programs aimed to reduce or prevent problems such as depression, anxiety, withdrawal, and delinquency. In addition, guidance counselors and school social workers can plan programs aimed to teach families ways to reduce family conflict and increase family cohesion.

Implications for Future Research

In the future, researchers should strive to conduct experimental research intervening in these areas to determine if indeed they make a difference. Subjects could be divided into two groups, with one group receiving interventions targeted specifically at lowering family conflict and increasing family cohesion while the other group receives traditional family or individual therapy. Theoretically, interventions in these two areas should lower youths' behavior problems.

Future researchers should try to measure other variables and include them in the analyses to determine if these family variables still hold significant. For example, sibling relationships may be an additional stressor or buffer for the adolescent. This study tried to include a measure of sibling relationships, but the questions and directions were too ambiguous. Other family functioning constructs were measured

but did not achieve reliable results. These can be reassessed and other family variables examined, such as family communication styles and number of outside resources available to the family.

In addition, constructs may need to be operationalized differently. For example, it was mentioned previously that the marital conflict literature has broken that construct into separate dimensions, specifically frequency, intensity, mode of expression, chronicity, content, and degree of resolution. The family functioning research has not defined their construct so specifically. Perhaps this has made a difference in the results. Degree of family conflict resolution has not been assessed to this point. Future researchers may find that helping families resolve their conflicts, even though they have frequent sharp disagreements, may lower the number or severity of behavior problems that adolescents experience.

Another improvement future researchers could make is to use more sophisticated analyses such as structural equation modeling. In order to do this a larger sample size will be needed. One advantage structural equation modeling has above hierarchical multiple regression is that it does not assume perfect reliability of the measures used to assess constructs. Furthermore, it allows researchers to do regression analyses at the construct level by taking into consideration more than one measurement of the dependent variable at one time. Researchers can then include views of behavior problems from all sources simultaneously.

Lastly, further evidence for internal validity will be gathered if researchers will make an effort to conduct longitudinal studies and use observational methods in

addition to self-report. In an effort to establish a causal effect, one can regress family conflict and family cohesion at one time onto reports of adolescents' problem behaviors at a later time. Researchers can also study the effect these have on children at different ages and stages of life.

Concluding Remarks

Through this study, evidence was provided that family conflict and family cohesion are two specific dimensions of family functioning that predict adolescents' behavior problems. This begins to answer the challenge made by Gurman and Kniskern (1978, in Walsh, 1993). Social workers and family therapists proposed this relationship many years ago, but empirical evidence is now becoming available to support their claims. Due to the role of the family in providing discipline, nurturance, and general socialization to children, the family should be a central target for researchers to explore in order to reduce the number of adolescents with behavior problems who are being referred for mental health treatment.

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APPENDICES

Appendix A: Family Functioning Studies

Authors (Date)	Sample Characteristics	Family Functioning	Child Outcome	Results	Other Comments
Barber & Buehler (1996)	n=471 white, middle-class youth in Knoxville, TN	Cohesion & enmeshment from Colorado Self-Report of FF Inventory	Withdrawn & Anxious/Depressed for internalizing probs; Delinquent & Aggressive for externalizing (Youth Self-Report Form)	Correlations: cohesion & withdrawn $r = -.21^{**}$; coh & dep $r = -.28^{**}$; coh & delinquent $r = -.31^{**}$; coh & aggressive $r = -.24^{**}$; coh significant predictor of all 4 outcomes	Enmeshment differed from cohesion in direction of influence
Cumsille & Epstein (1994)	n=93 families w/ at least 1 adolescent 13-19 y/o selected from outpatient Marriage & family clinic (55 female; 38 male)	FACES III; cohesion & adaptability; adolescent reports	depression (Beck Depression Inventory); adolescent reports	coh & dep $r = -.30$, $p < .01$; adap & dep $r = -.10$, NS; boys: coh & dep $r = -.32$, $p < .05$; adap & dep. $r = .01$, NS; girls: coh & dep. $r = -.23$, $p = .072$; adap & dep. $r = -.04$, NS; $p_r = -.09$ coh w/ dep controlling for satisfaction w/ ff	conducted MR analyses; only reported coh & adap. not significant w/ gender and satisfaction w/ family functioning as covariates

Authors (Date)	Sample Characteristics	Family Functioning	Child Outcome	Results	Other Comments
Gfellner (1994)	n = 236; 118 Indian; 118 White; ages 10-19	FACES III; cohesion & adaptability; adolescent reports	problem beh- ran away, destroyed property, ODD & CD type behaviors & adolescent drug use	Adaptability & prob. Beh. ($\underline{b}$ = .11, $\underline{r}$ = -.22, NS White; $\underline{b}$ = .05, $\underline{r}$ = -.12, NS Indian); cohesion & prob. Beh. ($\underline{b}$ = -.13, $\underline{r}$ = -.32, NS White; $\underline{b}$ = -.19, $\underline{r}$ = -.35, $\underline{p}$ < .05 Indian)	
Graber, Brooks-Gunn, Paikoff, & Warren (1994)	n = 193; mid adolescent girls grades 9-11	FES; conflict & cohesion subscales only; adolescent reports	Youth Self-Report Form (YSR)- aggression, delinquency, & hyperactivity; & Center for Epidemiological Studies Depression Scale (CES-D)	cohesion & aggression ($\underline{r}$ = -.32, $\underline{p}$ < .01); coh. & del. ($\underline{r}$ = -.41, $\underline{p}$ < .001); coh. & hyper. ($\underline{r}$ = -.20, $\underline{p}$ < .05); coh. & CES-D ($\underline{r}$ = -.19, NS); conflict & aggression ($\underline{r}$ = .43, $\underline{p}$ < .001); conflict & del. ($\underline{r}$ = .25, $\underline{p}$ < .05); conflict w/ hyper. ($\underline{r}$ = .10, NS); conflict & CES-D ($\underline{r}$ = .33, $\underline{p}$ < .01)	cohesion & conflict ($\underline{r}$ = -.55, $\underline{p}$ < .001); longitudinal study but only used these measures at time 2

Authors (Date)	Sample Characteristics	Family Functioning	Child Outcome	Results	Other Comments
Kelley (1994)	n= 61 military families with youth 5-13 years old	FACES-cohesion at pre, mid, and postdeployment	Internalizing and externalizing behaviors (CBCL)	Correlation only between cohesion and beh probs; int ($r = -.42$ pre, $-.50$ mid, $-.38$ post, all $p \leq .05$); ext ($r = -.27$ pre ns, $-.37$ mid-, $-.34$ post, $p \leq .05$)	
Lindahl & Malik (1999)	n= 113 families with youth 2 nd -4 th grade; 50 Hispanic, 32 European-Am, 31 biethnic	Observational rating of family cohesion-System for Coding Interactions and Family Functioning (SCIFF)	CBCL externalizing symptoms- completed by both mothers and fathers	Corr.- coh & ext $r = -.60^{**}$ mothers, $-.63^{**}$ fathers; stated cohesion significant predictor of externalizing problems, but no specific stats reported	Ethnicity moderated relationship; cohesion higher for Hispanic families

Authors (Date)	Sample Characteristics	Family Functioning	Child Outcome	Results	Other Comments
Prange et al. (1992)	n = 353; subsample of nat'l adolescent & child treatment study; 12-18 y/o adolescents with severe emotional disturbance	FACES III; both parents & adolescents completed instrument	CBCL- completed by parents; DISC-C interview with adolescents- depression and CD problems	adol. coh. & ext. ($r = -.17, p < .01$); adol. coh. & dep. ($r = -.26, p < .01$); parent coh. & ext. ($r = -.24, p < .01$); par. Coh. & int. ($r = -.10, p < .05$); par. coh. & dep. ($r = -.09, p < .05$); only significant correlations were reported	**
Rait et al. (1992)	n = 88; 12-19 y/o diagnosed & previously received treatment for cancer	FACES III; cohesion & adaptability	problem behaviors (YSR)	Reported FF not significant w/ problem behaviors; (coh. $B = -.23, p > .05$; adapt $B = .11, p > .05$); $R^2_{chg} = .06$, NS	used control var. of age, gender, and medical var. (i.e. age at diagnosis & duration of time since last cancer treatment)
Rudd, Stewart, & McKenry (1993)	n = 108 rural adolescents	FACES III; cohesion & adaptability; adolescent reports only	Depression (CES-D scale)	coh. & dep. ($r = -.23, p < .05$) but adapt. was not significant (no stats reported)	Checked and found no curvilinear relationship between FF & dep.

Authors (Date)	Sample Characteristics	Family Functioning	Child Outcome	Results	Other Comments
Shagle & Barber (1993)	n=473 suburban youth in Knoxville, TN; white, middle-class	Family conflict- 3 items from Bloom, 1985; same 3 items are on FES	Suicide ideation and self-derogation	SEM analyses; $\underline{B}$ = .25, $p < .01$ between fc and self-derogation; $\underline{B}$ = .08, NS between fc and SI.	Marital conflict & parent-child conflict also entered into model simultaneously
Stewart, McKenry, Rudd, & Gavazzi (1994)	n = 108 rural adolescents in Midwestern state	FACES III; both adolescents & parents completed (summed parents' scores because they were "significantly correlated" ($r = .28$, $p < .01$))	CES-D depression Adolescent reports	adol Adapt. & dep. ($r = -.09$, NS); adol. coh. & dep. ($r = -.30$, NS); par. Adapt. & dep. ($r = .00$, NS); par. Coh. & dep. ($r = -.05$, NS); dep. onto parental reports of adapt. ($\underline{B} = -.55$, NS); dep. onto parental reports of coh. ($\underline{B} = .47$, NS); dep. onto adol. Reports of adaptation ($\underline{B} = -.01$, NS); dep. onto adol. Reports of coh. ($\underline{B} = -.03$, NS)	included variables such as life events (i.e. family member lost job or unmarried family member became pregnant); these had significant effect on depression, but not cohesion & adaptability

Authors (Date)	Sample Characteristics	Family Functioning	Child Outcome	Results	Other Comments
Summerville, Kaslow, Abbate, & Cronan (1994)	n = 121 adolescents 12-18 y/o presenting to hospital following a suicide attempt; all African-American youths	FACES III; cohesion & adaptability (dependent variable only); adolescent reports only	Children's Depression Inventory (used as independent var.) Include YSR & CBCL, but do not compare to FF variables	ANOVAs w/ CDI classification & FACES; significant difference between groups (not depressed & severe dep.) only w/ cohesion [$F(2, 47) = 3.8, p < .03$]; as depression increased, cohesion decreased	did not use MR or other correlations between child variables and FF

Appendix B: Informed Consent Forms

Informed Consent Statement

The purpose of this study is to learn more about family functioning and adolescent behaviors.

If you agree to participate in this study, you will receive in the mail a packet of questions to complete. The questions will require 30-40 minutes for you, as parents, to complete. In addition, your student(s) will be asked to complete a survey during school time. The questions will require 30-40 minutes for the youth to complete.

We see a very minimal chance of risk involved in participating in this study. One potential risk in this study is the person completing the survey may become emotionally upset. A card will be included in the youth's questionnaire that will allow the student to request to speak with a counselor. The school guidance counselor will be notified if any requests are made. The risks to human subjects in this study are minimal. The benefits in terms of the potential contribution to the knowledge on family functioning and adolescent behavior problems are significant.

In order to assure anonymity, parental consent forms will be collected on a separate day and time from questionnaires. Identifying numbers will be used to link student, parent, and teacher questionnaires, and then identifying information will be stripped from the questionnaires. As a final precaution, only the principal investigator and faculty advisor will have access to the data. Data will be stored in a locked filing cabinet at the University of Tennessee.

Your participation in this study is voluntary; you may decline to participate without penalty of any kind. If you decide to participate, you may withdraw from the study at any time without penalty.

Date

Address

Dear (Parent Name):

We are inviting you and your youth to participate in a research study. The purpose of this study is to learn more about how families function and adolescent behaviors.

If you agree to participate in this study, you will receive in the mail a packet of questions to complete. The questions will require 30-40 minutes for you, as parents, to complete. In addition, your student(s) will be asked to complete a survey during school time. The questions will require 30-40 minutes for the youth to complete.

Your participation in this study is voluntary; you may decline to participate without penalty of any kind. If you decide to participate, you may withdraw from the study at any time without penalty. Students will also be told that their participation is voluntary. It is not a test they take for school grades, and their grades will not be affected if they choose not to participate.

If you are willing for you and your youth to participate in this study, please sign the informed consent form and have your student return it to his/her teacher within two weeks. If you have any questions, please contact one of us. Thank you.

Sincerely,

Rebecca Sapp
Ph.D. Candidate
Social Work
423-232-2700

STATEMENT OF CONSENT

I have read the above information, and I give permission for my child to participate in this research study. Furthermore, I understand I will be mailed a packet to complete and return to the researcher.

Student's Name

Parent's Signature

Date

Street Address

City,

State

Zip Code

2nd parent's address (if applicable):

Street Address

City,

State

Zip Code

Reminder letter:

Date

Address

Dear (Parent Name):

We recently sent a letter home with your child inviting you and your youth to participate in a research study. The purpose of this study is to learn more about how families function and adolescent behaviors.

If you agree to participate in this study, you will receive in the mail a packet of questions to complete. The questions will require 30-40 minutes for you, as parents, to complete. In addition, your student(s) will be asked to complete a survey during school time. The questions will require 30-40 minutes for the youth to complete.

Your participation in this study is voluntary; you may decline to participate without penalty of any kind. If you decide to participate, you may withdraw from the study at any time without penalty. Students will also be told that their participation is voluntary. It is not a test they take for school grades, and their grades will not be affected if they choose not to participate.

If you are willing for you and your youth to participate in this study, please sign the informed consent form and have your student return it to his/her teacher within two weeks. If you have any questions, please contact one of us. Thank you.

Sincerely,

Rebecca Sapp
Ph.D. Candidate
Social Work
423-232-2700

STATEMENT OF CONSENT

I have read the above information, and I give permission for my child to participate in this research study. Furthermore, I understand I will be mailed a packet to complete and return to the researcher.

Student's Name

Parent's Signature

Date

Street Address

City,

State

Zip Code

2nd parent's address (if applicable):

Street Address

City,

State

Zip Code

YOUTH CONSENT FORM

- I am willing to be a part of this project that looks at how family relationships affect children. I am willing to fill out a survey on this topic.
- I also know that my parents will be asked to be a part of the project. If they agree, my parent(s) will also be asked to fill out a survey on this topic.
- I know that I can quit filling out the survey at any time.
- I know that what I write will not be told to other people. I know my name will never be used in talking about the findings from this project. I also know that my survey will be locked up so people not on the project can't see it.
- I know that I may contact Rebecca Sapp at (423) 232-2700 with any questions about the project.

Your Signature _____ Date _____

Appendix C: Approval Letters



March 25, 2002

Institutional Review Board Office of
Research 404 Andy
Holt Tower
Knoxville, Tennessee 37996-0140
865-974-3466
Fax: 865-974-
2805

IRB #: 6113 B

Title: Family Functioning and Adolescent Internalizing and Externalizing
Behaviors

Rebecca Launt Sapp
Social Work
121 Kilby Road
Johnson City, TN 37604

Dr. John Onne
Social Work
125 Henson Hall
Campus

I have received the letter of permission from Science IEII legh School, Johnson City, Tennessee, as requested in the approval letter for the above protocol dated January 15, 2002. Therefore, your protocol is now in full UW rompliance and has received full approval.

If I can be of further assistance to you, please contact my office.

Sincerely,

A handwritten signature in black ink that reads 'Brenda Lawson'. The signature is fluid and cursive, with a large initial 'B' and a long, sweeping underline.

Brenda Lawson
Compliances



SCIENCE HILL HIGH SCHOOL

Family Contact and Family Cohesion 111

1318 Pactolas Road
Johnson City, Tennessee 37604
(423) 232-2192 Fax (423) 928-6576

David M. Chupa
Principal

William J. Nuss
Assoc. Principal 8-9

Member
Southern
Association
Since
1926



Institutional Review Board
Office of Research
404 Andy Holt Tower
Knoxville, TN 37996-0140

JanWq 24, 2002

IRB # 6113 B

Title: Family Functioning and Adolescent Internalizing and Externalizing Behaviors

- Dear IRB members:

I have read the proposal by Rebecca Sapp, and I give permission for her to conduct her research on the 8th-9th grade campus of Science Hill High School. If you have any questions, please feel free to contact me at the above location.

Sincerely,

William J. Nuss
~~Associate~~
Assistant Principal Science Hill High School
Principal 8th-9th grade campus

VITA

Rebecca Launt Sapp was born on September 17, 1964, in Cincinnati, Ohio. She married David Sapp, and they have two children. Dr. Sapp received her B.S. degree in Psychology from Milligan College in Elizabethton, Tennessee in 1985. She received her M.A. degree in Counseling from East Tennessee State University in Johnson City, Tennessee in 1990 and her Ph.D. degree in Social Work from the University of Tennessee at Knoxville in 2003.

Dr. Sapp has worked as a client case manager at the East Tennessee Children's Home in Elizabethton, Tennessee (1986-1989), a counselor at Milligan College (1990-2000), and as both an inpatient and outpatient mental health therapist for Frontier Health in Johnson City, Tennessee (1999-present). She has also been an adjunct professor for Milligan College (1991-2000) and East Tennessee State University (2001-2002) as well as a teaching assistant for the University of Tennessee at Knoxville (1995-1996).