Multiple family risk factors and youth problem behaviors

Jean Marie Gerard

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To the Graduate Council:

I am submitting herewith a thesis written by Jean Marie Gerard entitled "Multiple family risk factors and youth problem behaviors." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Child and Family Studies.

Cheryl Buehler, Major Professor

We have read this thesis and recommend its acceptance:

Jo Lynn Cunningham, Greer Litton Fox

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)
To the Graduate Council:

I am submitting herewith a thesis written by Jean Marie Gerard entitled "Multiple Familial Risk Factors and Youth Problem Behaviors." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Child and Family Studies.

Cheryl Buehler, Major Professor

We have read this thesis and recommend its acceptance:

[Signatures]

Accepted for the Council:

[Signature]

Associate Vice Chancellor and Dean of the Graduate School
MULTIPLE FAMILY RISK FACTORS AND YOUTH PROBLEM BEHAVIORS

A Thesis Presented for
the Master of Science
Degree
The University of Tennessee, Knoxville

Jean Marie Gerard
May 1997
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ABSTRACT

Using a sample of 335 preadolescent youth, three statistical models (additive, interactive, and exponential) were tested to examine how multiple family risk factors—overt interparental conflict, low parenting quality, and economic hardship—operate in conjunction with one another to predict youth problem behaviors. Findings from this study largely supported the additive effects of individual family stressors but only in the case of externalizing problem behavior. In addition, demographic variables were important moderators of the relationship between cumulative risk exposure and externalizing problem behaviors. The additive model accounted for more variance in externalizing problem behavior in older youth and those residing in two-parent households, with low parenting quality contributing the greatest amount of variance. For internalizing problem behavior, economic hardship was the only significant risk factor. Although at a broad level, the results of this study support the idea of cumulative effects of multiple family risk factors on youth psychological adjustment, this study also highlights the complexity underlying the associations between specific risk factors and varying indices of youth problem behaviors.
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I. Introduction and Literature Review

Psychosocial development is multiply influenced and shaped by a host of environmental, familial, and individual factors (Garmezy, 1981). Despite the apparent influence of other factors, many scholars view the family as the most critical agent in children's development (Maccoby, 1992). Over the past century, numerous theories relevant to the issue of socialization have emerged from the social science literature, each delivering a unique perspective from which to view this process. Despite different conceptions about how socialization occurs, these frameworks share a unifying theme by their mutual recognition of the important role families assume in children's socialization experience. Embodied in these theories is the basic notion that the family provides the developing child with the context, as well as many of the opportunities and experiences, necessary to acquire the fundamental skills, behaviors, values, and knowledge that will enable him or her to engage successfully in social relationships.

In contrast, particular family processes and structural aspects of the home environment also have the potential to interfere with psychosocial development, often resulting in youth's acquisition of maladjusted behavior. Trotter (1989) defined youth maladjustment as "the relative inability of youth to engage successfully and appropriately in interpersonal relationships with relative freedom from noxious social behaviors and burdensome emotions" (pp. 16-17). This definition is focused on the youth's ability to match emotional and behavioral responses across time, people, and settings (Lorian, Cowen, &
Caldwell, 1985). Three familial correlates of youth maladjustment are repeated exposure to interparental conflict (Grych, Seid, & Fincham, 1992; Shaw & Emery, 1988; Tschann, Johnston, Kline, & Wallerstein, 1989), ineffective parenting behaviors (Fauber, Forehand, Thomas, & Wierson, 1990; Patterson, 1982), and economic hardship (Bolger, Patterson, Thompson, & Kupersmidt, 1995; Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1992; Takeuchi, Williams, & Adair, 1991).

Overt interparental conflict and ineffective parenting behaviors constitute important risk factors to youth because their presence reflects negative interactional patterns in the family system, particularly in the marital and parent-child subsystems. The nature and quality of interpersonal functioning within these dyadic relationships are important influences in the life of the developing child because it is through these relationships that the child learns patterns for dealing with other important relationships in his or her life (Patterson, Debaryshe, & Ramsey, 1989). Family economic hardship also poses a risk to youth, often by generating multiple threats to their development. Economically disadvantaged youth frequently reside in neighborhoods marked by high crime rates, inadequate housing and schooling, and a high proportion of births to teenage mothers (McLoyd, 1990). Being reared in this context may make it difficult for youngsters to accomplish important developmental tasks.

Despite evidence linking each of these risk factors to youth maladjustment, some researchers believe that enduring behavioral and
emotional problems are the result of exposure to multiple risk factors (Rutter, 1979). However, relatively little is known about how interparental conflict, poor parenting quality, and economic hardship operate in combination with one another to place youth at risk for problem behavior. Instead, researchers have tended to focus their investigations on single predictors of youth maladjustment (e.g., divorce, poverty, domestic violence).

One of the problems associated with this univariate approach is that analyses limited to any one of these factors belie the complexity of situations in which more than one of these risk factors are present. Given the interrelatedness of interparental conflict, inept parenting practices, and economic hardship, researchers using empirical models to explore these unitary predictors of youth maladjustment have failed to detect potential relationships that are much more dynamic in nature (Conger et al., 1992; Elder, Conger, Foster, & Ardelt, 1992). In conjunction with one another, these variables may pose a far greater threat to youth well-being than any one of these risk factors in isolation.

In consideration of these risk factors, the following questions need to be addressed: Do youth outcomes look more severe under higher levels of risk exposure? If so, what is the nature of this relationship? Do these individual risk factors accumulate to place youth at increased risk for maladjustment, or do they potentiate one another such that their combined effect is greater than the sum of their individual contributions? Or does the risk associated with these stressors
take a more complex form, involving a conditional relationship between levels of one risk factor and levels of another? This line of questioning has important theoretical and practical value. Deeper insight into the nature of how multiple family risk factors affect youth is necessary for comprehending the etiological processes involved in youth maladjustment and is essential to the design of effective therapeutic intervention strategies for children of high-risk families.

Thus, the purpose of this study is to examine the relationships among an overt interparental conflict style, parenting quality, economic hardship, and youth maladjustment. This investigation goes beyond most studies of youth maladjustment by focusing on risk factors particular to a key psychosocial environment (i.e., the family) and directing attention to how these factors place youth at risk rather than merely attempting to determine the amount of variance individual risk factors contribute to youth maladjustment.

This investigation is focused on early adolescents. Early adolescence may be an especially critical time to encounter the risks associated with overt interparental conflict, poor parenting, and economic hardship. Stressful environments appear to influence individuals more strongly during periods of rapid development (Anthony, 1987). Given the emotional, cognitive, physical, and social changes accompanying this time period (Feldman & Elliott, 1990), children at this stage may be more vulnerable to stressful life circumstances than their younger and older school-aged peers.
The youth outcomes of interest in this study are externalizing and internalizing behaviors. These dimensions of youth problem behavior partially comprise the broader construct of youth maladjustment. Externalizing problems include aggression, conduct disorder, and disobedience, whereas internalizing problems include anxiety, depression, somatic complaints, and withdrawal (Achenbach & Edelbrock, 1987). The decision to use these specific dimensions of youth problem behaviors is based on theoretical and empirical evidence of their association with family risk factors and their recognition as important indicators of youth well-being (Emery, 1982).

The Study of Multiple Risk Factors

The identification of specific factors that put youth at heightened risk for behavioral and emotional problems has concerned social scientists for years. Research efforts have culminated in a vast body of findings underscoring the particular life events and circumstances that predispose youth to adjustment problems. This research has tended to focus on the potential effects of a single life event (e.g., parental divorce, exposure to violence, or poverty). However, a growing number of researchers have broadened their outlook by exploring how the presence of multiple risk factors affects youth (e.g., Barocas, Seifer, & Sameroff, 1985; Farrington, 1991; Masten, Garmezy, Tellegen, Pellegrini, Larkin, & Larsen, 1987; Rutter, 1979; Shaw & Emery, 1988; Werner & Smith, 1992). From this research it is evident that cumulative, stressful life events pose a far greater threat to children's long-term psychological well-being than the
occurance of a single life stressor. For example, in his epidemiological studies of 10-year-old British children, Rutter (1979) found that the presence of one risk factor rarely increased the probability of the onset of psychological disorder beyond the population base rate; however, the presence of two or more stressful life events greatly increased youths' risk for psychopathology.

Although the study of multiple risk factors enhances our understanding of the processes involved in the etiology of youth maladjustment, this line of research suffers limitations particularly with respect to issues of conceptualization and measurement. Assuming that a high level of recent stressful experiences generally is unfavorable for a child's psychological well-being, risk often is conceptualized in terms of the amount or number of stressful events recently encountered by youth (Johnson, 1982). Conceived in this manner, risk frequently is assessed using the life events method, an approach that involves summing the number of self-reported stressful life experiences recently encountered to obtain an overall index of total life stress.

Johnson (1982) has identified several limitations with the life events method. First, some of these inventories lack sensitivity to children's appraisals of the stressfulness of the events comprising the measure. Individual children may differ considerably in their view of whether or not an event is stressful. As Johnson (1982) has suggested, the same event (e.g., parental divorce or a school change) may be perceived as either positive or negative to different children depending on the circumstances surrounding the event. Yet some
frequently used inventories measure the degree of readjustment associated with specific life events with predetermined values. Second, some of the items included in life event inventories are confounded with outcome measures. For instance, The Life Events Checklist (Johnson & McCutcheon, 1980) includes "getting into trouble with police" and "being suspended from school" as two potentially stressful events for children. However, if one's outcome measure is externalizing behavior or conduct problems, these items may result in spuriously high correlations. Not mentioned by Johnson, but perhaps more important, the life events method provides little insight into the relative importance of discrete life events as they are related to youth problem behavior. And finally, as a function of the way life event inventories are constructed, they assume that negative life stressors operate in an additive fashion to increase youths' risk of maladjustment. But as Rutter (1979) has noted, a pile-up of stressors may have a multiplicative or potentiating effect such that the combined effect of two or more stressors is greater than their sum. Because the life-events approach yields an overall index of stress, this method also does not allow testing for interactions among the individual risk factors comprising the inventory.

An alternative approach to the study of multiple risk factors is examination of individual life stressors that are generally considered emotionally disruptive. This method, unlike the life events approach, offers the advantage of exploring more complex models of risk (e.g., additive, interactive, and curvilinear models). Research of this nature, however, lags far behind theoretical consideration of
these various models of risk. Examining interparental conflict, poor parenting quality, and economic hardship within the context of these different models has the potential to yield a more comprehensive picture of how adverse familial circumstances affect youth psychological well-being.

Interparental Conflict Styles

Repeated exposure to interparental conflict is widely recognized as a significant source of stress for youth. Over the past two decades, a substantial amount of evidence has accumulated documenting a positive linear relationship between interparental conflict and youth well-being, including indices of externalizing and internalizing behaviors (e.g., Fauber et al., 1990; Jenkins & Smith, 1991; Shaw & Emery, 1988; Tschann et al., 1989). The hostility and rancor displayed by disputing parents seems to affect children of all ages and family compositions (Acock & Demo, 1994; Buehler, Anthony, Krishnakumar, Stone, Gerard, & Tittsworth, in press; Burman, John, & Margolin, 1987; Grych et al., 1992; Johnston, Gonzales, & Campbell, 1987; Jouriles, Murphy, & O'Leary, 1989).

Interparental conflict is a multidimensional construct and has been conceptualized in numerous ways by researchers. In the past, researchers have measured interparental conflict indirectly by using indices of marital adjustment and marital satisfaction (e.g., Christensen, Phillips, Glasgow, & Johnson, 1983; Howes & Markman, 1989; Johnson & Lobitz, 1974). As important as these early investigations were to understanding the relationship between marital
functioning and child outcomes, they failed to isolate the specific dimensions of marital functioning uniquely related to aspects of youth problem behaviors. More recent research, which has been focused on the frequency of interparental conflict, reflects the gains made in conceptual specificity of this construct. However, the distinction between frequency of interparental conflict and conflict management styles has not been drawn empirically in most studies. According to some researchers (e.g., Cummings & Davies, 1994), this is an important distinction to make for both empirical and practical purposes.

In a recent study, the saliency of conflict styles in predicting youth problem behaviors is evident (Buehler, Anthony, Stone, Krishnakumar, & Tittsworth, 1995). One of the aims of that investigation was to test for differential effects of frequency of disagreement (interparental conflict) and conflict management styles on youth problem behaviors. The analysis revealed that conflict management styles accounted for unique variance in youth problem behaviors after controlling for frequency of disagreement.

Thus, unlike in previous studies, a distinction is made here between interparental conflict and conflict management style. Interparental conflict is defined conceptually as disagreements between parents about various issues in family life (Buehler, Krishnakumar, Anthony, Tittsworth, & Stone, 1994). In terms of conflict management styles, several variants have been identified in the literature. These include an avoidant strategy, a covert strategy, a cooperative strategy, and an overt strategy (Ahrons, 1983; Buehler et al., 1994; Camara &
Resnick, 1988). Although each of these conflict styles warrants further attention with respect to their impact on youth maladjustment, the focus of this study is on an overt conflict style. These other forms of conflict management styles have not been examined systematically; thus, discussion of such is necessarily limited. Given that the nature of this study was to identify risk factors to children and the well-established finding that overt conflict poses serious threat to youth, this study was focused on an overt interparental conflict style (Burman et al., 1987; Jouriles et al., 1989).

An overt conflict style is defined conceptually as behaviors and affect that indicate direct manifestations of negative connections between parents (Buehler et al., in press). Distinguishing behavioral characteristics include screaming, insulting, slapping, threatening, and hitting. Emotional displays of anger, contempt, derision, and belligerence comprise the affective aspect of this construct.

A notable limitation of the research examining interparental conflict and youth problem behaviors is that seldom has this relationship been examined from the standpoint of its interaction with other salient risk factors. Given that stressful events can and often do occur together, it is worth exploring the relationship between interparental conflict and youth problem behaviors in the context of other important risk factors.
Parenting Behaviors

A long tradition of research underscores the important role that parental disciplinary behaviors and the affective tone accompanying these behaviors play in the development/prevention of youth problem behaviors (Maccoby, 1992). Traditionally, parenting behaviors have been classified along the dimensions of control and support (for reviews see Maccoby & Martin, 1983; Petersen & Rollins, 1987). Although conceptualized differently by individual researchers (Becker, 1964; Schaefer, 1959), these broadband dimensions of parenting are critical to the developing child's socialization experience. Briefly defined, parental control refers to the means by which parents attempt to influence or direct their child toward desired behavior (Rollins & Thomas, 1979). In terms of the child's psychosocial development, the critical elements of this dimension appear to be the parents' method of disciplining the child and the degree of autonomy permitted the child (Baumrind, 1978). Parental support, on the other hand, can be viewed as communication to the child that sends the message that he or she is valued and loved by parents (Peterson & Rollins, 1987). Optimal parenting, it is widely assumed, involves elements of the following behaviors: consistent use of firm control by parents (as opposed to harsh or lax control), clear requirements for responsible behavior, and high levels of affection and responsiveness to the child (Baumrind, 1968).

Within the dimensions of control and support, researchers have pointed to several parenting behaviors as prominent etiological factors of youth problem
behaviors. These are (a) lack of parental acceptance, (b) poor parental monitoring of children's activities, (c) harsh punishment, and (d) intraparental inconsistent discipline (Dodge, Pettit, & Bates, 1994; Fauber et al., 1990; Loeber & Dishion, 1984; Patterson & Stouthamer-Loeber, 1984). The most compelling evidence demonstrating that these specific parenting behaviors are precursors to youth problem behaviors can be seen in the work of Patterson (1982, 1986). His investigations of parent-child interactions between 9- to 15-year-old antisocial boys and their mothers depict a scenario in which the repetitive use of these aversive behaviors leads to a destructive pattern of coercion between parent and child. Maintenance of this cycle leads to the child's formation of a habitual, disruptive, aggressive response pattern. Eventually, this pattern may extend to relationships outside of the parent-child dyad (e.g., peers and other adult authority figures) and to the development of antisocial behavior in youth.

In terms of assessing parental behaviors, investigators have taken several different approaches. One strategy has been to take individual parenting factors and measure their relative influence on a youth outcome of interest (e.g., Fauber et al., 1990). Including several parenting behaviors in an analysis allows the researcher to assess the unique contribution of each parenting component.

A second approach involves aggregating parenting behaviors to form the construct of a “parenting style” or what Darling and Steinberg (1993) have described as “a constellation of attitudes toward the child that are communicated to the child and that, taken together, create an emotional climate in which the
parent's behaviors are expressed" (p. 488). Using this approach, parents are classified into qualitatively different parenting styles based on their scores along particular measures of parental control and support behaviors (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991). An underlying assumption of this approach is that levels of control behavior operate in a dependent fashion with levels of supportive behavior to influence the child's socialization experience. This assumption, although theoretically appealing, has been refuted by some researchers. Barber, Olsen, and Shagle (1994) found that parental control factors (e.g., psychological and behavioral control) operated independently of support factors (parental acceptance) to predict youth problem behaviors. In addition, their factor analysis revealed that items measuring parental control loaded onto a separate factor from items measuring parental acceptance with what they interpreted to be "no meaningful secondary loadings" (p. 1131).

Similarly, Kurdek and Fine (1994) found that the significant relationships they obtained between parental control and several aspects of children's adjustment did not involve an interactive relation with parental acceptance.

A third approach to measuring parenting behaviors has been to aggregate the parenting variables of interest to form an overall indicator of the quality of the parenting environment (e.g., Conger et al., 1992). Although conceptually similar to a parenting style, this approach makes no presumptions about the interactive nature of parental control and support variables.
The issue of which measurement approach to take is a debatable one; however, choice in this matter should ultimately be determined by the nature of the research question being asked. The overall quality of the parenting environment as it is related to youth adjustment was the focus of this study; thus, a composite measure of parental acceptance, parental monitoring, harsh discipline, and intraparental inconsistent discipline was used.

From a theoretical standpoint, conceptualizing parenting behavior in this global manner remains consistent with the general theme of the present research, which is a focus on the affect of the “whole” (i.e., multiple risk) rather than the affect of the sum components (i.e., single risk factors). In essence, the parenting environment reflects the notion of “gestalt”, or the idea that deficits in several key areas of parenting constitute a greater risk to youth than a deficit in one particular area of parenting. Although this measurement strategy can be criticized on the grounds of its inability to detect the relative importance of individual parenting behaviors and possible interactive effects among specific parenting variables, the aim of this study was not to identify specific aspects of parenting that are deleterious to youth but rather to assess the risk associated with a poor parenting environment in conjunction with other familial risk factors. If a poor parenting milieu is found to interact with other important familial risk factors (e.g., interparental conflict and economic hardship) to predict youth problem behaviors, this investigation opens the door to future research that might address the question of how individual parenting behaviors interact with
these other specified risk factors. The following brief review elaborates specific aspects of the parenting environment included in the composite assessment.

**Lack of parental acceptance.** Conceptualized as a support variable, parental acceptance refers to parents' use of affirming messages that communicate to the child that he or she is valued and seen as important in the eyes of the parent. In essence, acceptance sets a positive affective tone to the relationship between parent and child. Parental qualities associated with parental acceptance include positive displays of warmth, responsiveness, and emotional availability to the child. Low levels of these qualities may be construed by the child as a feeling of not being loved and supported by parents.

A negative linear association between parental acceptance and youth problem behaviors is well documented. Across studies, the magnitude of this association ranges from -.12 (Lempers, Clark-Lempers, & Simons, 1989) to -.68 (Emery & O'Leary, 1982). Using samples of preadolescent and adolescent youth, researchers have linked low levels of parental acceptance with alcohol consumption (Coombs & Landsverk, 1988; Whitbeck, Hoyt, Miller, & Kao, 1992), high levels of aggression and hostility (Fauber et al., 1990; Olweus, 1980), delinquency (Loeber & Dishion, 1984; Simons, Robertson, & Downs, 1989) and depression (Baron & MacGillivray, 1989; Clark-Lempers, Lempers, & Netusil, 1990; Fauber et al., 1990).

**Poor parental monitoring.** Parental monitoring is conceptualized as regular supervision of children's activities (Brown, Mounts, Lamborn, &
Parents who effectively monitor give thoughtful attention to several aspects of their children's lives, including who they associate with, what they do in their free time, how they spend their money, and their progress in school.

Poor parental monitoring is a relatively strong predictor of youth problem behaviors, particularly externalizing problems. Based on mother-report data on 1,000 10- to 17-year-old youth examined from the first wave of the classic Glueck study (1950), Sampson and Laub (1994) reported significant negative correlations between maternal supervision and both official delinquency ($r [988] = -.63, p < .05$) and unofficial delinquency ($r [988] = -.62, p < .05$). Patterson and Stouthamer-Loeber (1984) reported zero-order correlations of .55 ($N = 103, p < .0001$) for the relationship between parental monitoring and police contact and .54 ($N = 103, p < .0001$) for the relationship between this variable and a self-reported delinquent life-style. Although these studies clearly demonstrate the importance of parental monitoring as a critical socialization factor in children's lives, they also stress the importance of other parental control behaviors such as harsh discipline and intraparental inconsistent discipline.

**Harsh discipline.** Conceptualized as a parental control variable, harsh discipline involves the application of physical force or verbal threats by parents to gain the compliance of their children (Baumrind, 1968). Rather than using reasoning strategies or firm commands as a means of controlling their children's behavior, parents who use harsh discipline engage in such behaviors as hitting,
spanking, pushing, threatening, or yelling at their children. The emotional tone underlying the application of these behaviors is likely to be angry and hostile.

Research has indicated that a positive linear association exists between harsh discipline and youth problem behaviors (Barnes & Farrell, 1992; Jouriles, Barling, & O'Leary, 1987; Olweus, 1980; Weiss, Dodge, Bates, & Pettit, 1992). Researchers have revealed that children subjected to harsh discipline tend to be more aggressive than children whose parents use alternative disciplinary strategies (Hershorn & Rosenbaum, 1985; Kandel, 1990; McLeod, Kruttschnitt, & Dornfeld, 1994; Trickett & Kuczynski, 1986) and show a tendency to relate to their peers in an aggressive manner (Dodge et al., 1994; Howes, 1988). Although the relationship between harsh discipline and internalizing problems is less clear, some researchers have found an association between harsh discipline and youth anxiety, withdrawal, and depression (Bryan & Freed, 1982; Jouriles et al., 1987; Kandel 1990; Weiss et al., 1992). In terms of the magnitude of the association between harsh discipline and youth problem behaviors, correlations across studies range from .19 (Kandel, 1990) to .71 (Jouriles et al., 1987).

**Intraparental inconsistency in discipline.** It is reasonable to assume that the use of consistent discipline practices by parents fosters stable child behavioral patterns by introducing an element of predictability in the child's environment. Conversely, by permitting behaviors at certain times and not at others, or by rewarding and punishing behaviors noncontingently, parents fail to
provide children with the stability and predictability that is necessary for children’s acquisition of prosocial behavior (Wahler, 1994). Patterson (1982) has identified several ways in which parents may discipline inconsistently. Among these are erratic enforcement of rules and arbitrary use of reward and punishment across time and situations.

Relative to other parenting variables, intraparental inconsistent discipline has received little systematic attention. However, findings from the few studies in which researchers have examined this form of discipline link it to youth problem behaviors, particularly externalizing behaviors. Using sequential analysis, Wahler, Williams, and Cezer (1990) examined the dyadic interactions of mothers and children referred for psychological treatment because of the children’s defiant and aggressive behavior. These investigators found that maternal inconsistency enhanced the probability of children’s reacting in an aversive manner (e.g., with whines, complaints, demands, and oppositional behavior). Furthermore, maternal inconsistency was found to act in tandem with maternal compliance to set in motion a coercive cycle similar to what Patterson (1982) found in his investigation with mothers and their antisocial boys.

Using a multiple methods/informants design strategy, Loeber and Dishion (1984) made group comparisons between 9- to 15-year-old boys who were classified into four groups according to their fighting behaviors (i.e., nonfighters, mother-identified fighters, teacher-identified fighters, and cross-setting fighters). A consistent pattern emerged whereby each group, respectively, experienced
higher levels of inconsistent discipline in the home environment. This finding supports the researchers' hypothesis that children who display higher levels of aggression (as evidenced by their behavior across settings and actual/self-reported delinquency) are apt to be exposed to higher levels of inconsistent discipline. Using similar design procedures, Patterson and Stouthamer-Loeber (1984) reported a positive correlation of .30 (N = 88, p < .05) between inconsistent discipline and police contacts and a correlation of .35 (N = 88, p < .05) between inconsistency and self-reported delinquent lifestyle.

Although researchers who have examined the relationship between inconsistent discipline and youth problem behaviors typically have focused on externalizing behavior, this parenting behavior also has been linked with internalizing problems. Lempers, Clark-Lempers, and Simons (1989) determined through path analysis that parents' use of erratic discipline accounted for a significant portion of the variance of the relationship between economic hardship and adolescent boys' and girls' depression and loneliness as well as delinquency and drug usage. This study, like many of the others cited, demonstrates the importance of taking more than one parenting factor into account. These researchers found that parental nurturance, along with inconsistent discipline, accounted for a significant portion of the variance in youth problem behaviors.

In summary, there is plenty of evidence supporting the contention that the use of any of these specific parenting behaviors puts youth at risk for various
problem behaviors. When combined, these parenting behaviors create a child-
rearing climate that is not very conducive to what is generally thought of as
optimal child socialization (Maccoby, 1992).

Economic Hardship

The last risk factor to be examined in this study is economic hardship.
Economic hardship warrants attention as a risk factor to youth given recent
estimates of its occurrence in the general population. Using data from the Panel
of Study of Income Dynamics, Duncan and Rodgers (1988) estimated that 50%
of all children in the United States will experience economic vulnerability at one
point during their childhood years. Furthermore, one-third of children growing up
today will reside in homes with an income level below that of the official poverty
standard. In more concrete terms, these demographers estimated that chronic
poverty is characteristic of the home environments of 2.5 million youth under the
age of 15 today, not to mention the 3.5 million children who experience periodic
episodes of poverty. Today, children comprise the largest segment of our
population experiencing poverty (Huston, 1991).

Despite an increasing awareness of the pervasiveness of economic
hardship and the implications this social problem holds for the future of our
society, relatively little research exists in the child development literature
examining the association between economic hardship and youth problem
behaviors. Although poverty has been recognized as an important social issue
by developmental researchers since the 1960s, these early efforts were focused
on how economically disadvantaged children fared in terms of their cognitive
development (Huston, McLoyd, & Ferron, 1994). It is only recently that the study
of poverty has extended beyond measures of intelligence to include measures of
children's psychosocial well-being.

Available research from the developmental literature indicates that a
positive linear relationship between economic hardship and youth problem
behaviors exists. Across studies, zero-order correlations range from .11 (Dubow
& Luster, 1990) to .68 (Takeuchi, Williams, & Adair, 1991). Although the
magnitude of this relationship ranges from weak to moderate strength, the
association between economic hardship and youth problem behaviors is
nonetheless a reliable one. Economic hardship has been consistently linked with
adolescent depression (Lemper et al., 1989; Siegel & Griffin, 1984), aggression
(Skinner, Elder, & Conger, 1992), conduct disorders and delinquency (Dodge et

Research from the divorce literature also can be drawn upon to provide
support for the relationship between economic hardship and youth problem
behaviors. In their comparison of children of divorce and children of nondivorced
families, Guidubaldi, Cleminshaw, Perry, and McLoughlin (1983) found that
many of the differences between these two groups of children on measures of
well-being were accounted for by income. Testing several theoretical
perspectives that might account for why children of divorce have lower scores on
measures of well-being than children of intact families (e.g., parental absence,
economic hardship, interparental conflict). Amato and Keith (1991) concluded from their meta-analytic review that a thorough understanding of the processes through which divorce affects children should take into account, among other familial factors, the economic situation in which families find themselves after divorce.

Although it is clear that economic hardship plays an important role in the development of youth problem behaviors, the processes underlying this relationship are not so readily understood. The extant research does, however, yield information about possible mechanisms underlying this relationship. Children living under impoverished circumstances are more likely to be exposed to neighborhood settings in which aggression is commonplace, especially among peers (Sinclair, Pettit, Harrist, Dodge, & Bates, 1994). Exposure to such environments may help explain the finding that children from low-income families hold many normative beliefs approving of the use of aggression (Guerra, Huesman, Tolan, VanAcker, & Eron, 1995). Economically disadvantaged children also are unlikely to possess the "extras" (e.g., trendy clothing, music, spending money) that might make them appear fashionable in the eyes of their schoolmates. As a result, they may be ridiculed or, worse yet, rejected by their peers. Children from low-income families have been shown to be rejected by their peers more often than children of higher economic status, especially if they live among their middle-class peers (Kupersmidt, Griesler, Derosier, Patterson, & Davis, 1995). This could have dire consequences for a child, especially during
the early adolescent years when the formation of friendships becomes a central task (Brown, 1990). Research supports a relationship between peer rejection and delinquent behavior (see Parker & Asher, 1987, for a review of this literature).

The most frequently documented explanatory mechanism for the relationship between economic hardship and youth problem behaviors involves the role of financially distressed parents and the negative parental behaviors they display as a result of this distress. Many studies indicate that the mounting pressure associated with financial difficulties leaves parents with little energy to meet their children's emotional needs and promotes the use of erratic or overly harsh discipline as a means for controlling children's undesirable behavior; this uninvolved and ineffectual approach to parenting, in turn, leads to externalizing and internalizing problems in youth (Bank, Forgatch, Patterson, & Fetrow, 1993; Conger et al., 1992, 1993; Lempers, Clark-Lempers, & Simons, 1989; McLoyd & Wilson, 1991; Sampson & Laub, 1994).

Given substantial evidence for the mediating role of poor parenting in the relationship between economic hardship and youth problem behaviors, consideration of economic hardship as a separate risk factor to youth may seem unwarranted. Upon close examination of the literature, however, a cogent argument can be made for testing an analytic model that accounts for the impact of economic hardship on youth maladjustment apart from the impact of poor parenting. Results of several methodologically sophisticated studies designed to
test the mediational role of parenting in the relationship between economic hardship and youth problem behaviors reveal that the effects of economic hardship linger even after important parenting variables are taken into account. Using structural equation modeling, Dodge et al. (1994) found that after introducing eight important socialization factors (e.g., parental harsh discipline, lack of maternal warmth, maternal aggressive values) were introduced into a model for exploring the relationship between socioeconomic status (SES) and child conduct problems, SES remained an important predictor of youth aggression in a sample of early elementary school-aged children and accounted for nearly half of the variance in this outcome measure.

Researchers also have shown a direct relationship between economic hardship and youth internalizing problems. By controlling statistically for important parenting behaviors (e.g., parental involvement/nurturance, emotional responsiveness, physical punishment and inconsistent discipline), researchers have shown that economic hardship and persistent poverty contribute unique variance to youth depression, loneliness, anxiety, and withdrawal (Bolger et al., 1995; Lempers et al., 1989; McLeod & Shanahan, 1993).

Thus, it is evident that aversive parenting behaviors are important mediators of the relationship between economic hardship and youth problem behaviors; however, they do not seem to account fully for this relationship. Although the processes underlying the relationship between economic hardship
and youth maladjustment need further exploration, it is clear from the research that economic factors play a unique role in children’s psychosocial well-being.

One final point about this line of research needs mentioning. Contemporary thought suggests that the relationship between parents and children is bidirectional in nature; thus, parents and children are seen to influence one another’s behavior mutually (Maccoby, 1992). This assertion has led at least one group of researchers (McLeod et al., 1994) to question the validity of the widely held assumption that parenting behavior is the operative mechanism through which structural variables (e.g., economic status) influence youth adjustment. From these researchers’ perspective, it too often is assumed that youth maladjustment results from, rather than causes, aversive parenting; thus, parents’ influence on children may be overstated. Taking this possibility into account, a few researchers have built in tests for “child effects” in their analytic models (McLeod et al., 1994; Sampson & Laub, 1994; Simons, Whitbeck, Beaman, & Conger, 1994). These researchers showed that parent’s use of negative behavior was partially accounted for by undesirable characteristics and misbehaviors of children. Given this evidence, it may be that models for testing the mediational role of parenting in the relationship between economic hardship and youth adjustment may show somewhat inflated effects for parenting variables, which may distort the direct influence of economic hardship. This is not to suggest, however, that further consideration should not be given to the relationship between parental socialization factors and youth

**Models of Risk**

Several risk models have been postulated in children's risk research (Jenkins & Smith, 1990; Masten et al., 1988). Of particular interest are additive, interactive, and exponential models of risk. These models offer various ways to examine how multiple risk factors influence youth. However, the distinction among them is not always made clear in the research literature. As a result, findings from studies testing these various models are subject to misinterpretation. This is troublesome given the potential these models hold for enhancing our knowledge of the etiological processes of youth maladjustment and their practical and theoretical value in terms of intervention strategies (Cohen & Wills, 1985). This discussion of how each of these models represents risk is largely based on information presented by Jenkins and Smith (1990) and Masten et al. (1988).

**Additive model.** An additive model of risk tests whether individual risk factors have an independent effect (main effect) on the dependent variable. According to this model, individual risk factors operate in a cumulative fashion to put youth at risk for adjustment problems; thus, the total effect of the risk factors is the summation of their individual effects (Jenkins & Smith, 1990). Factors that operate in this fashion act independently from levels of other measured risk
factors such that children with both low and high levels of other risk factors are similarly affected. For instance, if economic hardship is shown to predict youth problem behaviors in both children from families with a low level of overt conflict and those with a high level of overt conflict, it can be said that economic difficulties operate independently of level of overt conflict.

Interactive model. According to Masten et al. (1988), "interaction effects imply an increment in explained variance [because of] the joint effect of two variables over and above that which can be explained by the component variables taken separately" (p. 749). One type of interaction these researchers have identified that is particularly useful for this study is the "protective-vs.-vulnerability model" (p. 748). Drawing from the researchers' illustration of this model, researchers would expect youth with high levels of a given attribute (e.g., high SES, good parental quality) to display higher levels of positive adjustment than youth lower in the same attribute at high levels of risk exposure (protective model), whereas youth with less of the attribute (e.g., low SES or poor parenting quality) might be expected to display lower adjustment than youth with higher levels of the attribute at high levels of risk exposure (vulnerability model). It is important to recognize that regardless of whether a factor is being conceptualized as a protective factor or a vulnerability factor, both types of factors operate conditionally at high levels of another risk factor; they show little or no association to the outcome measure for youth scoring low on the other risk factor included in the interaction term (Jenkins & Smith, 1990; Masten et al.,
Thus, as their names imply, protective factors buffer youth from the harmful effects of high levels of another present risk factor and vulnerability factors exacerbate the harmful effects of high levels of another present risk factor.

As Masten et al. (1988) have pointed out, a given attribute can work both as a protective and a vulnerability factor:

Which interpretation is favored depends on one's assumption about the underlying process of stress and stress response and one's corresponding expectations. If outcome under stress is better than expected, one interprets an attribute as "protective"; if it is worse than expected, one interprets the attribute as a "vulnerability" factor (p. 749).

Exponential model. First introduced by Rutter (1979), this model represents a cumulative effect such that some degree of risk exposure can be endured with little influence on adjustment, but the accumulation of risk factors results in accelerating or exponential increases in youth maladjustment (i.e., a curvilinear pattern of risk). Whereas the additive model reflects the sum of the effects of individual risk factors, the exponential model shows that the effects of individual risk factors multiply or potentiate each other in such a way that, when combined, they yield much more than a mere summation of the effects of the individual risk factors considered singularly (Rutter, 1979; Sameroff et al., 1982).
Empirical Review of Risk Models

To the author's knowledge, no other researcher has tested a risk model with a primary focus on interparental conflict, poor parenting, and economic hardship. In terms of empirical support for the presented models, one must draw from the small pool of studies that have considered various combinations of these variables within the context of these different models of risk. This section is organized into three parts using pairs of the variables of interest as general headings (because no studies were found using all three variables). Under each of these sections, research based on additive, interactive, and exponential models of risk is discussed.

Interparental Conflict and Parenting Quality. An area of research that has received a fair amount of attention is whether certain aspects of parenting interact with marital discord to predict youth adjustment. Jenkins and Smith (1990) tested this hypothesis. Their analysis revealed that children with poor quality mother-child and father-child relationships (as measured by parents' lack of positive regard toward children, their irritability and loss of control, and hostility and criticism aimed toward children) showed significantly higher levels of problem behavior than children with good or moderate parent-child relationships. However, their tests for interactions between quality of parent-child relationships and marital disharmony were not significant. Parent-child relationships were associated with children's adjustment in both harmonious and
disharmonious homes; thus, their analysis lends support for independent effects of parenting quality.

Rutter (1971), Hess and Camara (1979), and Wallerstein and Kelly (1980) all found that the stress associated with divorce and marital conflict was mitigated to some extent by a good relationship (as measured by the affective quality of the relationship) with at least one parent. Although it is tempting to conclude from these studies that good parental relationships serve a protective function when children are subjected to ongoing parental conflict, none of these researchers tested for the interaction between divorce/marital conflict and quality of parenting. In the absence of such statistical tests, the buffering effects of good parenting are undocumented.

Two studies have, however, provided support for the interactive model. Brody and Forehand (1990) detected an interaction between interparental conflict and the quality of the relationship between fathers and their adolescent children. Their findings indicated that (a) youth who reported high levels of interparental conflict and a poor father-child relationship had higher levels of teacher-rated internalizing problems, (b) youth with high interparental conflict and a good father-child relationship had lower internalizing problems than the former group, and (c) children with low interparental conflict and a good father-child relationship had the fewest behavior problems. This interaction was found for both boys and girls, accounting for 25% and 14% of the variance in internalizing problems, respectively. The interaction term was not significant for
boys’ or girls’ externalizing problems. In a related study, quality of both the mother-adolescent relationship and the father-adolescent relationship were examined independently of other risk factors to test for independent effects as well as in conjunction with combined family stressors (interparental conflict, maternal depression, and divorce) to test for interaction effects. Using internalizing and externalizing problem behaviors as their outcome measures, these researchers found support for a main effects model for quality of the father-adolescent relationship as a predictor of externalizing problems. In addition, they found an interaction between quality of father-adolescent relationship and family stressors for youth internalizing problems, thus providing further support for the buffering effect of good fathering (Forehand, Wierson, Thomas, Armistead, Kempton, & Neighbors, 1991). An interaction between mother-adolescent relationship and family stressors was not found.

As well as indicating interactive processes, this last study also gives an indication of the potentiating effects of multiple risk factors. Forehand et al. (1991) demonstrated that as the number of family stressors increased, so did youth internalizing and externalizing problems. Although this may very well indicate an additive effect, their data could be indicative of multiple stressors operating in a nonlinear fashion. Although the researchers did not specifically test this possibility, their data are similar to what Rutter (1979) considered multiplicative risk.
In summary, four studies were found examining interparental conflict and parenting quality and their relationship to youth problem behaviors. One of these studies provides evidence for additive effects of interparental conflict and parenting quality. Two other studies provide evidence for an interactive model, or more specifically the protective-vs.-vulnerability model. These two studies are supportive of the idea that a positive relationship with at least one parent may protect children from the ill effects of marital conflict. However, this finding is limited to the father-child relationship. And finally, one study appears on the surface to support multiplicative effects for family stressors, but because the researchers did not actually test this possibility, this study provides indirect support at best.

Interparental Conflict and Economic Hardship. In an attempt to replicate the findings of Rutter (1980), Shaw and Emery (1988) investigated the relationship between four chronic family stressors (i.e., parental conflict, maternal depression, overcrowding, and family income) and children's psychological adjustment. These researchers found that 5- to 12-year-old children exposed to a greater number of family risk factors displayed higher scores on both measures of internalizing and externalizing problems than youth exposed to fewer risk factors. Their results are supportive of an additive effects model rather than the potentiating model that Rutter and his colleagues found. In a model incorporating SES, global family stress ratings across families ranging in levels of marital conflict, and children's control beliefs about handling
parental conflict as predictors of youth internalizing and externalizing problem behaviors, Rossman and Rosenberg (1992) found that low SES was predictive of total problem behaviors in youth regardless of the level of stress their families had encountered, thereby suggesting a main or additive effect of SES.

Although economic factors have been shown to interact with other factors such as marital status (Hodges, Tierney, & Buchsbaum, 1984) and stressful life events (Masten et al., 1988), the research literature lacks tests of the interaction between interparental conflict and economic hardship. However, tangential evidence is available to make the argument that economic hardship exacerbates the relationship between interparental conflict and youth problem behaviors. In a sample of 6- to 12-year-old children, Jouriles, Bourg, and Farris (1991) found stronger relationships between marital adjustment and child conduct problems in families with low SES than families with high SES across two waves of data. In their meta-analytic review of studies examining the relationship between interparental conflict and youth problem behaviors, Buehler et al. (in press) discovered that effect sizes for the relationship between overt conflict style and youth problem behaviors were greater in samples that included predominantly low- and middle-class respondents than in samples that included low-, middle-, and upper-middle class respondents.

In terms of support for potentiating effects of interparental conflict and economic hardship, Rutter (1979) considered these two familial risk factors along with four other factors related to child psychological disorder: (a)
overcrowding in the home, (b) maternal depression or neuroticism, (c) child’s admission into the care of the local authority, and (d) criminality of the father. He found that children experiencing one risk factor were not at any greater risk than children experiencing no risk factors. However, when children encountered any two risk factors, their risk for psychological disorder increased fourfold.

Thus, of the seven studies examined, two provided direct support for additive effects of interparental conflict and economic hardship. The research literature lacks studies that have included an interaction term for income/SES and interparental conflict, but two studies provided tangential evidence of the interactive nature of these two variables, and two additional studies provided support for an income/SES interaction with other factors (marital status and stressful life events) to predict youth adjustment. In terms of exponential findings, one study provided evidence that youth experiencing interparental conflict and economic hardship concurrently were at a potentiated risk for youth problem behaviors.

**Parenting Quality and Economic Hardship.** Virtually all of the research on parenting quality and economic hardship has been conducted within the context of mediational models that have been used to test the hypothesis that aversive parenting behaviors largely account for the relationship found between economic hardship and youth problem behaviors (refer to pp. 21-23 for this discussion). As pointed out earlier, some researchers have shown that parenting variables and economic hardship account for unique variance in youth problem behaviors.
(Bolger et al., 1995; Dodge et al., 1994; Lempers et al., 1989). Thus, these studies provide some support for the additive statistical effects of parenting quality and economic hardship on youth problem behaviors. Dubow and Ippolito (1994) also found independent/additive effects of parenting quality and poverty on youth externalizing problems. However, extrapolation of the findings of this investigation to the present discussion is done with caution. These investigators' measure of parenting quality also included items for assessing parents' provision of cognitive stimulation in the home; thus, what was actually measured was quality of the home environment, of which parental warmth is one component.

Among the studies that were reviewed, only one included an interaction term between parenting quality and economic hardship. Dubow and Ippolito (1994) explored the interaction between children's home environment and current poverty and the interaction term was not significant.

In terms of exponential statistical effects, none of the studies reviewed included examination of parenting quality and economic hardship within this type of model. This is a limitation in the research literature given the consistent finding that ineffective parenting and economic hardship often accompany one another (Conger et al., 1992).

To summarize, there is solid support for additive effects of parental quality and economic hardship. Research currently lacks tests examining parenting quality and economic hardship within interactive and exponential models of risk.
Objectives

It is evident from this review that multiple risk factors operate in different patterns across studies. Finding a mixed model (both cumulative and interactive findings) of results in their study, Hodges et al. (1984) concluded, "There is no simple one-to-one pattern between stressors and response. Different types of stressors [lead] to different pathways of adjustment or maladjustment" (p. 615). This same general conclusion can be drawn with respect to the empirical support provided here.

On the other hand, there is so little research dealing with the question of how multiple risk factors impact youth that it is not surprising to see such a mixed pattern of findings. With too few researchers venturing beyond additive models of risk, it is impossible to tell whether multiple risk factors operate in a systematic or patterned way to put youth at risk for maladjustment. Thus, there is a need for researchers to consider both interactive and exponential models in addition to the more commonly tested additive model when examining how multiple risk factors affect youth. One of the purposes of this study was to shed light in this regard.

In summary, the purpose of this investigation was to examine the relationships between multiple family risk factors (i.e., interparental conflict, parenting quality, and economic hardship) and youth problem behaviors. This study does not constitute an exhaustive attempt to uncover the major predictors of externalizing and internalizing behaviors in youth. Rather, this study was
focused on a specific set of familial factors with the purpose of examining how these factors operate independently/additively and in conjunction with one another to put youth at risk for adjustment problems.

The present study enhances the extant literature in at least three ways. First, this study extends research using stressful life event histories by examining the impact of three specific risk factors—overt interparental conflict, poor parenting, and economic hardship—on two indices of youth problem behaviors. Second, this investigation goes beyond studies that focus on individual risk factors by testing how multiple risk factors operate in conjunction with one another to place youth at an increased risk for maladjustment rather than merely attempting to account for variance contributed by individual risk factors. To explore the nature of the relationship between this set of multiple risk factors and youth maladjustment, three distinct risk models were tested: additive, interactive, and exponential (curvilinear) models. Third, by its focus on interparental conflict of an overt nature, this study is responsive to scholarly concerns regarding overly broad conceptualization and imprecise measurement in the area of marital functioning as it relates to youth maladjustment.
II. Methodology

Sample

The sample and data used for this project are part of a larger study developed to assess certain aspects of family life, with a focus on interparental conflict within families (Buehler et al., 1994). The families that took part in this study comprised a community sample, recruited from selected middle schools in Knox County, Tennessee. Youth were included in the study if they were residing with nondivorced parents or, in the case of parental divorce, with their custodial mothers. For inclusion in this study, target children had to be a product of the current or most recent marriage.

Participants included youth from the sixth through eighth grades, their mothers, and teachers for each youth. Data were collected from 189 girls and 146 boys between the ages of 10 and 15 (M = 12.4; SD = 0.99), yielding a sample size of 335 youth. The parent permission rate for participation was 75%. The majority of youth in the sample were Caucasian (86%) and living with married parents (88%). Based on data from youth reports, the modal response for both mothers’ and fathers’ level of education was “completed college.”

Measures

The instrument used for this study was initially developed for use in a more comprehensive study that focused on parents’ use of particular conflict management styles as they relate to youth maladjustment (Buehler et al., 1994). The original questionnaire contained 203 items assessing various aspects of
family life. The youth questionnaire was pilot tested on a group of 15 fifth-grade youth to assess clarity and reading comprehension of items. The questionnaire was revised accordingly (see Appendix A for a complete listing of all measures). For this study, 46 items reflecting the variables of interest were selected from this instrument.

An **overt interparental conflict style** was measured by youth responses to six items developed for the larger study. Youth reported on the frequency with which parents engaged in specific behaviors during disagreements. Examples of these behaviors are name-calling, threatening remarks to one another, and telling each other to shut up. Using maximum likelihood extraction with an oblique rotation, Buehler et al. (1995) factor analyzed these 6 items with 12 items measuring frequency of interparental conflict (disagreements) to assess discriminant validity. That analysis was repeated for the present study. This analysis indicated that youth reports of interparental conflict items loaded on two distinct factors that clearly represent overt conflict style and frequency of interparental conflict. Only the items measuring overt conflict style were used in the present study. Cronbach's alpha for this scale was .87 (N = 334).

The **parenting composite** was formed using youth responses to items assessing the following variables: parental acceptance, parental monitoring, harsh discipline, and intraparental inconsistent discipline (see Appendix). Parental acceptance was assessed using four items from The Children’s Report of Parental Behavior Inventory (CRPBI, Schulderman, 1970). Sample items
included "My mother (father) is a person who enjoys doing things with me" and "My mother (father) is a person who gives me a lot of attention." Parental monitoring was measured using four items adapted from Brown et al. (1993). These items are intended to measure how much parents know about their children's activities. Sample items included "How much do your parents really know about who your friends are?" and "How much do your parents really know about what you do with your free time?" Parental harsh discipline was assessed using four items adapted from the Weinberger Parenting Inventory (WPI, Weinberger, 1989). Sample items included "My mother (father) is a person who is very strict with me" and "My mother (father) is a person who gives hard punishment." And finally, inconsistent discipline was measured using six items from the CRPBI. Sample items are "My mother (father) is a person who only keeps rules when it suits her" and "My mother (father) is a person who lets me do something one day and the next day I get into trouble for doing the same thing."

For parental acceptance, harsh discipline, and inconsistent discipline, the original 3-point youth response scale ranges on a continuum from not like her (him) (1) to a lot like her (him) (3). In order to represent uniformity among parenting constructs, the parental acceptance items were reverse coded so that higher scores reflect the negative aspect of this parenting construct (lower levels of parental acceptance). For parental monitoring, the original 3-point youth response scale ranges from doesn't know a lot (1) to knows a lot (3). These
items also were reverse coded so that higher scores represent the negative aspect of this construct (lower levels of parental monitoring).

The global parenting quality scale was formed using a two-step process. First, scales were created for each of the individual items comprising the parenting constructs by computing a mean score for youth reports of mothers' and fathers' parenting behavior. (This procedure was not done for the parental monitoring items because separate reports for mothers and fathers were not available.) After youth reports of mothers' and fathers' scores on each item were averaged, the aggregated scores and the means of the individual parental monitoring items were then combined to form the global parenting scale. The rationale for averaging youth reports of mothers' and fathers' scores across items was that it adequately dealt with the issue of missing data that resulted from youth in mother-headed families who rarely saw their fathers. In cases where an individual did not report on his or her father's parenting behavior, the mean score of his or her mother's behavior was taken. Thus, this procedure accurately represents the parenting environment of the family structures comprising this sample. Cronbach's alpha for this scale was .83 (N = 335). In terms of content validity, the items comprising this scale and the four parenting constructs they represent constitute what scholars believe are the most critical elements of parenting (Conger et al., 1992; Maccoby & Martin, 1983; Patterson et al., 1989; Rollins & Thomas, 1979).
Economic hardship was measured using youths' school lunch status. Children from low-income families are eligible for federally mandated free and reduced fee school lunches if their family incomes do not exceed 130% and 185%, respectively, of the official poverty level. At the time of data collection, the official poverty level for a household size of four ranged from $14,800 to $15,150 (U.S. Department of Health and Human Services, 1994, 1995). For a household of this size, children qualified for free lunches if the family income ranged from $19,240 to $19,695; children qualified for reduced fee school lunches if the family income ranged from $27,380 to $28,028. Lunch status information was provided by the participating schools. Economic hardship was coded with a "0" if youth paid for their lunches, "1" if youth paid reduced lunch fees, and "2" if they received free lunches. Given the few children paying reduced lunch fees (approximately 4% of the sample), the latter two categories were collapsed into one category representing lower family economic well-being.

Externalizing and internalizing problem behaviors were assessed using youth, mother, and teacher reports on the corresponding form of the Child Behavior Checklist (CBCL, Achenbach, 1991). The CBCL externalizing subscale consists of 30 items. Sample items from the youth report include "I steal at home" and "I am mean to others." The CBCL internalizing subscale consists of 31 items. Sample items from the youth report of this scale include "I am unhappy, sad, or depressed" and "I feel worthless or inferior." The 3-point response choices include not true (0), somewhat or sometimes true (1), and very
true or often true (2). Cronbach's alpha for youth, mother, and teacher reports on the externalizing subscale were .90, .91 and .95, respectively. Cronbach's alpha for youth, mother, and teacher reports on the internalizing subscale were .92, .83, and .87, respectively. The correlation between youth report of externalizing problem behaviors and youth report of internalizing behaviors was .70 (49% shared variance). Widely used as an assessment device of children's behavior problems, the CBCL has extensive evidence of its internal consistency and predictive validity (Achenbach, 1991).

**Control variables** included youths' gender, grade level, and their parents' marital status. Dummy coding was used for each of these variables. For youth gender, girls were coded as "0" and boys as "1." For marital status, mother-headed households were coded as "0" and two-parent families were coded as "1." The three grade levels comprising this study required the use of two dummy variables. Using seventh grade status as the reference group, sixth grade status was coded as "1" and all others as "0" for one variable; for the other dummy variable, eighth grade status was coded as "1" and all others as "0."

**Procedures**

To conduct this study, approval was obtained from The University of Tennessee, Knoxville, Institutional Review Board and the Knox County School Central administration, school principals, and teachers. Teachers' participation was voluntary.
Letters requesting parental consent were sent home with children by participating teachers. When the letters were brought back to class, children were given a small token of appreciation, regardless of whether or not they received permission to participate in the study. This procedure was carried out to ensure a high response rate. Administration of youth questionnaires was conducted in the school cafeteria on three consecutive days (one day for each grade level participating). Youth were treated to a pizza party after completing the questionnaire.

Teachers completed the questionnaires on their own time. They were paid a small fee for each completed questionnaire they returned. Questionnaires were mailed to mothers of youth taking part in the study. Mothers were provided with postage-paid envelopes for questionnaire return.

Data Analysis

Data were analyzed using multiple hierarchical regression. This strategy is particularly suitable for research of this nature because it allows one to enter the interaction and squared terms necessary for testing interactive and curvilinear patterns of risk, respectively (Aiken & West, 1991). In addition, this procedure allows one to isolate variance contributed by individual or groups of variables entered in different blocks. Block entry varied according to the risk model being tested; however, the use of control variables remained consistent throughout each set of analyses. These procedures are discussed in greater detail in the Results section. For each of the three risk patterns examined, two
separate models—one for externalizing problem behavior and one for internalizing behavior—were calculated for each reporter of youth problem behaviors (i.e., youth, mothers, and teachers). Reported findings are those that were significant at the .05 level.
III. Results

Table 1 contains zero-order correlations, means, standard deviations, and reliability coefficients for all variables used in this study. At the zero-order level, youth reports of overt conflict style and parenting quality were associated with youth, mother, and teacher reports of externalizing problem behavior as well as youth reports of internalizing problem behavior. Economic hardship was associated with youth, mother, and teacher reports of externalizing problem behavior as well as youth and teacher reports of internalizing problem behavior.

Results of Additive Model

A series of hierarchical multiple regression equations were computed to test for additive effects of overt conflict style, parenting quality, and economic hardship on youth problem behaviors. Entry of the variables proceeded in the following order: In Block 1 the alternative form of youth problem behavior was entered to control for comorbidity between the two dependent variables; in Block 2 youth gender, grade level, and parents' marital status were entered as control variables; in Block 3 overt conflict style, parenting quality, and economic hardship were entered to test for additive effects.

To test whether the additive model varied by youth gender, grade, and parents' marital status, interactions between the individual risk factors and each control variable were entered at Block 4. Interaction terms were created by multiplying the centered value of individual predictor variables by the centered value of each dummy-coded control variable. This procedure, which is intended
Table 1
Descriptive Statistics for Independent and Dependent Variables

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<tr>
<th></th>
<th>(1)</th>
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<th>(9)</th>
<th>(10)</th>
<th>(11)</th>
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<td>-.13*</td>
<td>.46**</td>
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</tr>
<tr>
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<td>.63**</td>
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<td>.21**</td>
<td>.50**</td>
<td>.23**</td>
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<td></td>
</tr>
<tr>
<td>(12) TR of IPB</td>
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<td>-.09</td>
<td>.08</td>
<td>.09</td>
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<td>.15**</td>
<td>.22**</td>
<td>.29**</td>
<td>.18*</td>
<td>.40**</td>
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</tr>
</tbody>
</table>

Mean: NA NA NA 1.41 1.45 NA 11.15 10.40 6.80 5.42 2.68 2.03

Standard Deviation: NA NA NA 0.57 0.29 NA 8.78 9.82 7.03 5.10 6.57 4.00

Cronbach's Alpha: NA NA NA 0.85 0.83 NA 0.90 0.92 0.91 0.83 0.95 0.87

Note. Data are based on 335 youth, 188 mother, and 327 teacher reports. YR stands for youth report, MR for mother report, TR for teacher report, EPB for externalizing problem behavior, and IPB for internalizing problem behavior.

*p < .05  **p < .01.
to deal with the issue of multicollinearity between variables, entails subtracting the mean of a variable from the individual scores on that variable (Aiken & West, 1991). To maximize statistical power, separate models were computed for each familial risk factor's interaction with youth gender, grade level, and parents' marital status. This procedure was carried out across informants and the two dependent variables (see Tables 2 through 7 for the results of these analyses).

For youth reports of externalizing problem behavior, the only significant family risk factor was parenting quality. This finding indicated that youth residing with parents who used negative and ineffective child-rearing strategies displayed higher levels of externalizing problem behavior than youth whose parents use more positive child-rearing techniques. The parenting quality x gender interaction term and the parenting quality x marital status interaction term were also significant. The former finding indicated that the relationship between poor parenting quality and externalizing problem behavior was significant for both male and female youth; however, this relationship was stronger for males. The latter finding indicated that the relationship between low parenting quality and externalizing problem was significant both for youth residing in mother-headed households and for those residing in two-parent families; however this relationship was more detrimental to youth residing in single-parent households.

Both mother and teacher reports lent support to the additive effects model. Mother reports of youth problem behaviors revealed that low parenting quality, overt conflict style, and economic hardship were predictive of
Table 2
Hierarchical Regression of Overt Conflict Style, Parenting Quality, Economic Hardship, and Overt Conflict Style Interactions Predicting Youth, Mother, and Teacher Reports of Externalizing Problem Behavior

<table>
<thead>
<tr>
<th>Block 1: Internalizing problem behavior</th>
<th>Youth report of externalizing problem behavior</th>
<th>Mother report of externalizing problem behavior</th>
<th>Teacher report of externalizing problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \Delta \beta )</td>
<td>( R^2 )</td>
<td>( \Delta \beta )</td>
</tr>
<tr>
<td>Block 1: Internalizing problem behavior</td>
<td>321.61***</td>
<td>.49</td>
<td>113.73***</td>
</tr>
<tr>
<td>Block 2: Youth gender, youth grade, parent's marital status</td>
<td>9.54***</td>
<td>.04</td>
<td>4.01**</td>
</tr>
<tr>
<td>Block 3: Overt conflict style, parenting quality, economic hardship</td>
<td>12.59***</td>
<td>.05</td>
<td>6.12***</td>
</tr>
<tr>
<td>Block 4: Overt conflict style x youth gender, Overt conflict style x youth grade, Overt conflict style x parent's marital status</td>
<td>.86</td>
<td>.00</td>
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</tr>
<tr>
<td>Total ( R^2 )</td>
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<table>
<thead>
<tr>
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<th>( \beta )</th>
<th>( \beta )</th>
<th>( \beta )</th>
</tr>
</thead>
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<td>Block 2: Youth gender, youth grade, parent's marital status</td>
<td>.16***</td>
<td>.15**</td>
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<td>Parent's marital status</td>
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<td>-.03</td>
<td>.05</td>
</tr>
<tr>
<td>Block 3: Overt conflict style, Parenting quality, Economic hardship</td>
<td>.03</td>
<td>-.00</td>
<td>.09</td>
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<tr>
<td>Overt conflict style, Parenting quality</td>
<td>.23***</td>
<td>.19**</td>
<td>.12*</td>
</tr>
<tr>
<td>Economic hardship</td>
<td>.02</td>
<td>.13</td>
<td>.08</td>
</tr>
<tr>
<td>Block 4: Overt conflict style x youth gender, Overt conflict style x youth grade, Overt conflict style x parent's marital status</td>
<td>.03</td>
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<td>.03</td>
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<tr>
<td>Overt conflict style x youth gender</td>
<td>.04</td>
<td>.15*</td>
<td>.08</td>
</tr>
<tr>
<td>Overt conflict style x youth grade</td>
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<td>Overt conflict style x parent's marital status</td>
<td>.03</td>
<td>.05</td>
<td>.05</td>
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</table>

Note. \( N = 335 \). The coefficients reported are the standardized beta weights from the final equation.

\( \* \text{p} < .05 \quad \* \text{p} < .01 \quad \* \text{p} < .001 \).
<table>
<thead>
<tr>
<th>Block 1: Externalizing problem behavior</th>
<th>Youth report of internalizing problem behavior ( \Delta F )</th>
<th>( R^2 )</th>
<th>Mother report of internalizing problem behavior ( \Delta F )</th>
<th>( R^2 )</th>
<th>Teacher report of internalizing problem behavior ( \Delta F )</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 2: Youth gender, youth grade parent's marital status</td>
<td>321.60***</td>
<td>.49</td>
<td>113.73***</td>
<td>.38</td>
<td>62.10***</td>
<td>.16</td>
</tr>
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<td>1.72</td>
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<td>1.67</td>
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<th>Youth report of internalizing problem behavior ( \Delta F )</th>
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<th>Mother report of internalizing problem behavior ( \Delta F )</th>
<th>( R^2 )</th>
<th>Teacher report of internalizing problem behavior ( \Delta F )</th>
<th>( R^2 )</th>
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<tbody>
<tr>
<td>Block 2: Youth gender, youth grade parent's marital status</td>
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<td>.66***</td>
<td>.36***</td>
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<tr>
<td>Block 3: Overt conflict style, parenting quality, economic hardship</td>
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<td>-.10</td>
<td>-.02</td>
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<tr>
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<td>.03</td>
<td>.02</td>
<td>.29***</td>
<td>.02</td>
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</table>

Note. \( N = 335 \). The coefficients reported are the standardized beta weights from the final equation.

* \( \beta < .05 \). ** \( \beta < .01 \). *** \( \beta < .001 \).
Table 4
Hierarchical Regression of Overt Conflict Style, Parenting Quality, Economic Hardship, and Parenting Quality Interactions Predicting Youth, Mother, and Teacher Reports of Externalizing Problem Behavior

<table>
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<tr>
<th></th>
<th>Youth report of externalizing problem behavior</th>
<th>Mother report of externalizing problem behavior</th>
<th>Teacher report of externalizing problem behavior</th>
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<td>$R^2$</td>
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<tr>
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<td>.49</td>
<td>113.73***</td>
</tr>
<tr>
<td>Block 2:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth gender, youth grade, parent's marital status</td>
<td>9.54***</td>
<td>.04</td>
<td>4.01**</td>
</tr>
<tr>
<td>Block 3:</td>
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<td></td>
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</tr>
<tr>
<td>Overt conflict style, parenting quality, economic hardship</td>
<td>12.59***</td>
<td>.05</td>
<td>6.12***</td>
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<td>.12</td>
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<td>-.02</td>
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<tr>
<td>Parenting quality x parent's marital status</td>
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<td>-.05</td>
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</table>

Note. N = 335. The coefficients reported are the standardized beta weights from the final equation.  
$^* p < .05. ~ ^{**} p < .01. ~ ^{***} p < .001.$
Table 5
Hierarchical Regression of Overt Conflict Style, Parenting Quality, Economic Hardship, and Parenting Quality Interactions Predicting Youth, Mother, and Teacher Reports of Internalizing Problem Behavior

<table>
<thead>
<tr>
<th></th>
<th>Youth report of internalizing problem behavior</th>
<th>Mother report of internalizing problem behavior</th>
<th>Teacher report of internalizing problem behavior</th>
</tr>
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<td>( \beta )</td>
<td>( \beta )</td>
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<tr>
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<td>.64***</td>
<td>.36***</td>
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<tr>
<td>Block 2:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth gender, youth grade, parent’s marital status</td>
<td>-.15***</td>
<td>-.09</td>
<td>-.02</td>
</tr>
<tr>
<td>youth grade</td>
<td>-.04</td>
<td>-.07</td>
<td>-.02</td>
</tr>
<tr>
<td>parent’s marital status</td>
<td>-.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overt conflict style, parenting quality, economic hardship</td>
<td>.06</td>
<td>.05</td>
<td>-.03</td>
</tr>
<tr>
<td>Parenting quality</td>
<td>.07</td>
<td>.07</td>
<td>.04</td>
</tr>
<tr>
<td>Economic hardship</td>
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<td>.06</td>
<td>.28***</td>
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<tr>
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<td>-.10</td>
<td>-.09</td>
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<tr>
<td>Parenting quality \times youth grade</td>
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<td>.00</td>
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<tr>
<td>Parenting quality \times parent’s marital status</td>
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<td>.02</td>
<td>.01</td>
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</table>

Note: \( N = 335 \). The coefficients reported are the standardized beta weights from the final equation.

* Tolerance level too low to interpret reliably.

\( p < .05 \), \( ** p < .01 \), \( *** p < .001 \).
<table>
<thead>
<tr>
<th>Block 1:</th>
<th>Youth report of externalizing problem behavior</th>
<th>Mother report of externalizing problem behavior</th>
<th>Teacher report of externalizing problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalizing problem behavior</td>
<td>321.61***</td>
<td>113.73***</td>
<td>62.10***</td>
</tr>
<tr>
<td>Block 2:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth gender, youth grade, parent's marital status</td>
<td>9.54***</td>
<td>4.01**</td>
<td>4.18**</td>
</tr>
<tr>
<td>Block 3:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overt conflict style, parenting quality, economic hardship</td>
<td>12.59***</td>
<td>6.12***</td>
<td>3.13*</td>
</tr>
<tr>
<td>Block 4:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic hardship x youth gender</td>
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<td>10.75***</td>
<td>3.40*</td>
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<tr>
<td>Economic hardship x youth grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic hardship x parent's marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total R^2</td>
<td>.58</td>
<td>.55</td>
<td>23</td>
</tr>
</tbody>
</table>

| Block 1: | | | |
| Internalizing problem behavior | .59*** | .58*** | .37*** |
| Block 2: | | | |
| Youth gender | .15*** | .18*** | .13*** |
| Youth grade | .00 | .17** | .16** |
| Parent's marital status | -.06 | -.01 | -.08 |
| Block 3: | | | |
| Overt conflict style | .02 | -.06 | .05 |
| Parenting quality | .24*** | .20** | .12^ |
| Economic hardship | .01 | .71* | .06 |
| Block 4: | | | |
| Economic hardship x youth gender | .02 | .04 | .05 |
| Economic hardship x youth grade | -.04 | .64* | .05 |
| Economic hardship x parent's marital status | .03 | -.03 | .16^ |

Note: N = 335. The coefficients reported are the standardized beta weights from the final equation.

*P < .05. **P < .01. ***P < .001.

**Tolerance level too low to reliably interpret.
<table>
<thead>
<tr>
<th>Block 1: Externalizing problem behavior</th>
<th>Youth report of internalizing problem behavior</th>
<th>Mother report of internalizing problem behavior</th>
<th>Teacher report of internalizing problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Block 1: Externalizing problem behavior</td>
<td>.67***</td>
<td>.71***</td>
<td>.36***</td>
</tr>
<tr>
<td>Block 2: Youth gender</td>
<td>-.15***</td>
<td>.13*</td>
<td>-.02</td>
</tr>
<tr>
<td>Block 3: Overt conflict style</td>
<td>.06</td>
<td>.07</td>
<td>-.03</td>
</tr>
<tr>
<td>Block 4: Economic hardship</td>
<td>.04</td>
<td>-50*</td>
<td>.25***</td>
</tr>
</tbody>
</table>

Note. $N = 335$. The coefficients reported are the standardized beta weights from the final equation.

* $p < .05$.  ** $p < .01$.  *** $p < .001$.
externalizing problem behavior. However, the latter two associations were conditional on youth grade level. These findings indicated that overt conflict and economic hardship was predictive of externalizing problem behavior for early adolescent youth but not for preadolescent youth. Thus, the additive model was not supported for the latter group of youth. As indicated in Tables 6 and 7, mother reports of youth problem behaviors yielded low tolerance levels for the economic hardship and the economic hardship x youth grade beta estimates. Therefore, separate regression models were computed for the three grade levels representing youth in this study to examine the relationships among economic hardship, youth grade level, and problem behavior. This set of analyses produced reliable estimates of these associations.

Based on teacher reports of youth problem behaviors, low parenting quality and economic hardship were related to externalizing problem behavior. The association between economic hardship status, however, was conditional upon the marital status of youths' parents. Contrary to the common finding that youth reared in low-income single-parent families are at high risk for maladjustment, only those youth who resided in economically disadvantaged two-parent households were at a significant risk for externalizing problem behavior.

In terms of the control variables, youth gender was an important predictor of externalizing problem behavior as evidenced by its significance across reporters. In addition, teacher reports indicated a significant association
between grade and externalizing problem behavior. These findings suggest that youth residing with parents rated low in positive child-rearing techniques as well as those who are either male or in their early adolescent years may be at a higher risk for externalizing problem behavior than youth reared in a positive parenting atmosphere and youth who are either female or in their preadolescent years.

For internalizing problem behavior, the additive effect model was not supported. Examination of youth reports revealed no significant associations between familial risk factors and internalizing problem behavior. As was the case with externalizing problem behavior, mother reports yielded low tolerance levels for economic hardship and the economic hardship x youth grade beta estimates. Once again, separate regression equations were computed for each grade level of youth in this study. These analyses indicated no association between economic hardship and mother reports of internalizing problem. Although the beta coefficient for economic hardship was significant for 8th-grade youth, it did not result in a significant change in F. Teacher reports, however, revealed a significant association between economic hardship and internalizing problem behavior.

In terms of the control variables, both youth and mother reports indicated a significant association between gender and internalizing problem behavior. The negative beta coefficient for gender may reflect female youths' susceptibility to overcontrolled behavior. No significant interactions between the family risk
factors and demographic variables were found in youth, mother, or teacher reports of internalizing problem behavior.

**Results of Interactive Model**

To test the possibility that an overt conflict style, parenting quality, and economic hardship interact with one another in a conditional fashion to place youth at risk for maladjustment, three interaction terms were created: overt conflict style x parenting quality, overt conflict style x economic hardship, and parenting quality x economic hardship. Once again, the centered values of each variable were used. The interaction terms were entered in Block 4 after direct relationships between the dependent variable and the alternative problem behavior, the control variables, and the familial risk factors were taken into account (see Tables 8 and 9).

Findings from this study do not support the interactive model. Of the 18 interactions tested, none of the interaction terms were significant, thereby ruling out the possibility of buffering or exacerbating effects of particular familial variables. Although three of the interaction terms had probability levels between .10 and .05, their inclusion in the regression model did not result in a significant F change.

**Results of Exponential Model**

The final set of analyses was conducted to examine whether incremental increases in the number of risk factors result in exponential increases in levels of youth maladjustment. To conduct these analyses, a new variable named risk was formed that represented varying levels of risk exposure. Based on youth
<table>
<thead>
<tr>
<th>Block 1:</th>
<th>Youth report of externalizing problem behavior</th>
<th>Mother report of externalizing problem behavior</th>
<th>Teacher report of externalizing problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Internalizing problem behavior</td>
<td>321.61***</td>
<td>.49</td>
<td>113.73***</td>
</tr>
<tr>
<td>Block 2: Youth gender, youth grade parent's marital status</td>
<td>9.54***</td>
<td>.04</td>
<td>4.01**</td>
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<tr>
<td>Block 3: Overt conflict style, parenting quality, economic hardship</td>
<td>12.59***</td>
<td>.05</td>
<td>6.12***</td>
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<td>.00</td>
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<td>Total $R^2$</td>
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<td>.48</td>
<td>.22</td>
</tr>
</tbody>
</table>

Note. $N = 335$. The coefficients reported are the standardized beta weights from the final equation. 

asterisk values for significance levels: *p < .05. **p < .01. ***p < .001.
Table 9
Hierarchical Regression of Overt Conflict Style, Parenting Quality, Economic Hardship, and Risk Factor Interactions Predicting Youth, Mother, and Teacher Reports of Internalizing Problem Behavior

<table>
<thead>
<tr>
<th>Block 1: Externalizing problem behavior</th>
<th>Youth report of Internalizing problem behavior</th>
<th>Mother report of Internalizing problem behavior</th>
<th>Teacher report of Internalizing problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta F$</td>
<td>$R^2$</td>
<td>$\Delta F$</td>
</tr>
<tr>
<td>Block 1:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Externalizing problem behavior</td>
<td>321.60***</td>
<td>.49</td>
<td>113.73***</td>
</tr>
<tr>
<td>Block 2: Youth gender, youth grade, parent's marital status</td>
<td>5.19**</td>
<td>.02</td>
<td>1.77</td>
</tr>
<tr>
<td>Block 3: Overt conflict style, parenting quality, economic hardship</td>
<td>1.67</td>
<td>.01</td>
<td>.83</td>
</tr>
<tr>
<td>Block 4: Overt conflict style x parenting quality Overt conflict style x economic hardship Parenting quality x economic hardship</td>
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<td>.00</td>
<td>1.54</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.52</td>
<td></td>
<td>.42</td>
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<th>$\beta$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Externalizing problem behavior</td>
<td>.66***</td>
<td>.65***</td>
<td>.36***</td>
</tr>
<tr>
<td>Block 2: Youth gender Youth grade Parent's marital status</td>
<td>-1.4***</td>
<td>-.09</td>
<td>-.02</td>
</tr>
<tr>
<td>Block 3: Overt conflict style Parenting quality Economic hardship</td>
<td>.08</td>
<td>.14</td>
<td>-.06</td>
</tr>
<tr>
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<td>.00</td>
<td>-.10</td>
<td>.03</td>
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</tbody>
</table>

Note: $N=335$. The coefficients reported are the standardized beta weights from the final equation.

* $p < .05$; ** $p < .01$; *** $p < .001$. 
reports, youth were classified as having 0, 1, 2, or 3 risk factors. For risk factors measured on a continuous scale (overt conflict and parenting quality), the cutoff point used for classification into the risk factor groupings was a score one standard deviation above the mean. For economic hardship, youth receiving either partial or full subsidy were considered at risk. The newly formed variable was entered in Block 3 following entry of the alternative behavior problem in Block 1 and the control variables in Block 2. In Block 4, the squared risk variable was entered to test for exponential effects of multiple risk exposure (Aiken & West, 1991). Once again, separate models were computed for the two dependent variables and for the multiple reporters of youth problem behaviors (see Tables 10 and 11).

Among the six curvilinear terms introduced into the regression models, only one reached statistical significance. This finding was for youth report of internalizing problem behavior. Further probing of this finding revealed that levels of internalizing problem behavior were indeed higher as risk exposure increased but only to a certain point; at the highest levels of risk exposure, rates of internalizing problem behavior did not differ greatly for youth exposed to a low number of risk factors and youth exposed to a high number of risk factors. In essence, a threshold effect for the risk of internalizing problem behavior was detected. This threshold effect occurred at the one-risk factor grouping, suggesting that internalizing problem behavior is not highly influenced by multiple risk exposure. Although this finding must be interpreted cautiously
<table>
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<tr>
<th>Block 1: Internalizing problem behavior</th>
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</thead>
<tbody>
<tr>
<td>Youth report of externalizing problem behavior</td>
<td>( \Delta F )</td>
<td>( R^2 )</td>
<td>Mother report of externalizing problem behavior</td>
</tr>
<tr>
<td>322.03***</td>
<td>.49</td>
<td>123.89***</td>
<td>.40</td>
</tr>
<tr>
<td>Block 2: Youth gender, youth grade parent's marital status</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>10.66***</td>
<td>.02</td>
<td>11.72***</td>
</tr>
<tr>
<td>Risk^2</td>
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</tr>
<tr>
<td>Total R^2</td>
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<td>.55</td>
<td>.47</td>
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</table>

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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 2: Youth gender, youth grade parent's marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>.65***</td>
<td>.60***</td>
<td>.35***</td>
</tr>
<tr>
<td>Risk^2</td>
<td>.18***</td>
<td>.16**</td>
<td>.13**</td>
</tr>
<tr>
<td>Block 3: Risk</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>.10</td>
<td>.18***</td>
<td>.17**</td>
</tr>
<tr>
<td>Risk^2</td>
<td>.03</td>
<td>.02</td>
<td>-.12</td>
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</tbody>
</table>

Note. \( N = 335 \). The coefficients reported are the standardized \( \beta \) weights from the final equation.

\( p < .05 \), \( ** p < .01 \), \( *** p < .001 \).
Table 11
Hierarchical Regression of Risk Variables Predicting Youth, Mother, and Teacher Reports of Internalizing Problem Behavior

<table>
<thead>
<tr>
<th></th>
<th>Youth report of internalizing problem behavior</th>
<th>Mother report of internalizing problem behavior</th>
<th>Teacher report of internalizing problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Block 1: Externalizing problem behavior</td>
<td>322.03***</td>
<td>.49</td>
<td>123.89***</td>
</tr>
<tr>
<td>Block 2: Youth gender, youth grade, parent's marital status</td>
<td>4.03**</td>
<td>.02</td>
<td>1.43</td>
</tr>
<tr>
<td>Block 3: Risk</td>
<td>6.75**</td>
<td>.01</td>
<td>1.07</td>
</tr>
<tr>
<td>Block 4: Risk$^2$</td>
<td>8.59**</td>
<td>.01</td>
<td>1.39</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.53</td>
<td></td>
<td>.42</td>
</tr>
</tbody>
</table>

Note. N = 335. The coefficients reported are the standardized beta weights from the final equation. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. 
because the curvilinear terms for mother and teacher reports of internalizing problem behavior were not statistically significant, these data reflect the same general pattern found in youth reports.
IV. Discussion

The primary purpose of this study was to test various risk models that may explain how multiple stressors are predictive of preadolescent and early adolescent youth problem behaviors. The three models examined in this investigation—additive, interactive, and exponential—are based on different assumptions about the relationship between multiple risk factors and youth problem behaviors. As such, these models have very different implications for youth confronted with multiple adversities. However, the extant research lacks sufficient tests of these models, thereby limiting our understanding of what multiple risk factors mean for youth.

Conclusions

Findings from this study reinforce the need to probe alternative models of risk to youth associated with multiple family adversity. Although no support was found for the interactive and exponential models of risk, this investigation yielded some important findings and, furthermore, builds on a seriously limited knowledge base in the area of multiple risk exposure and children's coping ability.

Based on conceptualization of the family as a key psychosocial environment, an analysis was conducted to test whether overt interparental conflict, poor parenting quality, and family economic hardship jointly predict youth problem behaviors in an additive fashion. At a broad level, the results of this study support the idea of cumulative effects of multiple family risk factors on
youths' psychological adjustment. Consistent with past findings (Shaw & Emery, 1988), cumulative risk was a better predictor of externalizing problem behavior than of internalizing problem behavior. In addition, demographic variables were important moderators of the relationship between cumulative risk and youth problem behaviors. The additive model accounted for more variance in youth problem behaviors in older youth and those residing in two-parent households. At a more specific level, this study highlights the complexity underlying the associations between specific risk factors and varying indices of youth problem behaviors.

For youth reports, the additive model was not supported (because parenting quality was the only significant variable). However, these reports did reveal the salient role that parenting quality plays in children's psychosocial adjustment. Youth who rated their parents low in positive parenting techniques displayed elevated levels of externalizing problems. Particularly susceptible to the risk associated with ineffective parenting were males and youth residing in mother-headed households. This pattern of findings is consistent with those of previous researchers who found that divorced mothers make fewer maturity demands, communicate less well, are less affectionate and less consistent in their discipline, and generally are less effective in managing their children, particularly boys, when compared to mothers from intact families (Hetherington, 1986; Hetherington, Cox, & Cox, 1982). Given the small number of single-parent households in this sample, however, the generalizability of this finding is limited.
For mother reports, overt conflict and low parenting quality accounted for significant variance in externalizing behavior; however, the findings for overt conflict style and economic hardship varied with youths' age. Early adolescence, thus it seems, is a developmental stage that exacerbates youths' susceptibility to the risk associated with marital hostility and financial difficulty. One conclusion to be drawn from this research is that cumulative risk exposure is more detrimental to older youth. But at the same time, it is important to recognize that the risk factors comprising this investigation exerted variable patterns of influence on youth problem behaviors. Whereas older children appeared to be more at risk from overt conflict and economic hardship than younger children, this differential finding for age was not apparent in the relationship between parenting quality and youth problem behaviors. The behaviors of preadolescent and early adolescent youth comprising this sample were similarly related to low parenting quality, thus reflecting the importance of this family process variable in the development of youth maladjustment. The consistency of this finding across informants suggests that the problematic behaviors displayed by these children is rather obvious and, furthermore, may be well established by preadolescence. Bank et al. (1993) found that parental discipline practices were predictive of antisocial behavior in children as young as 5 years old. These findings suggest the need for early intervention for parents with inadequate child-rearing skills.
Joint additive effects also were detected in teacher reports of externalizing problem behavior. Both parenting quality and economic hardship were significant predictors. However, economic hardship interacted with marital status of youths' parents. Contrary to what one might expect, youth residing in economically disadvantaged two-parent families displayed higher levels of externalizing problem behavior than youth residing in economically disadvantaged mother-headed households. This finding is, perhaps, indicative of the influential nature of fathers' parenting quality during times of economic crisis. Liker and Elder (1983) found that the economic hardship stemming from the Great Depression was particularly distressing to fathers, with this distress manifested through the use of unsupportive, harsh, and rejecting behavior toward their children. Youth residing in two-parent families may be more likely to be the recipients of this type of behavior given the limited amount of contact many children of divorce have with their fathers (Furstenburg, Nord, Peterson, & Zill, 1983). Thus, aversive familial processes particular to two-parent families may be the operative mechanism accounting for the finding that cumulative risk is more detrimental in this family type. This finding, however, should be interpreted with caution given that it was found only in teacher reports of youth problem behaviors.

Additive effects were not found for internalizing problem behavior. However, this analysis did reveal that economic status is an important predictor of internalizing problem behavior. The transition into adolescence is identified
as a time of increasing psychological vulnerability for youth (Harter, 1990). Economic hardship may increase this vulnerability. Preadolescent and early adolescent youth often are concerned with their self-image. Family economic difficulties may lead youth to draw negative social comparisons as they move away from the family and begin to expand their social network.

Contrary to other studies reporting buffering effects of positive family attributes, this study does not provide evidence that low levels of overt conflict, positive parenting quality, and high economic status mitigate the harmful effects associated with one another. This finding has important implications because it appears that negative parenting quality, the most consistent predictor of youth problem behaviors in this study, is detrimental to youth well-being regardless of positive familial processes and resources considered important to youth adjustment (i.e., cooperative styles of addressing conflict and economic stability). However, more research is needed to explore the interactive relationships among these risk factors before making definitive conclusions about the stress buffering/stress exacerbating effects of these particular family attributes.

The present findings support the notion of cumulative risk. However, unlike results by Rutter (1981), who found that cumulative risk bears a multiplicative or potentiating effect, the present findings are more generally consistent with an additive model rather than an exponential model. When plotted as a function of the number of family stressors present, youth's CBCL
scores formed a roughly linear curve. One notable exception to this, however, was a curvilinear pattern evident in youth reports of internalizing problem behavior. These reports indicated that levels of internalizing problem behavior reached a peak for youth exposed to one risk factor, showing little or no increase for youth exposed to a greater numbers of risk factors. It is, therefore, concluded that cumulative risk is a better predictor of externalizing problem behavior than of internalizing problem behavior. This finding reflects the need for researchers to examine multiple patterns of risk in addition to assessing multiple dimensions of youth maladjustment in studies of risk exposure.

Limitations

The present findings must be weighed carefully against existing limitations of the methodological procedures used in this study. In addressing these limitations, recommendations are offered that might benefit researchers investigating the effect of children's risk exposure.

First, this study does not adequately deal with the chronicity dimension of family risk. It is very likely that the longer risk is endured, the greater will be the likelihood of severe outcomes for youth. This is especially important with respect to economic hardship. For instance, it has been shown that children living in persistent poverty are at greater risk for maladjustment than those who experience transient financial instability (Duncan, Brooks-Gunn, & Klebanov, 1994). This study's measure of economic status reflects youths' current financial situation, thus giving no indication of the durational aspect of participating
families' economic instability. Risk researchers interested in the influence of this variable would benefit from obtaining measures of transient and chronic economic hardship (Dubow & Ippolito, 1994; Duncan et al., 1994).

Second, it may be desirable to obtain a subjective as well as an objective measure of economic hardship. Conger et al. (1992, 1993) have demonstrated the importance of capturing the subjective experience of financial difficulty, albeit for parents. These investigators' research suggests that it is parents' perception of economic hardship that leads to family difficulties. Thus, it may be equally important, if not more so, for researchers to tap into the meaning preadolescent and early adolescent youth ascribe to this experience. The association that was found between economic status and youth internalizing problem behavior in this study suggests that low economic status is a source of distress to youngsters. Other researchers also have found an association between economic hardship/poverty status and internalizing problem behavior (Lempers et al., 1989; McLeod & Shanahan, 1993); yet few have assessed economic hardship from the standpoint of youths' subjective experience. The association between economic hardship and internalizing problem behavior might be stronger using a measure assessing youths' perception of their families' financial well-being.

Third, this study accounted for only a small portion of variance in youth problem behaviors, suggesting the important role of other risk factors not considered in this study. The focus of this investigation was stress occurring within the context of the family; however, a more exhaustive examination of
multiple risk factors could include individual difference variables such as constitutional and cognitive factors (e.g., temperament/personality and intelligence) as well as environmental factors such as neighborhood poverty, exposure to crime, peer influence, and the availability of social support (Garmezy, 1981).

And finally, the low number of risk factors experienced by the majority of families comprising this sample may bear directly on the failure to detect an exponential pattern of risk. Rutter (1979) focused his investigation on a high-risk population who experienced a multiplicity of risk factors. Thus, there may be a relationship between the degree of risk exposure and the manner in which risk exposure is manifest in youth problem behaviors. Future researchers can address this question by testing these various risk models across community and clinical samples.

Applied Implications

Limiting factors notwithstanding, the present research has practical value for clinicians working with high-risk families. Given support for the cumulative effects of risk exposure, intervention attempts should be directed at minimizing current sources of stress to youth. Findings from this study suggest that the most important area to target is the parenting environment. Hence, it is important for clinicians to assess carefully the quality of parental caregiving practices when families seek intervention for a child-focused problem.
Although overt conflict and economic hardship were shown in this study to constitute risk factors to youth, these risk factors accounted for little of the variance in youth outcomes. The influence of parenting quality may override the influence of overt conflict and economic hardship, possibly mediating the associations between these risk factors and youth problem behaviors. Much research supports this mediational relationship (Bank et al. 1993; Clark-Lempers et al., 1990; Conger et al., 1992; Skinner et al., 1992). This argument cannot be stated definitively from the findings of this study because a mediational model was not tested. However, if this is the case, than intervention strategies directed toward parenting would also mitigate the risks associated with economic hardship and overt interparental conflict given that these variables have been shown to influence youth through the caregiving environment. Nonetheless, given evidence of the direct associations of overt conflict and economic hardship with youth problem behaviors, clinicians are encouraged to help parents reduce tension in the marital relationship, to teach spouses skills of effective conflict management, and also to direct families toward accessible financial resources in the community.

In addition, intervention with high-risk families should consist of preventative measures aimed at reducing the likelihood of further sources of stress from entering these families' lives. Additional stressors have the potential to increase youths' maladjusted behavior; thus, teaching families how to anticipate and proactively deal with future sources of stress may serve children
well in the long run by preventing harmful influences from ever reaching their path.
References


Paper presented at the meeting of the National Council on Family Relations, Portland, OR.


subsequent adolescent and young adult criminality. *Journal of Youth and Adolescence, 19*, 201-220.


Rutter, M. (1979). Protective factors in children’s responses to stress and disadvantage. In M. W. Kent, & J. E. Rolf (Eds.), *Primary prevention of*


APPENDIX
APPENDIX

Measures

Overt Conflict Style

Youth Stem:

When your mom and dad disagree about any of the things in Question 2 about family life, how often do they do the following in front of you (so you can see or hear)?

- Call each other names
- Threaten each other
- Yell at each other
- Insult (show disrespect for) each other
- Tell each other to shut up

Youth Response Scale:

(1) Never
(2) Once in a while
(3) Fairly often
(4) Very often

Source: Preliminary study #1
Parental Acceptance

Youth Stem: My mother (father) is a person who...

gives me a lot of care and attention.
believes in showing her (his) love for me.
is able to make me feel better when I am upset.
cheers me up when I am sad.
enjoys doing things with me.

Youth Response Scale:

(1) Not like her (him)
(2) Somewhat like her (him)
(3) A lot like her (him)

Source: The Children's Report of Parental Behavior Inventory (CRPBI; Schuldeman, 1970)
Parental Monitoring

Youth Stem: How much do your parent REALLY know about...

Who your friends are?
Where you go at night?
How you spend your money?
What you do with your free time?
Where you are most afternoons after school?

Youth Response Scale:

(1) Doesn’t know
(2) Know a little
(3) Know a lot

Source: Brown, Mounts, Lamborn, & Steinberg (1993)
Parental Harsh Discipline

Youth Stem: My mother (father) is a person who...

- is very strict with me.
- gives hard punishment.
- spanks me so I will earn respect for my elders.
- punishes hard, so I will remember it for a long time.
- when I really upset her (him), will lose her (his) patience and punish me more severely than she (he) really means to.

Youth Response Scale:

(1) Not like her (him)
(2) Somewhat like her (him)
(3) A lot like her (him)

Source: Adapted from the Weinberger Pareting inventory (WPI; Weinberger, Feldman, & Ford, 1989)
Intraparental Inconsistent Discipline

Youth Stem: My mother (father) is a person who:

- only keeps rules when it suits her (him).
- frequently changes the rules I am supposed to follow.
- lets me do something one day and the next day I get into trouble for doing the same thing.
- depends on her (his) mood whether a rule is enforced or not.
- punishes me for things she (he) previously told me were o.k.
- soon forgets a rule she (he) has made.

Youth Response Scale:

(1) Not like her (him)
(2) Somewhat like her (him)
(3) A lot like her (him)

Source: The Children's Report of Parental Behavior Inventory (CRPBI; Schulderman, 1970)
VITA

Jean Marie Gerard attended high school in Bay City, Michigan at T. L. Handy High School. After graduating in 1981, she entered a business administration program at Delta Community College, University Center, Michigan. In 1983, she voluntarily withdrew from this program to pursue employment opportunities. After four years of gainful employment in the retail industry, Ms. Gerard enrolled in a psychology program at Oakland University, Rochester, Michigan, and became actively involved in community agency work. In 1994, she was admitted to the graduate program at The University of Tennesse, Knoxville to pursue a Master of Science degree in Child and Family Studies (CFS). In January 1997, she was accepted into the CFS doctoral program.