Economic hardship, family relationships, and adolescent distress

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Economic hardship, family relationships, and adolescent distress

Ho, Camilla Siu-Na, Ph.D.
Iowa State University, 1991
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Economic hardship, family relationships, and adolescent distress

by

Camilla Siu-Na Ho

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY

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For the Graduate College

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GENERAL INTRODUCTION

Many families throughout the United States have experienced economic hardship in the recent past. The most debilitating effect of economic hardship on families is not the deprivation of the material quality of life, but it is the psychological damage to the family members and the strain on the family relationships. Children and adolescents growing up in such a family context of stress are at risk of psychological maladjustments and behavioral problems as a direct and/or indirect result of economic hardship. Of particular concern are the adolescent children of these families because they are facing additional life stressors at a time of multiple changes in their development. However, very little research is available documenting the effects of economic hardship on these adolescents.

In order to have a better understanding of the causal processes that link economic hardship to adolescent distress, this dissertation aims to (1) examine existing literature on the relationship between life changes and stress during adolescence, (2) examine existing literature on the effects of economic hardship on families, and (3) investigate how economic hardship may affect the adolescent directly and how it may affect the adolescent through its effect on other family members. Economic hardship has been studied using different measures. Some researchers have defined economic
hardship as a loss of 30 per cent or more of the income being earned (Elder, 1974; Elder, Van Nguyen, & Caspi, 1985; Moen, 1980; Walper & Silbereisen, 1987). Others have measured economic hardship by focusing on income-loss necessitated adjustments in the family's style of living (Lempers, Clark-Lempers & Simons, 1989). Still others have investigated economic hardship by looking at the effects of transitional changes in employment status or of underemployment (Flanagan, 1990). Lastly, economic hardship has been studied by comparing permanently unemployed and employed families (Galambos & Silbereisen, 1987). The present investigation defines economic hardship as a perceived inadequacy of income for meeting family needs. This study attempts to capture the impact of economic hardship on adolescents in families suffering from economic stress due to the agricultural crisis in the farm belt of midwestern United States.

Explanation of Dissertation Format

This dissertation contains three sections, each of which addresses one of the aims stated above. The first section (Section I) addresses the first aim of the dissertation. It is a literature review on life changes and stress during adolescence. Section II addresses the second aim of the dissertation. It is a literature review on the effects of economic hardship on families. The last section (Section III) contains a manuscript, which describes an empirical study
examining the direct and indirect impact of economic hardship on adolescent distress. The study examines some of the first year data of a 3-year longitudinal, prospective study, called the Iowa Adolescence project (Lempers & Clark-Lempers, 1988). It is designed to address the third aim of the dissertation.

In Section I, the rationale for the importance of studying adolescents in stressful times such as family economic hardship is presented. In Section II, findings of the effects of economic hardship on parent-adolescent relationships, on marital relationships, and on children and adolescents will be examined. Also, issues such as parental differences in effects, sex and age differences in effects, mediated and conditioned effects as well as shortcomings of previous studies will be discussed. The manuscript in Section III includes an introduction of the rationale, focus and hypotheses of the study, a method section, a result section, and a discussion of the results. This study was built on the previous theories and findings that are reviewed in Section I and Section II.

A summary of the dissertation as well as suggestions of practical and research interest are presented in the general summary and implications section following Section III. Appendices at the conclusion of this dissertation include samples of correspondence used, and figures and tables which present models and results of the analyses carried out on the
data. Finally, references for the review paper and the research manuscript are provided immediately after each of these sections. References for the general introduction and general summary are cited following the general summary at the conclusion of this dissertation.

The author assumes responsibility for accuracy in presentation and interpretation of the data. Raw data were obtained from the principal investigators of the Iowa Adolescent Project, Department of Human Development and Family Studies, Iowa State University, Ames.
SECTION I: LIFE CHANGES AND STRESS DURING ADOLESCENCE
LITERATURE REVIEW

Life Changes and Stress during Adolescence

Introduction

Recent changes in the economic conditions of families in the United States have led to an increase in public and scholarly interest in the effects of job loss and economic hardship on families and children. Economic hardship has been found to be associated with a variety of family problems such as role strain on family members (Bowman, 1988), reduced quality of family life (Voydanoff & Donnelly, 1988), and marital separation (Sawhill, Peabody, Jones, & Caldwell, 1975). However, the effects of economic stress on children and adolescents are less well understood due to a scarcity of research on this area. In the following literature review, the rationale for the importance of studying adolescents in stressful times such as family economic hardship will be discussed.

Historical Perspectives on the Study of Adolescence

Traditionally, the adolescent period has been regarded as a time of profound inner turmoil, and outward conflict (Powers, Hauser & Kilner, 1989). The concept of storm and stress in adolescent development was originated by Hall (1904). The storm and stress theory has, in particular, brought attention to the relationship between physical and psychological changes during adolescence. Hall (1904) viewed
physical development in adolescence as saltatory instead of continuous. He linked this saltatory physical change to psychological disturbance. Psychoanalysts like Freud (1958) also proposed that turmoil was a necessary aspect of adolescent development and normal personality integration.

Later in the century, more specific and positive information on adolescence has been integrated into various stage theories of development. Examples of these are the theory of cognitive development by Piaget (Inhelder & Piaget, 1958) and the psychosocial developmental theory of Erikson (1959, 1968).

Recent research on adolescence has shifted from stage-oriented approaches to process-oriented approaches (Keating, 1987). Development in many areas is now regarded as involving continuous processes, rather than transformations from one qualitative stage to another (Petersen, 1988). Also, there is increasing recognition that these processes involve interactions between the individual, other people, and the environment (Lerner, 1981). There are three major areas of current research on adolescent development: (a) adolescent adjustment versus turmoil, (b) puberty and its effects in early adolescence, (c) adolescent-family interactions (Petersen, 1988).

The first area of research documents that whereas early adolescence certainly forms a time of transition, this
transition does not lead to significant psychological difficulties, at least in a sizable proportion of adolescents (Offer, 1969; Offer & Offer, 1975). However, Petersen and Ebata (1987) have indicated an increasing divergence over the adolescent decade between those who adjusted well to the transition, and those who did not. They suggest that the latter group may internalize their difficulties, and express them as depression, delinquency, and drug abuse.

The second area of current research in adolescence focuses on puberty and its effect on psychological functioning. This research suggests that puberty by itself does not bring psychological turmoil (Petersen, 1988). Most of the perceived effects are mediated by or interact with social and psychological elements (Brooks-Gunn & Warren, 1987).

The third area of current research focusses on adolescent-family interactions (Petersen, 1988). This research examines the reciprocal effects of the family on the adolescent (Block, Block & Gjerde, 1986; Steinberg, 1981). Results of these studies suggest that the family context at the beginning of puberty affects the quality and intensity of adolescent-parent interactions. Also, pubertal change is a signal to an emerging adult status. This signal influences the nature of the adolescent's interactions with his/her parents (Petersen, 1988).
Sources of Stress during Adolescence

One of the most consistent findings among current research studies is that adolescence is a time of multiple and rapid changes (Powers et al., 1989; Simmons & Blyth, 1987). For this reason, it is likely that an additional major life change such as a sizable drop in family financial income would make adolescent-parent relationships more stressful.

During adolescence, biological, psychological, and social factors interact at an accelerated rate to shape a person's development (Brooks-Gun & Petersen, 1983; Hill, 1987; Petersen, 1988). School transitions, changes in social roles, and pubertal growth factors interact to influence the mental health and developmental outcomes of adolescence (Blyth, Simmons & Carlton-Ford, 1983; Simmons, 1987; Simmons & Blyth, 1987). Each of these factors is potentially detrimental if change occurs at too young an age or at too fast a pace (Simmons & Blyth, 1987).

When children move out of an intimate, small school environment into a larger, more impersonal environment, they need to adjust. In the year before the school transition, sixth grade students are considered "top dogs" (Simmons & Blyth, 1987, pp. 213-214) in their school. In the year after the transition, they suddenly become "bottom dogs" (Simmons & Blyth, 1987, pp. 213-214). The transition from the highest position to lowest position in their environment may
constitute a source of stress for adolescents (Simmons & Blyth, 1987).

The timing of puberty or the rate of pubertal growth may be yet another source of stress. Simmons and Blyth (1987) tested the deviance hypothesis that early developers are at-risk in early years and late developers are at-risk in later years. They made an extreme split of a large sample of male subjects (N=894) into early, middle, and late developers. Early developers were those boys whose peak height growth was before Grade seven. Late developers were those boys whose peak height growth occurred after Grade nine. They found that in Grade six these early developing boys scored most negatively on 13 out of 26 of the variables as predicted, while these late developing boys scored most negatively on 3 out of 26 of the variables. Therefore, they concluded that for boys, there is evidence that negative outcomes are associated with extreme deviance in timing of pubertal onset (show asynchronies between their biological development and their grade level), whether it is early or late (Simmons & Blyth, 1987). Although Simmons and Blyth (1987) found no consistent widespread negative effects of puberty timing on adolescent girls, they found evidence that early developing girls show less satisfaction with aspects of their body image and poorer academic performance than other girls and are affected in peer relationships.
Another source of stress is related to the development of independence and autonomy. During the adolescent period, a transformation in relationships with parents takes place (Collins & Russell, 1988). There is an increasing sense of responsibility, dominance, and independence on the adolescent side of the relationship. At the same time, there is a decreasing sense of responsibility, dominance, and independence on the parent side (Pipp, Shaver, Jennings, Lamborn & Fischer, 1985). Boszormenyi-Nagy (1973) has suggested that a replacement process with learning of new behaviors is necessary for both parents and adolescents during this transition. Poor communication or unrealized expectations may provoke conflicts.

Because of the various social, social-cognitive, and cognitive changes that take place during adolescence (Lempers, Clark-Lempers, & Ho, in press), rules that used to be accepted by adolescents may now be considered invalid (Hunter, 1984). If adolescents question their parents' view, parents may be unwilling to give up their belief because they feel they have more life exposure than their children (Baumrind, 1973). Thus tension may be created. More tension over authority and independence issues between parents and adolescents can be anticipated particularly if parents are preoccupied with financial worries affecting the whole family (Flanagan, 1990). These parents tend to become more autocratic, which in turn
tends to promote conflicting relationships with their adolescents (Sheldon & Fox, 1983).

Moreover, when parents are burdened with financial stress, parental supervision and monitoring of the adolescent is expected to decrease (Patterson, Dishion & Bank, 1984). Adolescents may be pressed into early independence. Early independence from parental supervision and monitoring before the school transition is often associated with low self-esteem, low grade point average, problem behavior, and victimization after the transition because children may not be mature enough for such loose supervision by parents (Simmons & Blyth, 1987).

Finally, there are mixed results relating to the effects of early popularity with the opposite sex, and early dating. There is some evidence that early dating is associated with problem behavior in school and with a low grade point average. The new importance of opposite-sex relationships may be yet another type of change that adolescents need to adjust to (Simmons & Blyth, 1987).

**Focal Theory of Change**

Coleman (1974) has proposed a focal theory of change. He has suggested that, in early adolescence, it is easier to adjust to life's changes one at a time than to make all the transitions simultaneously. Coleman's theory is supported by Simmons and Blyth's (1987) findings, for both boys and girls,
that those who experience a greater number of major life changes in early adolescence are at greater risk of negative outcomes, such as low self-esteem, low grade point average, and low extracurricular participation.

In general, great discomfort results for adolescents when change comes too suddenly, too early, or too frequently. Such adolescents are likely to have adjustment problems both at home and in other social environments (Simmons & Blyth, 1987). Therefore, a major crisis such as economic hardship may constitute an additional source of life change and stress for the adolescent to cope with. Based on the focal theory of change, it is expected that the adolescent who has to deal with this additional change, will face greater risk of experiencing the detrimental effects of change.

Simmons and Blyth (1987) have further expanded on the focal theory of change. They proposed that if the individual is comfortable in some environments, life situations, and relationships, discomfort in others can be endured more easily. Under normal circumstances, the various dimensions of the parent-adolescent relationship should constitute an important environment of affection and intimacy in which the adolescent can feel comfortable. However, when these parental provisions are disrupted under economic hardship, even a comfortable relationship may turn into an additional source of stress for the adolescent (Simmons & Blyth, 1987). For these
reasons, the study of the effects of family economic hardship on adolescents' functioning is of particular importance.

**Economic Hardship, Family Relationships, and Adolescents**

According to Sullivan (1953), different relationships can be perceived as providing for different social needs that emerge during certain stages of development. If these social needs are not met, an individual will experience negative emotions. The specific emotions experienced vary depending on which provision is missed (Weiss, 1974). Moreover, different types of relationships such as the parent-child, the sibling, and the peer relationship are conceptualized as overlapping and complementary to each other (Furman & Buhrmester, 1985). Understanding how different relationships facilitate the development of self-worth, provide opportunities for affection, companionship, and intimacy, foster a sense of reliable alliance, and serve as contexts for nurturant behavior may give insight into how adolescents perceive the importance of the different relationships at various periods in their development (Furman and Buhrmester, 1985).

In a study investigating how young, middle, and late adolescents compared the relative functional importance of their relationships with their significant others, Lempers and Clark-Lempers (in press) found that mothers and fathers were perceived as highly important sources of affection and reliable alliance. They reported that parents were
consistently ranked the highest among all sources of affection and reliable alliance. These results were consistent with earlier findings by Furman and Buhrmester (1985) and Pipp et al. (1985) indicating the importance of parental warmth, love, and unconditional support in the adolescent's life.

A positive parent-adolescent relationship is critical to optimal adolescent development. For example, parental affection or parental warmth has been found to be related to ego and self-esteem development (Baumrind, 1971; Bowlby, 1973; Grotevant & Cooper, 1985; Greenberg, Siegel & Leitch, 1983; Hauser, Powers, Noam & Bowlds, 1987; Hauser, Powers, Noam, Jacobson, Weiss & Follansbee, 1984; Pipp et al., 1985), to development of positive peer relations (Coopersmith, 1967; Elder, Caspi & Downey, 1985; Hoffman, 1970), and to optimal adoption of society's standards (Baruch & Barnett, 1979, 1983; Mussen & Rutherford, 1963; Payne & Mussen, 1956; Radin, 1978; Radin & Sagi, 1982; Sears, Maccoby, & Levin, 1957). A close relationship with parents has also been found to be related to the adolescent's sense of security and well-being (Greenwald, 1980), mental and physical health (Gottlieb, 1981; Mueller, 1980), psychosocial adjustment (Biller, 1971; Lamb, 1981, 1988), and stress reduction (Gore, 1978; Nuckolls, Cassel & Kaplan, 1972).

In contrast, a parent-child relationship that is lacking in warmth, affection, understanding, and/or reliable alliance
is associated with undercontrolled behavior, aggression, and acting-out behaviors (Cameron, 1977, 1978; Dodge, 1983; Elder et al., 1985; Garbarino, 1980; Montemayor, 1983; Offer & Offer, 1975; Pattersen et al., 1984; Rutter, 1980; Straus, Gelles, & Steinmetz, 1980). Therefore, a negative parent-adolescent relationship is expected to be predictive of behavior problems in adolescents. However, there is always the possibility that both the negative parent-child relationship and the child's emotional/behavioral problems are caused by the same external factor.

Research evidence indicates that a combination of losses of power and status, a lack of openness and communication between spouses, and marital conflict over monetary matters during times of economic hardship may lead to or exacerbate a poor marital relationship (Cavan, 1959; Elder, 1974; McLoyd, 1990; Moen, Kain, & Elder, 1983; Stouffer & Lazarsfeld, 1937; Voydanoff, 1980). Some researchers (Elder, 1985; Rutter & Garmezy, 1980) propose that the marital relationship plays a very important role in mediating the effect of economic hardship on the parent-child relationship. Others suggest that a poor marital relationship affects children by subjecting them to a background climate of anger at home (Cummings, Zahn-Waxler, & Radke-Yarrow, 1981). However, research findings have been inconsistent regarding the effects of marital relationship on the parent-child relationship and
on child functioning. In particular, little is known about the relationship between these variables and their effects on the adolescent children in families experiencing economic hardship.

Conclusion

Based on the existing knowledge on adolescent development, the focal theory of change (Coleman, 1974), and the theory of social provision (Weiss, 1976), adolescent children of families suffering from economic hardship appear to be especially at risk of suffering the direct and the family-mediated effects of economic hardship. Research evidence indicates that how the parent-adolescent relationship and the parents' marital relationship are affected by family economic hardship may have great implication for adolescent development. However, very little attention has specifically been given to adolescents in past research that examined the effects of economic hardship on families. In order to have a better understanding of the possible adverse effects of economic hardship on adolescents, it is important to study both the direct and the indirect effects of economic hardship on adolescents.
REFERENCES


SECTION II: EFFECTS OF ECONOMIC HARDSHIP ON FAMILIES
LITERATURE REVIEW
Effects of Economic Hardship on Families

Introduction

The effect of economic hardship on adolescents may be direct and/or indirect. The direct effect is related to the fact that economic hardship is an additional source of stressful life changes for the adolescent to cope with during a period of rapid changes in development. The indirect impact of economic hardship on adolescent distress is mediated through a network of relations between groups and institutions that encompasses the developing child called the exosystem (Bronfenbrenner, 1986). One of the most powerful exosystems for children and adolescents is the family. In order to have a better understanding of the relationship between family economic stress and adolescents’ distress, it is necessary to examine both the direct effect of economic hardship on adolescents and the effects of economic hardship on families.

In this literature review, findings of the effects of economic hardship on parent-adolescent relationship, on marital relationship, and on children and adolescents will be examined. Also, differences between parents, between boys and girls, and between younger children and adolescents will be examined. Direct and indirect effects, mediated and conditioned effects in relation to economic hardship will be
discussed. Finally, an evaluation of the methodology and designs of previous studies is presented.

**Effects on Parents and Parent-Child Relationships**

There is strong evidence that economic decline adversely affects the mental and physical well-being of parents. To make up for loss of income, families may need to reduce expenditure, withdraw savings to pay bills, seek loans, sell possessions or apply for public assistance. They will need to adopt at least some, if not all, of these measures. These measures are psychologically stressful for parents to undertake (McLoyd, 1990).

Other stressful events associated with economic loss are involuntary relocation, entry of the wife or the children into the work force, and a breakdown of marital relations (Buss & Redburn, 1983; Elder, 1974; Elder, Conger, & Foster, 1989; McLoyd, 1989). Most often parents have to deal with a combination of these after a sudden income loss.

Due to the psychological distress parents experience as a result of economic decline, they tend to become both physically and psychologically inaccessible to their children (Greenley, 1979). For example, Lempers, Clark-Lempers, and Simmons (1989) have documented that economic hardship decreases parental nurturance and increases inconsistent parental discipline. Their results are consistent with
findings of previous studies that stressed parents are less likely to use child-centered, supportive, and loving-oriented parenting, and are more likely to adopt arbitrary, punitive, and rejection-oriented types of parenting (Conger, McCarty, Young, Lahey, & Kropp, 1984; Lahey, Conger, Atkeson, & Treifer, 1984; Maccoby & Martin, 1983; Patterson, 1986).

Stressed parents are generally more autocratic and are less likely to involve their children in family decisions. As a result, adolescents in these families experience less autonomy and more conflict with their parents (Sheldon & Fox, 1983). Flanagan (1990) studied the effects of changing work status on parent-adolescent relationship during a two years period. The study was conducted in communities where car and car-related manufacturing were the main industries. Flanagan (1990) showed that adolescents in families experiencing job loss reported more conflict with their parents. In contrast, adolescents in families recovering from economic hardship within a two years period reported less conflict with their parents.

Economic hardship also reduces parental support for children. Galambos and Silbereisen (1987) have reported that parents experiencing economic hardship are more depressed about the future of their children. They feel less competent in helping their children choose future careers. They are less likely to encourage their children to finish college
(Flanagan, 1988). They are more likely to lower their expectations for their children's education (Larson, 1984). They are also less available to help their children with their homework (Eisenberg & Lazarsfeld, 1938).

In addition, material supplies and monetary provisions are likely to be affected. Reductions in money and accessories for social activities for all family members may be interpreted by children as a decrease in parental support (McLoyd, 1989), and family disputes may arise during the period of accommodation in spending habits (Jahoda, 1979).

In extreme cases, child abuse and neglect may be the result. As Siegal (1984) has suggested, economic deprivation exacerbates conflict within the family and lowers the child's appreciation of parents. These may be precursors to child abuse behavior (Garbarino & Crouter, 1978). Straus, Gelles, & Steinmetz (1980) have indicated that child abuse is related to unemployment and work role difficulties. Steinberg, Catalano, and Dooley (1981) have also reported that periods of depression in the work force are followed by significant increases in child abuse. Victims of child abuse in these studies include infants, young children, and teenagers up to seventeen years old. In general, both the incidence rate and the chronicity are lowest for infants, rise sharply to a peak at ages three and four, and decline thereafter (Wauchope & Straus, 1989).
In conclusion, as McLoyd (1990) has pointed out, psychological distress in the form of anxiety, depression, and irritability is intensified by economic hardship. Psychological strain promotes a style of parenting that is punitive, inconsistent, self-centered, and nonsupportive. Under these circumstances, the parents are more likely to adopt disciplinary strategies that require less time and effort. Depression tends to channel the parents’ attention to the child’s negative behavior and away from the positive behavior. These parenting behaviors lead to a vicious cycle of negative parent-child interaction, which in turn strain the parent-child relationship.

Effects on Fathers and Father-Child Relationships

Fathers have been found to show many distress symptoms as a result of economic hardship. According to McLoyd’s (1989) review, some of the distress symptoms of unemployed men include feelings of depression, anxiety, hostility, victimization, and dissatisfaction. The unemployed men have lower self-esteem, a higher level of loneliness, depression and social isolation (Johnson & Abramovitch, 1985). They drink more alcohol, are more prone to psychosomatic disorders (Karl & Cobb, 1970; Slote, 1977), have more eating and sleeping problems, and are at higher risk for psychiatric symptomology and for suicide (Buss & Redburn, 1983; Gary,
The effect of economic hardship on unemployed men may be related to the fact that work has been traditionally a very important part of a man's life. Work is a basic role in American society and is regarded as a desired and socially valued activity (Voydanoff, 1983). The physical and psychological significance of work includes structuring of time, material support, social contacts, a sense of identity and purpose, and a sense of self-worth (Jahoda, 1982). With a loss of time structure, the unemployed worker loses contact with the passing of time during the day. He also loses the social experiences with people outside the family. He feels that he has lost status and identity as a result of not being able to fulfill his work role (Larson, 1984).

Another pathway by which economic loss adversely affects psychological and physical well-being of a man is through an increase in the person's vulnerability to other stressors. People who have experienced economic loss have been shown to be more vulnerable to the negative effects of other life events. Their ability to cope with new problems and difficulties is weakened (McLoyd, 1990).

Elder and his colleagues found that during the Great Depression, fathers who were under economic stress became more irritable, tense, and explosive. This in turn affected the
way in which they disciplined their children. These fathers became more punitive and arbitrary in interacting with their children (Elder, 1974, 1979). Komarovsky (1940) reported that fathers under economic hardship appeared to lack the energy and patience needed to resolve problems experienced with their children. The behavior of the fathers was related to negative emotional and behavioral outcomes in young children, particularly boys. The fathers' behavior also adversely affected the psychological well-being of adolescent girls (Elder, 1979; Elder, Liker, & Cross, 1984; Elder, Van Nguyen, & Caspi, 1985b).

Unemployment increases the time that the father stays at home with his children. The additional time that unemployed husbands spend at home does not help normal family routine and so often causes family tension (LeMaster, 1975). McLoyd (1989) has suggested that greater father-child contact increases the father's opportunity to engage in conflict and harsh treatment of the child. This is also supported by Lamb (1988), who has suggested that fathers who are forced to be involved with their children tend to promote negative outcomes.

Although the father may believe that the opportunity to spend time with his children is beneficial to both parties, the father's negative emotional state relating to his job loss often affects his parenting behavior and prevents him from
enjoying the time he spends with his children (Johnson & Abramovitch, 1985). The increase in contact also makes him more aware of the children's negative aspects and behavior (McLoyd, 1989). This awareness may in turn increase negative father-child interaction and strain the father-child relationship. In most cases, the longer the unemployment, the more negative the father's description of the children becomes (Johnson & Abramovitch, 1985).

Another factor leading to the deterioration of the father-child relationship during economic hardship is an increase in conflict relating to financial matters. During the Great Depression, fathers often lost authority over their teenage children because lack of money took away this means of control (Komarovsky, 1940). Conflict and family instability are also associated with a negative image of the father due to loss of income (Siegal, 1984).

Moreover, Douvan and Adelson (1966) have proposed that boys tend to be more concerned about establishing independence from parental control, and therefore, have more conflict with their parents. This might be especially true during times of economic strain on the family. When the father's work status is unstable, boys may lose respect for their fathers and are more readily to challenge paternal authority (Flanagan, 1990).

Bakke (1940) observed that during the Great Depression, there was greater hostility and rejection from the child
toward the father's punitive disciplining behavior if the child or the mother had substituted in the father's role as the family's chief provider. A vicious cycle resulted in which the father became even more arbitrary and controlling toward the resistant child.

Child abuse represents an extreme form of punitive parenting. It happens more frequently in families enduring economic hardship (Garbarino, 1976; Parke & Collmer, 1975; Steinberg et al., 1981). For example, Straus et al. (1980) found that child abuse occurs twice as often in families with fathers who are employed part-time. Justice and Duncan (1977) indicated an increased risk of child abuse for a number of populations. Unemployed fathers caring for their children at home comprise one of the high risk groups. Although infants and young children experience the highest rates of abuse, teenagers are by no means immune. In most of the studies examined, both children and teenagers are involved.

In summary, income loss leads to psychological distress for the father. Poor psychological well-being of the father, together with an increase in involuntary involvement with his children, predispose negative parenting behavior. The father's negative parenting behavior in turn promotes negative father-child interactions. Frequent negative father-child interactions strain the father-child relationship. Alternatively, a poor father-child relationship may be the
result of a negative perception of the father due to his income loss or his decrease in ability to provide emotional and financial support, irrespective of his behavior. Therefore, the father-child relationship rather than the father's behavior may be the key variable in the family mediation of the effects of economic hardship.

**Effects on Mothers and Mother-Child Relationships**

Little research is available to link income loss to the mother's parenting behavior. Therefore, the review for this section has to rely mostly on findings relating to single mothers' mental health and findings relating life stress events in general to maternal behavior and the mother-child relationship.

Research on parent-child relation in single-mother families provides some support for the adverse effect of economic hardship on mothers' parenting behaviors. Single mothers are found to be more vulnerable to stressful life events such as income changes and unemployment (McLanahan, 1983; Weinraub & Wolf, 1983). Although there may be a confounding relationship between single parenting and income loss, research consistently indicates that single mothers who are poor tend to have more mental health problems and psychological distress (Belle, 1984; McAdoo, 1986; Pearlin & Johnson, 1977; Guttentag, Salasin, & Belle, 1980). These mothers have less social support system and often find the

Because of the increased psychological stress related to marital problems, financial strain, burden of single parenting, and feelings of dehumanization, the quality of their parenting is likely to deteriorate and the children's well-being is indirectly affected. For example, the utilization rates of mental health services by children six years or younger living in single-parent households (mostly headed by single mothers) is four times higher than that of children living in intact families (Guttentag et al., 1980). Mother-only households are shown to be associated with less degree of adolescent monitoring and higher degree of adolescent deviance (Dornbusch, Carlsmith, Bushwall, Ritter, Leiderman, Hastorf, & Gross, 1985).

There is evidence that stressful experiences produce changes in the child-disciplining styles of the mother. There is a significant increase in maternal use of aversive, coercive discipline which, in turn, contributes to the antisocial behavior in the child (Patterson, 1988; Patterson, DeBarsyshe, & Ramsey, 1989). Also, the mothers' tendency to initiate and continue a negative interaction with their children is proportionally related to the current frequency of crises the mothers are undergoing (Patterson, 1988). Mothers who reported high emotional distress, as compared to the
control group, displayed fewer positive behaviors and more negative behaviors toward their children (Conger et al., 1984). Furthermore, maternal depression and emotional distress have been found to be related to physical abuse in severe cases (Crnic & Greenberg, 1987).

McLoyd (1989) proposes that the changes in the child-disciplining style of the mother are mediated by the emotional distress experienced by the mother under stressful life events. For example, Liem and Rayman (1982) found that negative consequences for wives of unemployed men increased with length of unemployment. The unemployed mothers were progressively more depressed, anxious, and sensitive about interpersonal relationships. When they are overburdened and feeling harassed by stressful life events, mothers lack concentration and patience to reward, explain, consult, and negotiate with their children. As a result, they are more likely to use power-assertive techniques in child discipline (McLoyd, 1989).

In addition to these changes in their child-disciplining style, mothers who are under psychological stress display less nurturance (Weinraub & Wolf, 1983) and a lower level of supportive behavior toward their preschool age children (Warr & Parry, 1982; Zelkowitz, Saunders, Longfellow, & Belle, 1979). These behaviors are believed to be mediated by poor
mental health on the part of the mothers who are affected by work and financial demands (Siegal, 1984).

In general, the more stressed and depressed the mothers are, the less sensitive they are to their school age children's developmental needs and the more hostile and controlling they are to their children's negative behaviors (Longfellow, Zelkowitz & Saunders, 1982). In the extreme cases, highly depressed mothers are known to shout and slap at their preschool age children and child abuse might be the result (Panaccione & Wahler, 1986).

Because of the negative changes in the mothers' parenting behavior under life stress, there is often an unfavorable change in the children's perceptions of the mothers and in behavioral problems involving the children at home (Siegal, 1984; Zelkowitz et al., 1979). The mothers and the children may blame each other and, therefore, the mother-child relationship is strained.

In summary, under stressful life circumstances, there is a decrease in nurturance and support, and an increase in a power-assertive disciplinary style of mothers' parenting behaviors. Children may react to these changes by displaying problem behaviors at home. The mothers and the children gradually develop mutually unfavorable perceptions of each other and a deterioration of the mother-child relationship ensues.
Because financial hardship is a potentially stressful life event for a mother, it is speculated that financial hardship may affect the mother and the mother-child relationship in a way similar to other life stresses. Indeed, there is some evidence in a recent study that wives of unemployed men may be affected through a similar mediational process that mediates the effect of economic hardship on their unemployed husbands (Dew, Bromet & Schulberg, 1987). However, it should be pointed out that Elder’s work on the Great Depression indicated that economic hardship affected mainly the father - not the mother (Elder, 1974; Elder, 1979; Elder et al., 1984, 1985a). Therefore, existing evidence on the effect of economic hardship on maternal parenting behavior and mother-child relationship is inconclusive. In studying the effect of economic hardship on adolescent distress, future research needs to consider both parents in the mediation processes.

**Effects on the Father-Mother Relationships**

Economic hardship exacerbates marital conflict and encourages marital dissolution (Atkinson, Liem, & Liem, 1986; Bowman, 1988; Perrucci, Targ, Perrucci, & Targ, 1987). This effect is true both for families with and without children (Bishop, 1977; Furstenberg, 1976). There are several sources of stress on the marital relationship under economic hardship (McLoyd, 1990).
Firstly, during period of financial hardship, families have to cut costs in food, clothing, transportation, recreation, and housing (Voydanoff, 1980; Voydanoff & Donnelly, 1980). There may be disagreement and conflict over the use of the limited money available in these circumstances. This lessens the ability to solve problems together, and increases hostility and emotional stress for both the father and the mother (Elder, 1974; McLoyd, 1990).

Secondly, when the husband and the wife are both under psychological stress, they are less likely to express love and respect toward each other. This, in turn, leads to a poor relationship (Elder, 1974).

Moreover, if the income loss is mainly caused by the father's job loss, the mother will often become more important in family decision-making. This change can weaken family unity and increase marital tension (Elder, 1974; Johnson & Booth, 1990; Rosenblatt & Keller, 1983; Wilhelm & Ridley, 1988; Zvonkovic, Guss & Ladd, 1988). If the wife or other family member takes on the role of chief wage earner, the family relationships would become even more adversely affected (Cavan, 1959; Stouffer & Lazarsfeld, 1937). This disorganization and rearrangement of roles has a specially strong negative effect on marital adjustment and communication if the husband has strong traditional family role orientation.
(Angell, 1936; Bakke, 1940; Cavan & Ranck, 1939; Komarovsky, 1940).

Finally, in the context where the marital relationship is fragile before the income loss, economic hardship would intensify the tension between the husband and the wife (Moen, Kain & Elder, 1983). In the extreme cases, the effects of economic strain can result in marital separation or divorce (Sawhill, Peabody, Jones, & Caldwell, 1975).

In summary, a combination of losses of power and status, a lack of openness and communication between spouses, and conflict over monetary matters during times of economic hardship may lead to or exacerbate a poor marital relationship. Also, the destructive effects of economic hardship affect both the husband’s and the wife’s attitude toward the each other. Therefore, it is expected that both the husband’s and the wife’s perception of marital happiness are diminished.

Some studies have indicated that marital conflict is associated with negative outcomes in child development (Emery, 1982; Emery, Weintraub, & Neale, 1982; Hetherington, Cox, & Cox, 1985; Patterson, 1982; Porter & O’Leary, 1980; Schneider Rosen & Cicchetti, 1984) and with child disturbances (Block, Block, & Morrison, 1981; Emery & O’Leary, 1984; Framo, 1965; Haley, 1967; Rutter, 1971; Webster-Stratton, 1989; Whitehead, 1979). Similar results have also been found with early
adolescents (Long, Forehand, Fauber, & Brody, 1987). In particular, some studies emphasize the point that it is marital discord instead of the breakup of the home per se that is responsible for the negative effects on children (Cummings, Zahn-Waxler, & Radke-Yarrow, 1981; Hess & Camera, 1979; Rutter, 1971). The relationship between economic hardship, marital relationship, and child outcomes will be discussed later under the heading of mediated effects.

Parental Differences in Response to Economic Hardship

Research on the Great Depression has repeatedly demonstrated the more salient effect of economic hardship on fathers than on mothers. These studies have also indicated that the father-child and the mother-child relationships were not affected similarly.

Liker and Elder (1983) indicated that financial strain most directly influenced the behavior of the male breadwinner. They reported that men became more anxious, explosive, and irritable, while very few of these behaviors were observed among mothers. They explained the difference in effect on fathers versus mothers by proposing that women were deprived of family support and peace of mind when their husbands had an income loss or job loss. For men, job or income loss might mean losing a major dimension of their social significance because it was the traditional role of a man to be the breadwinner of the family. Negative effects of unemployment
on the fathers are especially evident in families with dependent children, because the fathers often perceive unemployment as personal failure (Schlozman & Verba, 1978). On the other hand, women can obtain satisfaction and self-definition from the alternative roles of wives and mothers even during hard economic situations (Warr & Parry, 1982).

Fathers and mothers are affected to a different extent in their parenting behavior. Elder et al. (1984) demonstrated that economic loss during the Great Depression was associated with rejecting, non-supportive, and indifferent behavior on the part of the father. However, for mothers none of these parenting behaviors were found to relate to income loss. Similarly, Elder et al. (1985b) reported that the effects of economic hardship on children’s lives were mediated through the rejecting behavior of the father, but not through maternal behavior. They again suggest that economic adversity is typically the first-hand experience of men. They propose that because it is the traditional role of a man to be the chief provider of the family, income or job loss has a more personal impact on a man than on a woman. In general, they conclude that economic hardship increases the asperity of men, but not women.

Income loss, or unemployment, often leads to rearrangement of roles within the family. Elder (1974) found that when the father was unemployed during the Great
Depression, the role sphere of wives and mothers increased significantly. This was especially true if the wife took a job (Stouffer & Lazarsfeld, 1937). These socioeconomic adaptations tended to decrease the mothers’ tendency to overcontrol and overprotect their children. As a result, there were fewer chances for mother-child conflict. In contrast, the increase in father-child contact after unemployment increased the opportunity for harsh treatment of the children by the father, and for father-child conflict. Harold-Goldsmith, Radin and Eccles (1988) concluded that for financially strained fathers involvement with children might be characterized as an increase in quantity but not in quality.

In fact, there is some evidence that the mother’s image may be improved while the father’s image may be damaged in the eyes of the children. Elder (1979) indicated that under economic pressure in the 1930s the household shifted toward a labor-intensive economy that enlarged the role of the mother. There was a decrease in the father’s involvement in decision making. This might have resulted from a loss of power associated with unemployment and/or from the subsequent withdrawal of the father from the family following the loss of his role as the family’s provider (Hymowitz, 1982; Kelvin, 1981; Komarovsky, 1940). These fathers also had decreased participation in socialization of their children at home.
(Bakke, 1940). This led to changes in family dynamics. The mother’s dominance in decision-making tended to increase the positive image of the mother. Also, the mother became a more dominant authority and affectional figure for the children. On the other hand, the father became less influential and less appealing as a model (Elder, 1974, 1979).

In summary, during the Great Depression, there were more intense effects of economic hardship on fathers, fathers’ parenting behavior, fathers’ negative interaction with their children, and children’s negative image of the fathers. As a result, father-child relationships were affected badly; mother-child relationships were not adversely affected and may even be enhanced.

Unlike the situation in the 1930s, the contemporary mother is often employed in the work force. Today, work can be an important source of a mother’s identity, self-esteem, and satisfaction (McLoyd, 1989). Due to this kind of change in the structure of the society since the 1930s, the parental difference is likely to diminish today. Indeed there is some evidence that mothers today may be more vulnerable to the effects of economic hardship and are affected through a similar mediational process (Dew et al., 1987; Lempers et al., 1989). There is not enough information available to conclude that mothers in the 1990s are not be affected by income loss or job loss. As discussed in the previous section, economic
hardship may be considered to be a stressful life event for mothers and might affect their parenting behaviors and relationship with their children. This again points to the importance of studying mothers who are affected by current economic crises and seeing if and how this pattern may differ from the father’s.

**Effects on Children and Adolescents**

Whereas the effects of economic hardship on adults are often the focus of research, the consequences in the children of these effects on adults have been inadequately investigated. There is evidence that economic hardship creates stress for the unemployed man and that this stress trickle down through the family to affect the children (Bakke, 1940; Briar, 1983; Komarovsky, 1940; Liem & Rayman, 1982; Siegal, 1984). Economic hardship appears to be directly or indirectly related to a variety of socioemotional problems in children and adolescents.

First, parental unemployment is related to low self-esteem and ego development in children (Coopersmith, 1967; Isalowitz & Singer, 1986). There is evidence that these outcomes are mediated through an authoritarian style of parenting (Maccoby & Martin, 1983), a lack of parental warmth (Baumrind, 1971; Grotevant & Cooper, 1985; Greenberg, Siegel, & Leitch, 1983; Hauser, Powers, Noam, Jacobson, Weiss, & Follansbee, 1984; Hauser, Powers, Noam, & Bowlds, 1987;
Marcia, 1980; Mortimer & Lorence, 1979), and nonsupportive parenting (Coopersmith, 1967; Gecas, 1979; Rollins & Thomas, 1979).

The second negative child outcome tied to economic decline is poor peer relations (Elder, 1974; Langner, Herson, Greene, Jameson, & Goff, 1970). Poor peer relations may originate in the styles of interaction that children learn at home from their parents (McLoyd, 1990). The children may imitate the power-assertive and punitive style of parenting behavior that the parents display under economic stress. As a result, they learn to handle interpersonal conflict with aggression and forceful action (Downey & Coyne, 1990; Rollins & Thomas, 1979). Moreover, they learn less positive interaction strategies from their parents in initiating and maintaining positive peer interaction (McLoyd, 1990). Another reason for poor peer relations in children from families experiencing economic hardship is that these children may feel uncomfortable with peers because of the material losses and financial situation of their families (McLoyd, 1989). With time, these children become more distrustful and unsociable, and feel more isolated from peers (Buss & Redburn, 1983; Elder, 1974).

Thirdly, economic hardship is found to have both a direct and indirect effect on depression and loneliness in children and adolescents (Lempers et al., 1989; Werner & Smith, 1982).
Lempers et al. (1989) found that the indirect effects occurred through less parental nurturance and less consistent discipline. The direct effects might result from the adolescent's perception that the family conditions were beyond control. Depression might result from a feeling of helplessness. Beck (1976) has proposed that depression is a result of negative belief about oneself, the world, and the future. In addition, other studies have found that adolescent depression is strongly associated with feelings of emptiness and low self-concept (Battle, 1980; Carlson & Cantwell, 1982; Simons & Murphy, 1985). Economic change affects parents in such a way that they become physically and psychologically inaccessible to their children (Greenley, 1970). As a result, these children lose a measure of security and parental leadership and have few or no models of ambition and commitment (Siegal, 1984). The perception that events are unmanageable and helpless produces depression (Seligman, 1975).

Academic aspiration is also affected by economic hardship. Galambos and Silbereisen (1987) have indicated that parents undergoing financial strain are more depressed about their adolescent children's future. Flanagan (1988) has found that these parents feel incompetent as vocational models for their adolescent children. As a result, these parents are more pessimistic about their adolescent children's futures and
less confident in their abilities to help their children prepare for future careers. Larson (1984) reported that these parents are more likely to make negative changes in the education plans for their children and adolescents. These parents are less likely to send their children to a private school or to help their adolescent children with college expenses. Mott and Haurin (1982) indicated that financially stressed parents tend to lower their expectation on their children's and adolescent's education, in particular that for their daughters. As reviewed in McLoyd (1990), these changes in parental expectations for their children's futures appear to lower the children's and the adolescents' academic aspirations. Adolescent children in these families have more financial concerns, less expectation of attending a four-year college, and more expectation of undergoing vocational training (Flanagan, 1988).

An outcome related to academic aspiration is academic performance. McLoyd (1989) has reviewed research from the 1930s and 1980s that reports declines in the school performance of children in families experiencing financial hardship. She suggests that the children's academic declines may be due to a combination of factors such as reduced aspiration, emotional and physical problems, and a lack of parental help with homework (Eisenberg & Lazarsfeld, 1938). Parental involvement appears to be particularly important to
children's academic performance. Hartup (1989) has suggested that mothers who are motivated to help their children in problem-solving tend to have more competent children. Their children are also more ready to accept help and guidance. Pulkkinen (1982) has shown that child-centered parents are associated with responsible and achievement-oriented children. Pruett (1983) has found a relationship between committed parents and children's cognitive competence. Therefore, when parental support diminishes under economic hardship, school performance of children deteriorates (Greenley, 1979).

Finally, economic hardship is found to be antecedent to children and adolescents' aggressive and antisocial behavior, such as drug use and delinquency. Authority and conduct problems with children are prevalent complaints in families with unemployed fathers (Bakke, 1940; Komarovsky, 1940).

Research evidence indicates that part of the effect of economic hardship on children and adolescents' aggressive and antisocial behavior is indirectly mediated through parenting behavior and the parent-child relationship. Studies during the Great Depression indicated that fathers under economic loss became more irritable, apprehensive, and emotionally unstable, which in turn increased their tendency to use punitive and arbitrary discipline on their children. This disruption of effective family management decreased the probability of problem-solving and increased the probability
of children's aggressive and antisocial behavior (Elder, 1979; Elder et al., 1984; Elder et al., 1985a; Elder, Caspi & Van Nguyen, 1986; Patterson, 1988).

Because of the increased development of independence and autonomy during adolescence (Collins & Russell, 1988), adolescents in particular often found it difficult to adjust to changes in their parents' behavior (McLoyd, 1990). Delinquency and drug use in adolescents were also found to be mediated through parenting behaviors. This indirect effect was shown mainly through the inconsistent parental disciplining aspect of the parents' behavior (Lempers et al., 1989).

These results are consistent with Patterson's work on children and adolescents' antisocial and aggressive behavior (Patterson, 1982, 1985, 1986). He has demonstrated that an extrafamilial stressor such as economic hardship decreases parental supervision of children and adolescents and disrupts parental disciplining skills. These parenting behaviors intensify negative family interactions and lead to a conflictual parent-child relationship. These family environments increase the probability of child disturbance, aggression, and antisocial behavior.

Another way in which economic hardship may produce behavior problems in children and adolescents is by creating a negative perception of parents in the children. Siegal (1984)
has suggested that economic hardship conveys an image of deprivation to children through the parents. Loss of income may require regulation and accommodation in spending habits that may in turn lead to family disputes (Jahoda, 1979). Also, when the fathers' work status is unstable, boys, in particular, may lose respect for their fathers and feel more free to challenge paternal authority (Flanagan, 1990). Moreover, fathers who are unemployed may lose authority with teenage children because of lack of money as a means of control (Komarovsky, 1940). In summary, children may not be understanding of adults who have lost the status of occupational role models in their perception. They may express this in a general disrespect for the adult working world and act out accordingly (Siegal, 1984). Hirschi (1969) has shown that boys who perceive their parents negatively are more likely to have behavior problems.

In summary, there is evidence suggesting that the distress outcomes of economic hardship on children and adolescents include low self-esteem, poor peer relations, loneliness and depression, reduced academic aspiration, lower academic performance, antisocial and aggressive behavior, delinquency, and drug use. These outcomes are likely to be caused directly by economic hardship or indirectly through poor parent-adolescent relationships.
One of the weaknesses of existing research is that only a limited number of outcomes has been investigated in each study. These studies often employ different methods of data collection and analysis. As a result, it is not possible to reach conclusions on whether outcomes are mediated, direct, or both, and the relative magnitude of effects for each outcome. Therefore, future studies need to include multiple distress outcomes so that these questions can be answered.

**Sex and Age Differences in Effects on Children**

Most of the available information on age and sex differences comes from the Depression Era family data. These findings were derived from two longitudinal studies (Elder et al., 1984). The Oakland study is a longitudinal study of 167 Californian children who were born in 1920-1921 and who grew up in the city of Oakland during the hardest years of the 1930s. Using the archival data of the Oakland Growth Study, Elder and his colleagues were able to follow the subjects from late childhood through early adolescence (1929-1936). The other data set is obtained from the longitudinal Berkeley Guidance Study. The 214 subjects of this sample were born between 1928-1929. They were from the city of Berkeley, California, and were followed through the 1930s and early 1940s.

The time table of the Oakland subjects enabled them to escape the developmental risks of a young child in the worst
years of the Depression. Moreover, they left school during a
time of increasing prosperity. By comparison, the Berkeley
subjects were in their childhood during the worst years of the
Great Depression (Elder, 1974). Through analyses and
comparisons of subjects from these two samples, Elders and his
colleagues were able to draw some conclusions regarding the
effect of economic hardship on children of different ages and
sexes.

Elder (1979) and Elder et al. (1984) have shown that
children who were one year old or less during the Depression
tended to display severe behavior disturbances five to ten
years later. Their findings indicated that these behavior
problems were mediated primarily through the father's punitive
discipline. Also, a sex difference in effects for this age
group was found. Boys were more vulnerable than girls to the
harsh treatment of the fathers. Elder et al. (1984) explained
that this occurred because mothers tended to be more
protective and supportive of younger daughters than younger
sons. As a result, these boys tended to have more
developmental problems during adolescence. On the other hand,
girls born during this period became more goal-oriented, self-
confident, and assertive than the nondeprived girls.

An inspection of the literature indicates no support for
the Elder et al. (1984) notion that mothers are more
protective of younger girls than of younger boys. However,
the sex differences in the effects of economic hardship in this age group may be accounted for by the following factors.

Infants of both sexes initially spend more time with their mothers than with their fathers. Later, young boys spend an increasing proportion of their time with their fathers, while young girls spend most of their time with their mothers (Maccoby & Jacklin, 1974). Therefore, there is a greater likelihood for boys to become the victims of the harsh treatment of the fathers.

Secondly, boys generally tend to receive more physical punishment than girls (Maccoby & Jacklin, 1974). Taylor and Epstein (1967) observed that there seemed to be a deep-seated constraint against imposing physical pain on girls. Block (1972) reported that mothers find it more difficult to punish their younger daughters than their younger sons. Therefore, under economic hardship, younger boys may receive even a greater amount of punishment from punitive parenting compared to girls.

Thirdly, Newson and Newson (1968) found that daughters receive more "chaperoning" than boys. Mothers are much more likely to meet a daughter after school and escort her home. Therefore, the additional time that girls are accompanied by their mothers may provide opportunity for the girls to obtain emotional support from their mothers.
According to Elder's findings (Elder, 1974; Elder et al., 1985b), for the group of subjects who were eight to nine years old during the Great Depression, a reverse pattern in this sex difference in vulnerability to the effect of economic hardship was found. Adolescent girls appeared to be more vulnerable than adolescent boys to the father's punitive behavior. These girls had a higher level of moodiness, hypersensitivity, feelings of inadequacy, and a lower level of aspiration. On the other hand, the boys appeared to be unaffected. In fact, the adolescent boys showed higher resilience and ego strength. The sex difference is believed to be related to the daughter's smaller size, strength, and her greater acceptance of the father's abusive behavior (Elder et al., 1985b), to her greater exposure to parental conflict, and to more time spent at home (Elder, 1974; Elder et al., 1985b).

The age difference in vulnerability to negative parental behaviors in younger versus older boys may be explained by the following factors. Younger children are more vulnerable and more dependent on their parents. They spend a longer period of time at home with their parents. They are exposed for a longer time to the effects of economic hardship, and they have a greater tendency to blame themselves for parental conflict. On the other hand, the age difference in the vulnerability of older versus younger girls to negative parental behaviors may be explained by the fact that maternal support is greater for
the younger girls than for the older girls (Elder, 1974, 1979).

Inconsistencies exist with respect to the sex difference for the adolescent group between the Depression studies and contemporary studies. Whereas Elder and his colleagues have indicated a sex difference in effects favouring adolescent boys, other studies have reported a reverse pattern in effects. There is evidence that under economic hardship, adolescent girls develop more emotional autonomy and self-reliance than adolescent boys (Steinberg & Silverberg, 1986). Adolescent boys tend to have more conflicts with their parents under these circumstances (Flanagan, 1990). Other researchers have found significant results for both adolescent boys and adolescent girls. For example, Lempers et al. (1989) examined the direct and the family-mediated effects of economic hardship on adolescent boys and girls. They found that the distress outcomes (loneliness, depression, delinquency, and drug abuse) were significant for both boys and girls. These inconsistencies between studies indicate that sex differences in distress outcomes in adolescence may be outcome specific. There is also a possibility that the factors which were responsible for the sex difference in the Depression studies, may not exist any more in today’s society. In order to have a better understanding of the relationship between economic hardship, distress outcomes, and gender differences, further
research is required to study the effect of economic hardship on different types of stress outcomes for both adolescent boys and girls separately.

**Mediator and Conditioner Variables**

Elder et al. (1985b) distinguished between two types of variables which link family economic hardship to children's lives. Mediator variables are variables which mediate the effect of income loss on children's functioning. An example of a mediator variable for the above relationship is parenting behavior (Lempers et al., 1989). Conditioner variables are subject characteristics that moderate an effect. An example of a conditioner variable which moderates the effect of parenting behavior on children's functioning under economic hardship is the child's physical attractiveness (Elder et al., 1985b, 1986).

**Mediator variables**

The two mediator variables of interest in the present study are the parent-adolescent relationship and the parents' marital relationship. Therefore, they will be discussed in detail.

**Parent-child relationship.** Elder and colleagues (Elder, 1974, 1979; Elder et al., 1984, 1985b, 1986) propose the family mediation model. They suggest that the adverse effects of stressful economic times on children are not direct, but are produced indirectly through the disorganizing
effects on the parents' behaviors. Specifically, they indicate that economic hardship increases children's socioemotional problems and the risk of developmental disturbances by increasing the punitive and arbitrary behaviors of parents, especially that of the father.

Liker and Elder (1983) demonstrated that in the Berkeley sample heavy income loss adversely influenced young children, especially boys, by increasing the rejecting and nonsupportive behaviors of fathers. Elder et al. (1985b) replicated this finding with an older cohort of adolescents from the Oakland Growth Study. They showed that economic hardship adversely influenced the psychosocial well-being of girls, but not boys, by increasing the rejecting behavior of fathers. Therefore, these results lend partial support for the family mediation hypothesis.

In contrast, in another study with adolescents, Lempers et al. (1989) found that family economic hardship had both direct and indirect effects on adolescent distress outcomes. The indirect effects were mediated through parental nurturance and parental discipline. However, they indicated that hardship effects varied according to the type of distress outcomes. For depression and loneliness, there were both direct and mediated effects. For delinquency and drug use, only indirect effects were found. The later indirect effects were mediated through inconsistent parental discipline.
Other possible distress outcomes associated with family economic hardship are low self-esteem (Coopersmith, 1967), poor peer relationships (Langner et al., 1970), and low aspiration (Flanagan, 1989). However, whether the effects are mediated or direct have not been investigated.

Although the mother-child relationship was not found to be affected during the Great Depression (Elder, 1974, Elder et al., 1984, 1985a), there are reasons to believe that mothers today may be more vulnerable to the effects of economic hardship and that the mother-child relationship might deteriorate under economic stress (Dew et al., 1987; Lempers et al., 1989).

Unlike the situation in the 1930s, the contemporary mother is often employed in the work force. Today, work can be an important source of a mother’s identity, self-esteem, and satisfaction (McLoyd, 1989). Due to this kind of change in the structure of the society since 1930s, the parental difference is likely to diminish today.

Moreover, findings from life-stress research have indicated that under stressful life circumstances, there is a decrease in nuturance and support and an increase in power-assertive disciplinary style of the mothers’ parenting behaviors (see literature review on effects on mothers and mother-child relationships). These behaviors are likely to promote a poor mother-adolescent relationship. Because
financial hardship is a potentially stressful life event for a mother, it is very probable that the mother-adolescent relationship would be negatively affected which in turn would mediate the negative effects onto the children.

In view of these discrepancies, it is important for future research to study both the direct and mediated effects of economic hardship on multiple distress outcomes in order to gain a more complete understanding of the processes involved. In addition, both the father-child and the mother-child relationship should be investigated.

**Marital relationship.** The parents’ marital relationship may be another mediational variable in the process. Some studies have indicated that marital conflict is associated with negative outcomes in child development (Emery, 1982; Emery, Weintraub, & Neale, 1982; Hetherington, Cox, & Cox, 1985; Patterson, 1982; Porter & O’Leary, 1980; Schneider-Rosen & Cicchetti, 1984) and with child disturbances (Block et al., 1981; Emery & O’Leary, 1984; Framo, 1965; Haley, 1967; Rutter, 1971; Webster-Stratton, 1989; Whitehead, 1979). Similar results have also been found with young adolescents (Long et al., 1987). In particular, some studies emphasize the point that it is marital discord, rather than the breakup of the home per se that is responsible for the negative effects on children (Cummings et al., 1981; Hess & Camera, 1979; Rutter, 1971).
Cummings et al. (1981) found that expressions of anger seemed to act as socioenvironmental stressors causing distress in young children. They suggest that repeated exposure to interparent anger increased the tendency of a negative emotional reaction by children and also of efforts by children to become actively involved in the conflicts. Based on these findings, some researchers propose that children in these families are affected through their exposure to a background climate of anger at home (Cummings et al., 1981; Emery, 1982; Shaw & Emery, 1987).

Other researchers (Baumrind, 1967; Elder, 1974; Ginsburg, 1942; Wallerstein & Kelly, 1980; Tschann, Johnston, Kline, & Wallerstein, 1989) suggest that the father-mother relationship may be a very influential factor in both the mother-child and the father-child relationship. They believe that it is through the parent-child relationship that the effect of marital quality on child functioning is produced. In cases where the marital relationship is negatively affected under economic hardship, the adverse effects of economic hardship on the parent-child relationship are intensified. In cases where the marital relationship is strong even under economic hardship, the adverse effects of economic hardship on the parent-child relationship are lessened.

During the Great Depression, the marital relationship had a powerful influence on the father-child relationship (Elder,
1974; Ginsburg, 1942). If the marital relationship was good, the mother was more likely to explain to the child the effects of economic strain on the father's behavior and to modify the action of the child toward the father. Moreover, the mother was more likely to be able to influence the father's treatment of the child. On the other hand, if the marital relationship was bad, the mother was less likely to teach the child to be sympathetic to the father. She was also less likely to try to modify the child's behavior toward the father. Also, she was less likely to be able to influence the father's action toward the child (McLoyd, 1989). Under these circumstances, the distressed father might displace his hostility and anger toward the mother to the child (Elder et al., 1989; McLoyd, 1990).

The marital relationship may have a significant impact on the mother-child relationship also. According to the family system literature (Fauber, Forehand, McCombs Thomas & Wierson, 1990), the marital relationship influences children's socioemotional development indirectly by altering the parent-child relationship. Margolin (1981) proposes that a negative relationship by the parents leads to a disruption in the parent-child relationship. A disruption in the parent-child relationship in turn leads to child adjustment problems. In particular, Margolin (1981) emphasizes the role of the mother-child relationship in the mediational process. Margolin (1981)
proposes that a poor marital relationship may distress the mother and distract her attention from her child. This has a detrimental impact on the mother-child relationship, such that the child as an individual is affected.

In general, harmonious marital relations are associated with supportive and affectionate parent-child relations. On the other hand, discordant marital relations are associated with hostile and aloof parent-child relations (Herrenkohl & Herrenkohl, 1981). Therefore, the marital relationship is seen as a mediator variable which mediates the effects of economic hardship on the parent-child relationship but not on the child outcomes.

However, a review of the literature indicates that there are no consistent findings regarding the relationship between marital relationship and parenting or parent-child relationship. On the one hand, there is some evidence supporting the relationship between marital satisfaction and good parenting in studies done with infants and younger children (Crnic, Ragozin, Robinson, & Basham, 1981; Crockenberg, 1988; Pedersen, 1982). On the other hand, other studies have supported an alternative hypothesis which proposes that there is a compensatory process occurring in the unhappy marriages such that a more child-centered parenting results as a compensation for the poor marital relationship (Brody, Pellegrini, & Sigel, 1986).
Still, a third group of studies (Cowan & Cowan, 1985; Goldberg & Easterbrook, 1984) have found both positive and negative effects of good marriages in the same study. Finally, some other studies have failed to find any effect of marital relationship on parenting (Belsky, Hertzog, Rovine, 1985; Grossman, Pollack, & Golding, 1988). There is a possibility that an extrafamiliar factor such as economic hardship stresses the entire family, triggering both marital and parent-child problems. External stressors on a family may simultaneously impact both the marital relationship and the parent-adolescent relationship.

In summary, the evidence is inconclusive on whether the quality of the marital relationship has an effect on child functioning. If there is an effect, it is not sure whether the effect is direct, indirect or both. Moreover, there have not been adequate data to conclude that the marital relationship plays a significant role in the development of the parent-child relationship. In particular, little is known regarding the relationship between these two variables for adolescent children.

Family outcomes following the impact of economic stress are the results of multiple factors and their interactions (McLoyd, 1990). Other mediator variables which moderate the effect of income loss on the father's and the family's psychological distress are: (1) The father's appraisal of the
event and his crisis-meeting resources (Voydanoff, 1980), (2) The father’s attribution of the cause of economic hardship to external factors (Buss & Redburn, 1983; Cohn, 1978; Gore, 1978; Kasl & Cobb, 1979), 3) Preexisting mental health of the father (Berg & Hughes, 1979; Spruit, 1982; Tuckman & Lavell, 1958), (4) The degree of family integration, adaptation, and flexibility (Angell, 1936; Komarovsky, 1940; Silbereisen & Walper, 1988), (5) Family financial resources and external financial assistance (Thomas, McCabe & Berry, 1980; Little, 1976; Perrucci & Targ, 1988), (6) The length of the period of unemployment and the education level of the unemployed man (Larson, 1984), (7) Religion and faith of the unemployed man (Barbarin, in press), (8) Prior family relationship (Elder, 1979).

Angell (1936) identified three mediator variables which might hinder adaptability of the family under economic hardship. They are: (1) A materialistic philosophy of life among some members of the family, (2) Irresponsibility and lack of self-discipline of one or both parents, (3) A strong traditional marital role expectation in the marriage.

**Conditioner Variables**

Conditioner variables are the subject’s intrinsic characteristics which predispose the subject to or protect the subject from the adverse effect of the economic hardship.
Two important conditioner variables are the sex and age of the child.

Elder (1979) and Elder et al. (1984) have shown that children who were one year old or less during the Depression tended to display severe behavior disturbances five to ten years later. Their findings indicated that these behavior problems were mediated primarily through the father's punitive discipline. Also, a sex difference in effects for this age group was found. Boys were more vulnerable than girls. Elder et al. (1984) explained that this occurred because mothers tended to be more protective and supportive of younger daughters than younger sons. As a result, these boys tended to have more developmental problems during adolescence. On the other hand, girls born during this period became more goal-oriented, self-confident, and assertive than the nondeprived girls.

However, according to Elder's findings (Elder, 1974; Elder et al., 1985b), for the group of subjects who were eight to nine years old during the Great Depression, a reverse pattern in this sex difference in vulnerability to the effect of economic hardship was found. Adolescent girls appeared to be more vulnerable than adolescent boys to the father's punitive behavior. These girls had a higher level of moodiness, hypersensitivity, feelings of inadequacy, and a lower level of aspiration. On the other hand, the boys...
appeared to be unaffected. Furthermore, the adolescent boys showed higher resilience and ego strength. The sex difference is believed to be related to the daughter’s smaller size, strength, and her greater acceptance of the father’s abusive behavior (Elder et al., 1985b), to her greater exposure to parental conflict, and to more time spent at home (Elder, 1974; Elder et al., 1985b). A discussion of these results has been presented earlier under the heading of sex and age differences in effects on children.

Other conditioner variables which moderate the effects of income loss on the father-child relationship are: (1) Temperament of the child. Controlling for the father’s initial level of irritability, Elder et al. (1985a, 1986) found that children who were temperamentally difficult were more vulnerable to the father’s severe punishment and inconsistent discipline. (2) Physical attractiveness of the child. Elder et al. (1985b) indicated that economically distressed fathers directed more rejecting and punitive discipline at daughters who were physically unattractive. They believed that it might be due to the fact that physically unattractive girls are less confident of themselves and that adults tend to put more blame on them.
Shortcomings of Previous Studies

The 1930 studies

As discussed previously, studies conducted by Elder and colleagues on data collected during the Great Depression have been the most important source of information on the effects of economic hardship on children and adolescents (Elder, 1974, 1979; Elder et al., 1984, 1985a, 1985b). However, these studies suffer from a few methodological limitations.

First, the data are primarily based on interviews with mothers only. As pointed out by Maccoby and Martin (1983), mothers may not be aware of certain facets of their own behavior when reporting. They may be able to report accurately on the occurrence of the more obvious events such as spanking. Other more subtle behaviors, such as withdrawal of love following a child’s misconduct, may not be reported so often. Also, there is the problem related to subject-to-subject differences in the interpretation of descriptive terms. For example, a child called "fussy" by one mother might be called "good-natured" by another. These problems are especially acute when the principal information about both socialization "antecedents" and child "outcomes" are obtained from the same informant source. In these circumstances the informant’s philosophy about child rearing and child development might influence the informant’s account of the child (Maccoby & Martin, 1983).
Moreover, there is concern about the accuracy and representativeness of the information, because the mother had to describe the perception of the father or the children (Elder et al., 1985a). For example, Greenberg, Ericson, and Vlahos (1972) found that children reported significantly more time spent watching television than their mothers reported for them. Joint family reports were found to provide more complete reports than interviews with individual family members (Schramm, Lyle & Parker, 1961). Therefore, multiple sources of information are preferable to a single source of information. In particular, it is important that the adolescents should be used as informants when they are the target of the study.

The second major limitation of the studies on families of the Depression Era is that they were retrospective studies. Retrospective designs can have numerous interpretive problems (Yarrow, Campbell, & Burton, 1968). Cohler (1982) pointed out that recent information may lead to the misrepresentation of past events. As reviewed in Maccoby and Martin (1983), it has been repeatedly demonstrated that mothers' reports of children's developmental milestones are highly inaccurate, unreliable, and undependable. Therefore, results should be interpreted with caution. Parent reports are now used mainly for obtaining concurrent, not retrospective, information about family interaction (Maccoby & Martin, 1983).
Finally, there is the problem of generalization because these data were collected in the 1930s. While the unemployed during the recession of the 1980s share some of the same general characteristics of those persons unemployed during the Great Depression, there are many differences. In both periods, there were more adults and men involved than teenagers, older workers or women. There were more blue-collar workers than white-collar workers, and more goods-producing workers than service-producing workers (LeGrande, 1983). However, they differ in magnitude. It has been estimated that the current economic recession would have to more than double before the proportion of persons unemployed would equal that at the depth of the 1930s Depression (LeGrande, 1983). Therefore, results from the Great Depression period may not be directly generalizable to the current economic recession.

Moreover, today’s society is significantly different from the society of the 1930s with respect to employment and family structure. On the positive side, today’s unemployed workers may have more financial support systems to call on such as unemployment compensation and spouse employment opportunities. Also, there is evidence that the psychological centrality of work in relation to a man’s identity has decreased in recent years. Lastly, it has been suggested that sex-role ideologies have changed and have become more egalitarian in recent years.
than in the past (Thomas et al., 1980). These factors may reduce the psychological stress relating to job loss. Therefore, some researchers suggest that economic hardship is less likely to result in psychological or family problems now than in the 1930s (Little, 1976; Root & Maryland, 1978; Thomas et al., 1980).

On the other hand, there are changes that may not lessen the effect of the unemployment or income loss situation. There are significantly more women already in the workforce today than during the Great Depression. Therefore, they cannot be regarded as additional income earners for the family in times of family economic hardship (Elders, 1984). Also, there is a change in the meaning of children's work (McLoyd, 1985). As Greenberger (1987) pointed out, the primary reason for adolescents to work today is to acquire pocket money for themselves. Therefore, their employment would not help in the family income as it did in the 1930s. Moreover, McLoyd (1989) suggested that parent-adolescent conflict may arise if the parents attempt to allocate the adolescents' wages toward the family's subsistence needs.

The relationship between unemployment and family functioning is not static, but is constantly modified by dynamic social and economic forces. As discussed earlier, there are changes in society since the 1930s that may lead to a difference from the 1930s in the effects of economic
hardship on parents. There may be fewer differences and more similarities in the father's and the mother's reactions to economic hardship. Therefore, replication of the 1930 Depression studies in the present day society is important for the understanding of the effects of today's economic hardship.

Recent studies (1980s)

Among the few contemporary studies on the effects of economic hardship on children's lives, there are also some shortcomings. Firstly, as in the Depression era studies, some recent studies have also failed to use the children as potential informants or obtain information from multiple sources. For example, McLoyd (1989) compared research studies that used parents' reports and children's reports of the parent-child relationship. She showed that when parents' reports were used, little deterioration of the relationship with the child following job loss was indicated. However, when the children's reports were used, and comparison groups were involved, a deterioration in the parent-child relationship was indicated.

Also, only a limited number of aspects of parent-child relationship have been studied. For example, Flanagan (1990) has investigated the effect of economic hardship on parent-adolescent conflict. Developmental theorists (Erikson, 1968; Kohlberg, 1969) and life-span theorists (Baltes & Schaie, 1973) suggest that conflict facilitates psychological growth
through the give-and-take interplay of interpersonal interaction. Conflict with parents within limits is an essential part of adolescent development (Montemayor, 1983) and contributes to individuation of self and connectedness to others (Shantz & Hobart, 1989). However, at some level, normal healthy conflict can become serious distress (Montemayor, 1983). It is not easy to know at what level conflict becomes dysfunctional to the adolescent. Therefore, other aspects of the parent-adolescent relationship, such as affection and reliable alliance, may be more important than the level of conflict in measuring the quality of the parent-child relationship.

As reviewed earlier, family outcomes following the impact of economic stress are the by-product of multiple factors and their interactions. In particular, when studying parent-child relationships, it is important to consider how the father-adolescent, mother-adolescent, and father-mother relationships act on each other. There was evidence during the Great Depression that the father-mother relationship had an effect on how the father treated the children (Elder, 1974; 1979; Ginsburg, 1942), and how the children responded to the father (Elder, 1974; Ginsburg, 1942). However, the dynamic of this triadic relationship has been rarely considered in recent research.
Finally, an issue that is often neglected is the investigation of parental differences. As reviewed in the previous section, there are parental differences in their vulnerability to economic stress in the 1930s. There are reasons (as discussed earlier) to believe that the parental difference in their vulnerability to economic hardship may diminish today. However, this issue has not been systematically studied.

Conclusion

In conclusion, economic hardship can be perceived as an external stressor that is transformed into a crisis for all family members. This crisis in turn affects intrafamilial processes. The effects of economic hardship on children and adolescents are likely to be direct, indirect, or both.

The direct effect may be related to the fact that economic hardship is an additional source of life changes for the adolescent to cope with during a period of rapid changes in development. Also, it might result from feelings of losing control, security and leadership as well as a sense of anger, frustration and helpless toward the family situation.

The indirect effect is mediated through a cycle of punitive parental behavior, negative parent-child interactions, and an adverse parent-child relationship. During the Great Depression, the father-child relationship, in particular, was more affected than the mother-child
relationship, because economic hardship had a more salient effect on the unemployed man than on the woman.

Due to the changes in the structure of society since the 1930s, this parental difference may diminish today. It is possible that both parents may be affected to a similar extent. A similar mediational process through the mother is indirectly supported by some life-stress research studies and directly by some contemporary studies.

Another potentially important mediational variable in the process is the marital relationship of the parents. Under economic hardship, a combination of losses of power and status, a lack of openness and communication between spouses and conflict over monetary matters during times of economic hardship may lead to or exacerbate a poor marital relationship.

Some researchers hypothesize that the marital relationship affects children's development through its disruptive effects on the mother-child relationship. Moreover, a positive marital relationship is likely to moderate the adverse effect of economic hardship on the father-child relationship and in turn on child outcomes.

Others reported that the marital relationship has a direct effect on child functioning because of the exposure of the child to a conflictual and angry environment. Still others indicated no relationship between marital relationship
and parent-child relationship. There is always a possibility that the apparent relationship between the two variables is caused by their relationships with a third variable, for example, economic hardship.

Due to the inconsistent results in past studies, it cannot be concluded that there is an effect of marital relationship on child outcomes. If there is an effect, it cannot be concluded whether this effect is direct, mediated or both.

The degree of distress caused by economic hardship in children and adolescents is not uniform but depends on a number of cognitive, personality, and environmental factors (McLoyd, 1989). Examples of these mediational factors are the father’s appraisal of the event and his crisis-meeting resources, his attribution of the cause of economic hardship to external factors, the degree of family integration, and financial resources of the family.

Conditioner variables are the subject’s intrinsic characteristics which predispose the subject to or protect the subject from the adverse effects of economic hardship. Examples of conditioner variables for the father-child relationship are the sex and age of the child, the temperament of the child, and the child’s physical attractiveness.

There appear to be both age and sex differences in the vulnerability of children to economic hardship. During the
Great Depression, young boys and adolescent girls were more vulnerable. Inconsistency exists between studies during the Great Depression and some contemporary studies on the sex difference in effects for adolescents. Therefore, it is suspected that the sex difference in effect may be a function of the distress outcome rather than a main effect of sex. Multiple distress outcomes should be included in future studies.

The distress outcomes in children and adolescents under economic hardship include low self-esteem, poor peer relations, loneliness and depression, reduced academic aspiration, lower academic performance, antisocial and aggressive behavior, delinquency and drug abuse. Inconsistency exists between studies during the Great Depression and some contemporary studies on whether outcomes are mediated only, or are both direct and mediated.

Shortcomings of earlier and recent studies include the reliance on a single source of information, not using the children as informants, employing a retrospective design, focusing on only the parent-child relationship and not the triadic relationship, ignoring sex differences and parental differences. Replication is also necessary for generalization. Since the 1930s fundamental changes occurred in society which might make the results of the 1930s studies nonapplicable. Most recent studies of economic hardship have
used as subjects people in the hard hit car manufacturing industries. Whether the conclusions of these studies apply to financially pressed, rural families is unknown.
REFERENCES


SECTION III: ECONOMIC HARDSHIP, FAMILY RELATIONSHIPS, AND ADOLESCENT DISTRESS
ABSTRACT

Utilizing a sample of 390 adolescent boys and girls and their parents from a midwestern state in America, this study tested several hypotheses of how economic hardship might directly and indirectly cause adolescent distress. It was found that the effects of economic hardship on both adolescent boys' and adolescent girls' self-esteem, loneliness, and depression are indirect and are mediated through the parent-adolescent affective alliance. The effect of economic hardship on adolescent boys' and girls' aggression is primarily direct. The effects of economic hardship on adolescent boys' delinquency are both direct and indirect. The indirect effect is mediated through the parent-adolescent affective alliance. For adolescent girls, the effects of economic hardship on delinquency are indirect and are mediated through (1) the parent-adolescent affective alliance and (2) the mother's marital happiness. The present study also found that both the father's and the mother's affective alliance with the adolescent are affected by the family's hardship and that both are involved in the mediation process. Furthermore, it was found that the indirect effects of economic hardship that are mediated through parent-adolescent affective alliance are significant for both boys and girls. The theories supporting these findings and implications of the results are discussed.
INTRODUCTION

In the recent past, many farm and nonfarm families in the midwestern United States experienced economic hardship due to the agricultural crisis in the farm belt (Jolly, 1986; Muhm, 1985). This farm crisis started in the 1980s and peaked during 1986 and 1987. During this farm crisis, many families in midwestern America had to face the consequences of farm closures, income loss, underemployment, job loss and loss of human resources due to forced relocation (Rosenblatt, 1989). Many families are still feeling the long-term effects of income loss due to the farm crisis.

Most research on the consequences of economic hardship in rural areas has focused on the effects on the psychological well-being (Guadagno, 1983; Liem, Atkinson, & Liem, 1982; Rosenblatt & Keller, 1983; Zvonkovic, Crouter, & Huston, 1983) and the marital relationship of the parents (Johnson & Booth, 1990; Rosenblatt & Keller, 1983; Wilhelm & Ridley, 1988; Zvonkovic, Guss & Ladd, 1988). Relatively little is known about the effects of economic hardship on the children, in particular, the adolescent children, of these families.

During adolescence, biological, psychological, and social factors interact at an accelerated rate to shape a person's development (Brooks-Gun & Petersen, 1983; Hill, 1987; Petersen, 1988). School transitions, changes in social roles, and pubertal growth factors interact to influence the mental
health and developmental outcomes of adolescence (Blyth, Simmons & Carlton-Ford, 1983; Simmons, 1987; Simmons & Blyth, 1987). Each of these factors is potentially detrimental if change occurs at too young an age or at too fast a pace (Simmons & Blyth, 1987).

Coleman (1974) has proposed a focal theory of change. This theory advocates that the effect of life changes on an individual is most detrimental when life changes cumulate at one point in time. He has suggested that in early adolescence it is easier to adjust to life's changes one at a time than to make all the adjustments simultaneously. In general, great discomfort results for adolescents when change comes too suddenly, too early, or too frequently. Such adolescents are likely to have adjustment problems both at home and in other social environments (Simmons & Blyth, 1987). Therefore, a major crisis such as economic hardship may constitute an additional source of life change and stress for the adolescent to deal with. Based on the focal theory of change, it is expected that the adolescent who has to deal with this additional change will face greater risk of experiencing the damaging effects of change. For this reason, the study of the effects of family economic hardship on adolescents' functioning is of particular importance. This study attempts to capture the impact of economic hardship on adolescents in
families suffering from economic stress due to the agricultural crisis in the farm belt.

In order to understand the causal processes that link economic hardship to adolescent distress, it is important to identify and study mediational variables. Previous literature has suggested that the marital relationship and the parent-child relationship may be the key variables through which some of the effects of economic hardship may influence adolescent functioning.

The Family Mediation Model

Based on their studies of the effects of the 1930s Great Depression on families, Elder and colleagues (Elder, 1974, 1979; Elder, Liker, & Cross, 1984; Elder, Van Nguyen, & Caspi, 1985b; Elder, Caspi, & Van Nguyen, 1986) have proposed the family mediation model. They suggest that the adverse effects of stressful economic times on children and adolescents are not direct, but are produced indirectly through the disorganizing effects on the parents’ behaviors. Specifically, they demonstrated that economic hardship increased children’s socioemotional distress and the risk of developmental disturbances by increasing the punitive and arbitrary behaviors of parents, especially that of the father. Liker and Elder (1983) found that financial strain most directly influenced the psychological well-being of the male breadwinner causing him to become more anxious, explosive, and
ill-tempered. They explained the difference in effect on fathers versus mothers by proposing that women are deprived of financial support and peace of mind when their husbands have an income loss. However, for men, job or income loss might mean losing a major dimension of their social significance because it was the traditional role of men to be chief providers for their families.

Elder et al. (1984) also demonstrated that fathers and mothers are affected to a different extent in their parenting behaviors. They propose that due to the more personal nature of income and job loss for men, economic hardship tends to increase the rejecting, non-supportive, uncaring, and erratic child-disciplining behaviors of the father, but not of the mother. Elder (1974) suggests that the socioeconomic adaptations of the family members in response to economic hardship often increase the opportunity for father-child conflict but decrease the opportunity for mother-child conflict. Very often, according to Elder (1974), the mother's growing power in decision-making at those times tends to increase the positive image of the mother. On the other hand, the father's image may be devalued in the eyes of the children because of the loss of his role as breadwinner.

Because of the more intense negative effects of economic hardship on fathers' psychological well-being, on fathers' parenting behavior, on fathers' negative interactions with
their children, and on children's negative image of the fathers, it is suggested that the father-child relationship would be more adversely affected. Therefore, the family mediation model proposes that the effects of economic hardship on children are mediated through the father-child relationship but not the mother-child relationship.

Elder (1985) proposes that the family antecedents of children's problem behaviors include not only the parent-child relationship, but also the marital relationship. Based on previous literature (Rutter & Garmezy, 1980), Elder (1985) notes three potential dynamics that he believes to be critical in understanding the mechanism linking economic hardship, marital relationship, parent-child relationship, and child outcomes.

Firstly, marital discord disrupts effective, consistent discipline. Elder (1985) suggests that parents become unpredictable and inconsistent in their relationship with each other. This is supported by Patterson's (1982) finding that a lack of predictable routines and of consistent parental responses is related to aggression in children. Block, Block, and Morrison (1981) also found that parental disagreement about child rearing is predictive of future problems in boys' behavior at school.

Secondly, marital discord promotes coercive parent-child exchange. Patterson (1985) indicated that once a coercive
exchange cycle starts, parent-child dyads learn to adopt aggression as a means of achieving one’s way and gradually develop patterns of reciprocal irritable behavior.

Thirdly, marital discord heightens the risk of undercontrol problems in children because it deprives children of parental emotional support and affection (Rutter & Garmezy, 1983). When parents are unhappy with each other, they are less likely to express love and care to each other and to other family members. Elder et al.’s (1984) results indicated that marital conflict and father’s hostility before the Great Depression significantly increased the temper tantrum and difficult behavior of children, especially boys.

In sum, Elder and colleagues propose that the primary link between economic hardship and child outcome is the parent-child relationship. The role that the marital relationship plays lies in the mediation of the adverse effect of economic hardship onto the parent-child relationship.

Elder and colleagues (1984, 1985b) indicate that the effects of economic hardship are not uniform for boys and girls, nor are they uniform for young children and adolescents. For younger children, Elder et al. (1984) found that boys were more vulnerable than girls because mothers tended to be more protective and supportive of younger daughters than younger sons. For adolescents, Elder et al. (1985b) found that the negative effect was only significant
for girls. They explained that this was related to the adolescent girl's smaller size, strength, and her greater exposure to family conflict and tension. Therefore, they suggest that father's mediation of economic hardship affects primarily the psychological functioning of girls, not boys.

Studies conducted by Elder and colleagues on data collected during the Great Depression have been the single most important source of information on the effects of economic hardship on children and adolescents. However, these studies suffer from a few methodological limitations. Also, changes in the structure of the society since the 1930s present challenges to the robustness of the theory through time. Furthermore, there are additional notions and empirical data regarding the fine detail of the intrafamilial processes that are inconsistent with the Elder et al.'s (1984; 1985b; 1986) model.

Methodological Limitations

First, the data were primarily obtained from interviews with mothers only. Mothers may not be aware of certain aspects of their own behavior when reporting. As a result, certain mother-child interactions, such as withdrawal of love following a child's misconduct, may be underscored (Maccoby & Martin, 1983). There is also the problem related to subject-to-subject differences in the interpretation of certain descriptive terms. These problems are especially acute when
the principal information about both socialization "antecedents" and child "outcomes" are obtained from the same single informant source (Maccoby & Martin, 1983). This may be illustrated in the following example.

Elder et al. (1985b) found that the effect of economic hardship on adolescent psychological well-being was mainly indirect through adverse parenting behavior. The direct effect was not significant. However, in another study with adolescents, Lempers, Clark-Lempers and Simmons (1989) found that family economic hardship had both direct and indirect effects on adolescent loneliness and depression. The indirect effects were mediated through parental nurturance and parental discipline. In both studies, single sources of information on all variables were used. In the Elder et al. (1985b) study the source of information was the mother and in the Lempers et al. (1989) study the source of information was the child. Whereas the adolescents' reports indicated a direct connection between economic hardship and their psychological well-being, the parents' reports did not. This demonstrates the volatile nature of the findings when single sources of information are used. More objective results may be obtained by using multiple sources of information for all constructs of interest.

Moreover, there is a concern about the accuracy and representativeness of the information in Elder's studies
because the mother was asked to describe the perception of the father and those of the children (Elder, Caspi, & Downey, 1985a). The mother’s perception of the father-child relationship is likely to be influenced by the mother-father relationship. Likewise, the mother may be able to report accurately on observable behavior outcomes in the child, but such accuracy is doubtful for her assessment of the attitudes of her child. This may be illustrated in the following example.

Whereas Elder and his colleagues have indicated a sex difference in effects favouring adolescent boys, other studies have reported a reverse pattern in effects. There is evidence that under economic hardship, adolescent girls develop more emotional autonomy and self-reliance than adolescent boys (Steinberg & Silverberg, 1986). Under these circumstances, adolescent boys also tend to have more conflicts with their parents (Flanagan, 1990). Other researchers have found significant results for both adolescent boys and adolescent girls. For example, Lempers et al. (1989) examined the direct and the family-mediated effects of economic hardship on adolescent boys and girls. They found that the mediated effects (loneliness, depression, delinquency, and drug abuse) were significant for both boys and girls. It is possible that the lack of a significant effect for adolescent boys during the Great Depression was due to the use of reports by mothers...
on their children's psychological outcomes. There may be a systematical bias in mothers' reporting of the adolescent boys' and adolescent girls' feelings. In the other studies, self-reports by the adolescent boys and the adolescent girls were used.

Another major limitation of the studies on families of the Depression Era is that they were retrospective studies. Retrospective designs can have numerous interpretive difficulties (Yarrow, Campbell, & Burton, 1968). Cohler (1982) pointed out that recent information may lead to the misrepresentation of past events. As reviewed in Maccoby and Martin (1983), it has been repeatedly demonstrated that mothers' reports of children's developmental milestones are highly inaccurate and undependable. Therefore, results should be interpreted with caution. Parent reports are now used mainly for obtaining concurrent, not retrospective, information about family interaction (Maccoby & Martin, 1983).

Changes in Society since the Great Depression

Other than methodological limitations, there are additional considerations that need to be addressed before any generalization can be made from the research from the Great Depression to the present day economic hardship. The relationship between unemployment and family functioning is not static, but is constantly shaped by dynamic social and economic forces (McLoyd, 1989; Thomas, McCabe, & Berry, 1980).
First, today's society is significantly different from the society of the 1930s with respect to employment and family structure. On the positive side, today's unemployed workers may have more financial support systems to call on such as unemployment compensation and spouse employment opportunities. Also, there is evidence that the psychological centrality of work in a man's identity has decreased in recent years. It has been suggested that sex-role ideologies have changed and have become more egalitarian in recent years than in the past (Thomas et al., 1980). These factors may reduce the psychological stress of job loss. Therefore, some researchers suggest that economic hardship is less likely to result in psychological or family problems now than in the 1930s (Little, 1976; Root & Maryland, 1978; Thomas et al., 1980).

On the other hand, there are changes that may not lessen the effect of unemployment or income loss. There are significantly more women in the workforce today than during the Great Depression. Therefore, they cannot be regarded as potentially additional income earners for the family in times of family economic hardship (Elders, 1979). Also, there is a change in the meaning of children's work. As Greenberger (1987) pointed out, the primary reason for adolescents to work today is to acquire pocket money for themselves. Therefore, their employment would not contribute to family income as it did in the 1930s. Moreover, McLoyd (1989) suggests that
parent-adolescent conflict may arise if the parents attempt to allocate the adolescent's wages toward the financial support of the family.

Furthermore, as McLoyd (1989) has pointed out, work might be an important source of identity, self-esteem, and satisfaction for today's mothers. The changes in society since the 1930s may lead to a difference between the 1930s and present-day effects of economic hardship on parents. There may be fewer differences and more similarities in the father's and the mother's reactions to economic hardship. There is some indication that the mother-child relationship deteriorates to a similar extent as the father-child relationship (Lempers et al., 1989). Also, there is some evidence that the mental health status of the distressed husband mediates the negative psychological effects of economic hardship on their wives (Dew, Bromet, & Schulberg, 1987; Liem & Rayman, 1982).

Because of the changes in our society and the possible changes in the wives' reaction to family economic hardship, studies using data on the present day economic crisis are of both theoretical interest and practical importance. The present study attempts to investigate a current farm crisis that is still unfolding in its effects.
Other Possible Theories and Models

Other than the methodological limitations and the issues concerning generalization, there are alternative theories regarding the effects of economic hardship on intrafamilial processes that need to be addressed. To compare and contrast all the existing theories, the different theories of causal relationships were depicted as models. Eight models (Figure 1) can be derived from existing theories including those discussed earlier, to represent the different possible pathways linking economic hardship and adolescent functioning.

Insert Figure 1 about here

Direct Effect Model 1 (DE1)

Firstly, a significant path is hypothesized to link economic hardship to the adolescent distress outcome. This path represents mechanisms other than the marital happiness and the parent-adolescent relationship that are responsible for explaining the effects of economic hardship on adolescent distress. Economic hardship may have a negative influence on adolescent development simply because it is an additional source of life changes for the adolescent to cope with during a period of rapid changes in development (Simmons & Blyth, 1987). The direct negative effect might also result from the adolescent's perception that the family conditions are beyond
control (Siegal, 1984), or from a feeling of helplessness toward the situation (Beck, 1976), or from a loss of security and leadership (Greenley, 1979).

Secondly, a significant path is hypothesized to link economic hardship and marital relationship. During times of economic hardship, a combination of losses of power and status of the father, a lack of acceptance, openness and communication between spouses and conflict over monetary matters (Cavan, 1959; Elder, 1974; McLoyd, 1990; Moen, Kain, & Elder, 1983; Stouffer & Lazarsfeld, 1937; Voydanoff, 1980) may cause dissatisfaction of spouses toward each other. These factors, together with the psychological stress (Guadagno, 1983; Liem et al., 1982; Rosenblatt & Keller, 1983; Zvonkovic et al., 1983) and role strain caused by financial hardship (McCubbin, Cauble, Comeau, Patterson, & Needle, 1980) may lead to or exacerbate a poor marital relationship (Johnson & Booth, 1990; Rosenblatt & Keller, 1983; Wilhelm & Ridley, 1988; Zvonkovic, Guss & Ladd, 1988).

Thirdly, a significant path is hypothesized to link economic hardship and parent-adolescent relationship. Research studies in the 1930s and 1980s (Buss & Redburn, 1983; Elder, 1974; Elder, Conger, & Foster, 1989; Gary, 1985; Johnson & Abramovitch, 1985; Karl & Cobb, 1970; Kasl & Cobb, 1979; Larson, 1984; Liem, 1983; McLoyd, 1989; Slote, 1977; Theorell, Lind, & Floderus, 1975) have indicated that income
loss leads to psychological distress for the father. Poor psychological well-being of the father, together with an increase in involuntary involvement with his children (Elder, 1974; Elder, 1979; Elder et al., 1984, 1985a; Johnson & Abramovitch, 1985; Lamb, 1988; LeMaster, 1975; McLoyd, 1989) foster negative parenting behavior. Moreover, there is often a negative perception of the father by the children due to his decrease in ability to provide financial support to the family (Douvan & Adelson, 1966; Flanagan, 1990; Komarovsky, 1940). All these factors would promote a negative father-adolescent relationship.

Although the mother-child relationship was not found to be affected during the Great Depression (Elder, 1974, Elder et al., 1984, 1985a), there are reasons to believe that mothers today may be more vulnerable to the effects of economic hardship. Unlike the situation in the 1930s, the contemporary mother is often employed in the work force. Today, work can be an important source of a mother's identity, self-esteem, and psychological fulfillment (McLoyd, 1989). Due to this kind of change in the structure of society since the 1930s, the parental difference is likely to diminish today. There is some evidence that the adverse effect of economic hardship affects the psychological well-being of wives through the mental health status of their husbands (Dew et al., 1987; Liem & Rayman, 1982). Moreover, findings from life-stress research
have indicated that under stressful life circumstances, there is a decrease in nurturance and support and an increase in power-assertive disciplinary style by mothers (Conger, McCarty, Young, Lahey, Kropp, 1984; Crnic & Greenberg, 1987; Liem and Rayman, 1982; Longfellow, Zelkowitz & Saunders, 1982; McLoyd, 1989; Panaccione & Wahler, 1986; Patterson, 1988; Patterson, DeBarsyshe, & Ramsey, 1989; Siegal, 1984; Warr & Parry, 1982; Weinraub & Wolf, 1983; Zelkowitz, Saunders, Longfellow, & Belle, 1979). These behaviors are likely to promote a poor mother-adolescent relationship.

Fourthly, a significant path is hypothesized to link parent-adolescent relationship and adolescent distress. It is proposed that there is an indirect effect of economic hardship on adolescent distress mediated through the parent-adolescent relationship. As discussed earlier, the impact of economic hardship on adolescent distress via the father-adolescent relationship is based on Elder and his colleagues' findings (Elder, 1974, 1979; Elder et al., 1984, 1985b, 1986). Their research on the Depression era families has indicated that heavy income loss increases the irritability and moodiness of fathers. This behavior of the fathers is related to a more punitive, arbitrary, and rejecting parenting style of the fathers. This paternal parenting style in turn leads to distress outcomes in children and adolescents (Elder et al., 1984; Elder et al., 1985b).
Moreover, mothers' parenting behavior is believed to be affected by economic hardship in a way similar to that of the fathers' in contemporary society. Literature has indicated that the mother-child relationship is just as important as the father-child relationship in the social provisions of children and adolescents’ developmental needs (Furman & Buhrmester, 1985; Lempers & Clark-Lempers, in press; Pipp, Shaver, Jennings, Lamborn, & Fischer, 1985; Sullivan, 1953). Therefore, it is proposed that the mother-adolescent relationship would also mediate the adverse effects of economic hardship on the adolescent distress outcomes in a similar way as the father-adolescent relationship.

Fifthly, the paths linking marital relationship to the other endogenous variables in the model (parent-adolescent relationship and adolescent distress) are hypothesized to be non-significant. Consistent with those studies which have failed to find any effect of marital relationship on parenting or child functioning (Belsky, Hertzog, & Rovine, 1985; Grossman, Pollack, & Golding, 1988), this model proposes that there is no effect of marital relationship on either parent-adolescent relationship or adolescent development outcomes after all the other effects have been controlled. External stressors on a family may simultaneously impact more than one family member. An extrafamiliar factor such as economic hardship may stress the whole family, triggering both marital
and child problems. The apparent relationship between the marital relationship, the parent-adolescent relationship, and adolescent distress may be caused by the same external variable such as economic stress.

In summary, this model hypothesizes that economic hardship has direct effects on the marital relationship, on the parental-adolescent relationship as well as on the adolescent developmental outcomes. Moreover, there is a significant indirect effect of economic hardship on adolescent developmental outcomes mediated through the father-adolescent and mother-adolescent relationships. In addition, it is proposed that there is no significant relationship between the marital relationship and parent-adolescent relationship or between marital relationship and adolescent developmental outcomes after the effects of economic hardship on these variables have been controlled for.

**Direct Effect Model 2 (DE2)**

Direct effect model 2 is essentially the same as direct effect model 1 except that the paths linking parents' marital happiness to parent-adolescent affective alliance are hypothesized to be significant. Therefore, the marital relationship is hypothesized to have a mediating role between economic hardship and the parent-adolescent relationship. The nature of the marital relationship may have a significant impact on the mother-adolescent relationship. According to
the family system literature (Fauber, Forehand, McCombs Thomas, & Wierson, 1990), the marital relationship influences children's socioemotional development indirectly by altering the parent-child relationship. Margolin (1981) proposes that a negative marital relationship leads to a disruption in the mother-child relationship, which, in turn, leads to child adjustment problems. Therefore, it is hypothesized that economic hardship has an indirect effect on the mother-adolescent relationship mediated through the marital relationship.

Under economic hardship, the marital relationship may also have a powerful influence on the father-adolescent relationship. During the Great Depression, the attitude of the wife toward her husband had a powerful influence on the unemployed father's relationship with his child (Elder, 1974; Ginsburg, 1942). If the marital relationship was good, the mother was more likely to explain to the child the effects of economic strain on the father's behavior and to modify the action of the child toward the father. Moreover, the mother was more likely to be able to influence the father's treatment of the child. On the other hand, if the marital relationship was bad, the mother was less likely to teach the child to be sympathetic with the father. She was also less likely to try to modify the child's behavior toward the father and less likely to be able to influence the father's action toward the
child (McLoyd, 1989; 1990). Under these circumstances, the distressed father might be displacing his hostility and anger toward the mother to the child (Elder et al., 1989). Therefore, it is hypothesized that economic hardship has an indirect effect on the father-adolescent relationship mediated through the marital relationship.

**Direct Effect Model 3 (DE3)**

Direct effect model 3 is essentially the same as direct effect model 1 except that the paths from the marital relationship to adolescent developmental outcomes are hypothesized to be significant. Some studies have indicated that marital conflict is directly associated with negative outcomes in child functioning (Emery, 1982; Emery, Weintraub, & Neale, 1982; Hetherington, Cox, & Cox, 1985; Patterson, 1982; Porter & O'Leary, 1980; Schneider-Rosen & Cicchetti, 1984) and with child disturbances (Framo, 1965; Haley, 1967). In particular, some studies emphasize the point that it is marital conflict rather than the breakup of the home per se that is responsible for the negative effects on children (Cummings, Zahn-Waxler, Radke-Yarrow, 1981). Based on these findings, some researchers propose that children in these families are affected through their exposure to a background climate of anger at home (Cummings et al., 1981; Emery, 1982; Shaw & Emery, 1987). Based on these studies, it is proposed
that economic hardship has an indirect negative effect on adolescent distress mediated through the marital relationship. 

**Direct Effect Model 4 (DE4)**

Direct effect model 4 is the same as direct effect model 1 except that the paths from the marital relationship to the parent-adolescent relationships and the paths from marital relationship to adolescent developmental outcomes are all hypothesized to be significant. Therefore, this direct effect model proposes that the marital relationship mediates the effects of economic hardship onto adolescent developmental outcomes as well as onto parent-adolescent relationship.

**Indirect Effect Models A to D (IEA TO IED)**

Indirect effect model A to indirect effect model D are parallel models for direct effect model 1 to direct effect model 4. They are the same except for the following differences.

In these models the direct paths from economic hardship to adolescent developmental outcomes are hypothesized to be insignificant. The absence of direct effects is based on the family mediation hypothesis of Elder et al. (1984, 1985b) which proposed that the impact of economic hardship on children and adolescents is primarily a mediated, indirect effect through the family. Therefore, it is proposed in these models that economic hardship has no direct effect on adolescent distress.
Hypotheses of The Present Study

In the present study, the previously explicated eight models will be compared to each other to establish which one best represents the linkages between economic hardship, a particular intra-familial process and a particular adolescent outcome. The adolescent's perceived affective alliance with his/her parents and the parents' perceived marital happiness will be used as measures of mediational variables in the causal processes. It is possible that different models might apply for each sex and for different adolescent outcomes. The results of these model comparisons can then be used to evaluate the hypotheses implicit in Elder's Family Mediation Model based on studies of the effect of the Great Depression. The hypotheses implicit in the Family Mediation Model are the following:

Hypothesis 1:
There is a difference between the father-adolescent affective alliance and the mother-adolescent affective alliance under economic hardship.

Hypothesis 2:
Economic hardship has a direct and negative effect on the parent-adolescent affective alliance.

Hypothesis 3:
Economic Hardship has direct negative effects on both the father's and the mother's marital happiness.
Hypothesis 4:
The effect of economic hardship on adolescent functioning is indirect and indirect only. There is no direct effect.

Hypothesis 5:
All the indirect effects of economic hardship on adolescent distress are mediated through the parent-adolescent affective alliance.

Hypothesis 6:
There is a significant indirect effect of economic hardship on the parent-adolescent affective alliance mediated through the parents’ perception of marital happiness.

Hypothesis 7:
The indirect effect of economic hardship mediated through the parent-adolescent affective alliance is only significant for adolescent girls, not adolescent boys.

It should be noted that if hypothesis 1 is supported by the data, the father-adolescent affective alliance and the mother-adolescent affective alliance will be treated as two separate variables in each model. Therefore, the term father-adolescent affective alliance will be used in the subsequent hypotheses. If hypothesis 1 is not supported by the data, the two variables will be combined and the term parent-adolescent affective alliance will be used in the subsequent hypotheses. This way, even if hypothesis 1 is not supported by the present
data, the other implications of the Great Depression Model can still be tested objectively.
METHOD

To overcome some of the methodological limitations and generalization problems of previous studies, the following strategies were adopted in the present study. Firstly, fathers, mothers and target adolescents all served as multiple sources of information. Secondly, the present study attempted to elicit information from each of these informants on what is happening currently. Thirdly, this is a contemporary study on a current economic crisis that is still unfolding in its effects.

Subjects

The sample consisted of 390 adolescents from two-parent, intact families. Of the 390 adolescents, 192 were males and 198 were females. Among the adolescent boys, there were 89 sixth graders and 103 eighth graders. Among the adolescent girls, there were 95 sixth graders and 103 eighth graders. The mean ages of the sixth-grade adolescent boys and adolescent girls were 11.42 and 11.33, respectively, and the mean ages of the eighth-grade adolescent boys and adolescent girls were 13.44 and 13.31, respectively. The target adolescents attend 37 different schools from 27 school districts across Iowa.

The criteria for participation in the study were: (1) the target adolescent was either a sixth grader or an eighth grader, (2) both parents of the target adolescent were present
in the home, (3) the target adolescent had at least one sibling within three years of age of the target adolescent, and (4) the family members were willing to participate in the study. The families came from 22 Iowa counties that were dependent on agriculture. These counties were typical of many counties that experienced economic stress during the 1980s decade (Jolly, 1986). These families came from more than 100 towns or cities in Iowa. Approximately 24% of the families lived in small towns with population sizes of under 500, 46.5% of the families lived in towns with population sizes between 501 and 5,000, 19% of the families lived in medium size towns with population sizes between 5,001 and 10,000, 2.5% of the families lived in bigger size towns with population sizes between 10,001 and 15,000, 3% of the population lived in towns with population sizes between 15,001 and 20,000, 4% of the population lived in small cities with population size between 20,001 and 100,000, 1% of the families lived in cities with population sizes between 100,001 and 200,000.

All the parents of the target adolescents were asked, "What is your current occupation?" and "What is the highest grade of regular school you completed?". From the answers to these questions, the social class of the subjects were scored using Hollingshead's (1957) procedure. The majority of subjects came from middle- and working-class families. The following social class distribution was found for the girls'
families, with level I being the highest and level V the lowest: Hollingshead's (1957) social class level I: 6.6%; social class level II: 25.8%; social class level III: 35.4%; social class level IV: 30.8%; social class level V: .5%. The remaining 1% could not be classified owing to subjects' not responding or due to noncategorizable answers. The following social class distribution was found for the boys’ families: Hollingshead's (1957) social class level I: 3.6%; social class level II: 23.4%; social class level III: 37.5%; social class level IV: 34.4%. Again, the remaining 1% could not be classified owing to subjects' not responding or due to noncategorizable answers. Although race was not one of the criteria in the present study, all subjects are Caucasian. This reflects the composition of population in the midwestern rural area.

Of the families involved in the study, 48% were farm families, all of whom had been farming since at least 1983; 52% of the families were not farm families but lived in towns, small cities, or rural areas. Twenty-eight percent of the families had four members in their households, 35% consisted of five members, 22% of six members, and the remaining families consisted of between seven and eleven members. Included as household members were all those living at home as well as unmarried family members away at college or in the military.
For the sample of girls, median yearly family income was $35000. The father's median age was 40 years and the mother's median age was 38 years. Most of the fathers (94.9%) and the mothers (97.5%) had at least a high school education. For the sample of boys, median yearly family income was $32000. The fathers' median age was 40 years and the mothers' median age was 37.5 years. Most of the fathers (94.8%) and the mothers (97.9%) had at least a high school education.

Procedure

A total of 27 school districts were selected. All the schools involved had a similar structure: six years of elementary school, two years of junior high school, and four years of senior high school. This structure is the most common school structure in Iowa. The parents of the sixth and eighth graders in the selected districts were contacted through the schools. A letter was sent to all parents of adolescents in grades six and eight, explaining the project and stressing the importance of their participation (see Appendix A). The parents were also informed that they would be paid for their participation in the study. Along with the letter describing the study was a short questionnaire to ascertain if the family met the criteria for participation in the study, a form indicating their willingness to participate in the study and a stamped return envelope.
The interviews were administered by trained interviewers. All interviewers were recruited by the Survey Section of the Statistical Laboratory at Iowa State University and had experience working in similar projects. Training workshops were conducted by the Survey Section of the Statistical Laboratory at Iowa State University to ensure uniformity of the interview administration procedure. The study was approved by the University Human Subjects Review Committee.

Families who met the criteria for participation and expressed a willingness to participate in the project were contacted by phone and an appointment was made to visit each family. During this visit, a written description of the project and the parameters of family participation in the project were reviewed by a professionally trained interviewer with all participating family members. If the family was still willing to participate, family members and the interviewer signed a dated statement of informed consent (see Appendix A). The total number of families screened initially was 726 and the number of families eligible for the study was 464, with three duplicate families. Of those who were eligible for inclusion in the sample, 84.7% (398) agreed to participate. All the interviews took place in person in the families' homes Fall, 1988. Eight subjects were excluded in the present analyses because of incomplete information on the variables of interest.
Measures

The present investigation defined economic hardship as a perceived inadequacy of income to meet family needs. The adolescent's perceived affective alliance with the adolescent's parents and the parent's perceived marital happiness were used as measures of mediational variables in the causal processes. Adolescent's self-esteem, loneliness, depression, aggression, and delinquency were studied as the distress outcomes.

For each of the following measures, the informants responded to all the items of the original instrument. Frequencies were run for each item of each scale. Items with a skewed distribution were excluded. A factor analysis with orthogonal rotation was run for the remaining items on each scale. Only those items with high loadings (0.5 or above) on the same factor were retained for use.

Economic Hardship

Family economic hardship was the main stress variable of interest. It was assessed by seven questions administered to the fathers and the mothers. These questions reflect the perceived financial adequacy of the household and were taken from the Economic Strain Questionnaire (Pearlin, Lieberman, Managhan, & Mullan, 1981). For the first six questions, the father and the mother indicated on a 5-point scale how much they agreed on the following statements: (1) We have enough
money for the kind of food our family should have, (2) We have enough money for the kind of medical care our family should have, (3) We have enough money for the kind of clothing we should have, (4) We have enough money for the leisure activities we like to participate in, (5) We are able to afford furniture or household equipment that needs to be replaced, (6) Our money never seems to be enough for what we want. The seventh question asked on a 4-point scale how much difficulty parents had in paying their bills. Cronbach’s alphas of these items for fathers and mothers in the girls’ data were .879 and .890. Cronbach’s alphas of these items for fathers and mothers in the boys’ data were .866 and .854.

In addition to these questions, both the fathers and the mothers were asked to describe any changes in their total family incomes over the past three years. The parents chose from one of the following answers: (1) Increased more than 25%, (2) Increased 5 to 25%, (3) Changes 5 to 25% (plus or minus), (4) Decreased 5 to 25%, (5) Decreased more than 25%, (6) Fluctuated up and down over the three years. Both the fathers and the mothers also reported on a separate question on the total family incomes (including all sources of income before taxes) for 1987.

Excluding families with fluctuated income over the past three years (16.6%) in the analysis, the correlation between the parents’ report of economic hardship and the degree of
income loss is .5. Including all the families in the analysis, the correlation between the parents' report of economic hardship and family income loss is also .5.

For each subject, a composite score of these seven questions was calculated for the father and the mother. The two composite scores were used as two indicators for the variable economic hardship. The two scores represented two sources of information on the same construct.

**Parent-Adolescent Affective Alliance**

Parent-adolescent affective alliance was measured by the adolescents' responses on six questions, three on affection and three on alliance. These questions were from Furman and Buhrmester's (1985) Network of Relationship Inventory (NRI). Each adolescent indicated on a standard 5-point Likert scale how much affection and alliance the adolescent perceived to be present in the adolescent’s relationship with each parent. The three affection questions were: (1) How much does each person really like or love you? (2) How much does each person really care about you? (3) How often does this person show or tell you that they like or love you? The three questions on alliance were: (1) How sure are you that this relationship will last no matter what? (2) How sure are you that your relationship with each person will last in spite of fights? (3) How sure are you that your relationship will continue in the years to come?
A composite score made up of all six items for the mother-adolescent affective alliance and a composite score made up of all six items for the father-adolescent affective alliance were created initially. These two composite scores were highly correlated. To decide whether they are empirically distinguishable, they were tested for equivalency using LISREL and were found to be equivalent to each other (see Part A of result section). Thus they were combined to form one variable, named parent-adolescent affective alliance. Cronbach’s alphas for this measurement for boys and girls were .895 and .930, respectively.

Marital Happiness

Parents’ marital happiness was assessed by two questions, modified from the Dyadic Adjustment scale (Spanier, 1976). The first question asked the respondent’s happiness with the marriage, self-reported on a 7-point scale from extremely unhappy (0) to perfect (6). The second question asked respondents how they would describe their spouses’ degree of happiness on a 7-point scale from extremely unhappy (0) to perfect (6). These two items were used as two indicators for the variable marital happiness. Perceptions of marital happiness were obtained independently from the fathers and the mothers. The correlation between these two items for the fathers’ and the mothers’ responses in the boys’ sample are .835 and .830, respectively. The correlation between these
two items for the fathers' and the mothers' responses in the girls' sample are .879 and .912, respectively. The Dyadic Adjustment Scale and its components have been demonstrated to have sufficiently high reliability to justify their use. The total scale reliability as reported by the author is .96 (Spanier, 1976).

**Self-Esteem**

Adolescent self-esteem was assessed by the target adolescent's self-report to Rosenberg's (1965) Self-Esteem Scale. The adolescents responded on a 4-point scale how much they agreed on the following statements: (1) I feel that I have a number of good qualities, (2) I certainly feel useless at times, (3) I feel that I am a person of worth, at least on an equal plane with others, (4) At times I think I am no good at all, (5) I am able to do things as well as most other people, (6) All in all, I am inclined to feel that I am a failure, (7) On the whole, I am satisfied with myself, (8) I feel I do not have much to be proud of, (9) I take a positive attitude toward myself.

The Cronbach's alpha for these items for the girls was .816 and for the boys was .741. To avoid all the items in the measurement model and to avoid overfitting parameters in the model, three indicators each of which was a sum of three items were used.
Loneliness

Adolescent loneliness was assessed by the 12 items from the Asher, Hymel, and Renshaw's (1984) Loneliness Questionnaire. Each adolescent responded on a 4-point scale how much the adolescent agreed with each of the twelve items. These items were: (1) I feel alone, (2) I feel left out of things, (3) I'm lonely, (4) I don’t have anyone to play with or hang around with, (5) It’s hard for me to make friends, (6) It's easy for me to make new friends at school, (7) I have lots of friends, (8) There's nobody I can go to when I need help, (9) I am well liked by the kids in my class, (10) I get along with other kids, (11) I don’t get along with other children, (12) It's hard to get other kids to like me.

Cronbach's alphas for the 12 items for the adolescent boys and girls were .915 and .919, respectively. To include all 12 items in the measurement model for the construct loneliness and to avoid the problem of overfitting parameters in the model, three indicators each of which was a sum of four items were used in the model.

Depression

Adolescent depression was measured using five items from the Beck Depression Inventory (1972). The target adolescent indicated on a 4-point scale the degree he/she agreed with the items. These items were: (1) I am blue or sad all the time and I can’t snap out of it, (2) I feel that the future is
hopeless and that things cannot improve, (3) I feel as though I am very bad or worthless, (4) I don’t like myself, (5) I have lost all my interest in other people and don’t care about them.

The Cronbach’s alphas for the five depression items for boys and girls were .829 and .833, respectively. They were used as five indicators for the construct depression.

**Aggression**

Adolescent aggression was measured through the use of 19 items from the aggression subscale of the Achenbach and Edelbrock’s (1979, 1981) Child Behavior Checklist (CBCL). The aggression subscale consists of 22 behavioral items for adolescent boys and 22 behavioral items for adolescent girls. There are 19 items that are common in both the boys’ scale and the girls’ scale, and these 19 items were used in the present study. For each of the 19 items, the father and the mother checked independently whether it was not true, sometimes true, or often true of the target adolescent. These items were: (1) argues a lot, (2) cruel to others, (3) demands a lot of attention, (4) disobedient at home, (5) easily jealous, (6) feels persecuted, (7) gets in fights, (8) overeating, (9) attacks people, (10) screams a lot, (11) irritable/stubborn, (12) sulks a lot, (13) suspicious, (14) swearing, (15) talks too much, (16) teases a lot, (17) temper tantrums, (18) threaten people, (19) unusually loud.
The result of each response for both boys and girls was dichotomized into whether the behavior was true or not true of the adolescent. The sum totals of the whole scale from the father and the mother of each adolescent were combined to construct a single index of the adolescent's overall aggressiveness. Cronbach's alphas for the 38 items for the girls' and the boys' data were .870 and .863, respectively.

**Delinquency**

Adolescent delinquency was assessed by using nine behavioral items from the delinquency subscale of the Achenbach and Edelbrock's (1979, 1981) Child Behavior Checklist (CBCL). This subscale consists of 13 behavioral items for adolescent boys' delinquency and 15 items for adolescent girls' delinquency. Among these items, there are nine items that are common to both adolescent boys and girls. For each of the nine items, the father and the mother of each adolescent checked independently whether it was not true, sometimes true, or often true of the target adolescent. These items were (1) disobedient at school, (2) hangs around with children who get in trouble, (3) lying/cheating, (4) poor school work, (5) runs away from home, (6) steals at home, (7) steals outside the home, (8) truancy, skips school, (9) uses alcohol or drugs.

The result for each item as rated by the father and the mother was dichotomized into whether the behavior was true or
not true of the adolescent. The sum totals of the nine items from responses of the father and the mother of each adolescent were combined to construct a single index of the adolescent's overall delinquency behavior. Cronbach's alpha for the 18 items used for the girls' data set was .624 and for the boys' data set was .716.
RESULTS

In order to observe possible differences in results for boys and girls, the data set was split according to the sex of the subjects. All the analyses were done separately with each data set and for each of the distress outcome variables. All the models were tested using LISREL (Joreskog & Sorbom, 1981).

Correlational Findings

A total of 192 cases in the boys' sample and 188 cases in the girls' sample had complete information on all measures. Means, standard deviations and zero-order correlations for females and males separately for all variables in the models are reported in Table 1. The direction of scoring of economic hardship has been reversed from the original scale so that it is consistent with the direction of scoring on the other scales (i.e., the higher the number, the more of the attributes).

Insert Table 1 about here

The size of the correlation between father-adolescent affective alliance and the other variables and the mother-adolescent affective alliance and the other variables and the rejective degrees of significance are very much the same. The two variables appear to be so similar to each other that they are empirically indistinguishable. The variable parent-
adolescent affective alliance is a variable combining the father-adolescent and the mother-adolescent affective alliance.

For both boys and girls, economic hardship has significant negative correlations with father's marital happiness, mother's marital happiness, parent-adolescent relationship, self-esteem, and significant positive correlations with aggression and delinquency. The correlation between economic hardship and delinquency is much stronger in the boys' sample than in the girls' sample. Economic hardship is significantly correlated in a positive way with loneliness in girls only.

As expected, father's marital happiness is highly correlated to mother's marital happiness for both sexes. However, father's marital happiness is not significantly correlated with parent-adolescent affective alliance or any of the distress outcomes in adolescent boys or girls.

In the adolescent boys' sample only, mother's marital happiness has a positive significant correlation with parent-adolescent affective alliance and a negative significant correlation with depression and loneliness. In the girls' sample only, the correlation between mother's marital happiness and delinquency is highly significant and negative. Also, in the girls' sample, there is a significant positive
correlation between mother’s marital happiness and self-esteem and a significant negative correlation with aggression.

Parent-adolescent affective alliance is significantly and positively correlated with self-esteem for both boys & girls and significantly and negatively correlated with loneliness, depression, and delinquency for both adolescent boys and adolescent girls. The only distress outcome that is not correlated with parent-adolescent affective alliance is aggression.

Among the outcome variables, self-esteem for boys and girls is significantly and negatively correlated with loneliness, depression, and delinquency. Loneliness has a highly positive significant correlation with depression in both boys and girls. Loneliness is significantly related to delinquency in the boys’ sample only. Depression is significantly and negatively correlated with delinquency in both sexes, but the correlation is stronger in girls than in boys. Aggression has a highly significant correlation with delinquency for both sexes.

**LISREL Results of Model Testing**

**Part A: Test for Hypothesis 1**

In order to determine whether there is any difference between the father-adolescent and the mother-adolescent affective alliance, Model A1 and Model A2 (see Figure 2) were tested and compared for each outcome for boys and girls
separately. These models contain the following variables: economic hardship, father's marital happiness, mother's marital happiness, father-adolescent affective alliance, mother-adolescent affective alliance and one of the adolescent distress outcomes.

The difference between the Model A1 and Model A2 is that in Model A1 the following paths were set equal to each other: $B_{31}$ and $B_{41}$, $B_{32}$ and $B_{42}$, $B_{53}$ and $B_{54}$, $r_{31}$ and $r_{41}$. By setting these equality constraints, Model A1 assumes that the two variables father-adolescent affective alliance and mother-adolescent affective alliance are equivalent. In Model A2, these two variables are assumed to be non-equivalent. Thus Model A1 is nested within Model A2, and the two models can be compared to each other in a nesting context. A model with the same variables which only assumes correlations between economic hardship and father's marital happiness, between economic hardship and mother's marital happiness, and between father's marital happiness and mother's marital happiness, was used as a baseline model (Model AB) for comparisons.

Each model was evaluated using LISREL. To evaluate and compare the overall fitness of the models, the following statistical measures of fit were considered: (a) Change in
Chi-Square, (b) Joreskog and Sorbom's (1980) Goodness of Fit Index, (c) Tucker & Lewis's Nonnormed Index (Tucker & Lewis, 1973), (d) Tucker & Lewis's Normed Index (Tucker & Lewis, 1973), (e) Hoelter's Critical N (Hoelter, 1983).

Summaries of the results of model testing for adolescent boys and girls on the five distress outcomes are presented in Table 2. The results of model comparisons are illustrated in Table 3. Nine out of ten of the changes in chi-square from Model A1 to Model A2 are not significant (see Table 3). The only significant change in chi-square from Model A1 to Model A2 is girls' self-esteem (12.39 for 4df). However, the nonnormed index for this comparison is -.07 and the normed index is .04. Therefore, even in this case, the change is insignificant. The nonnormed index for all the comparisons ranges from -.26 to -.07 and the normed index ranges from .00 to .08. These indices consistently indicate that no improvement is made by Model A2 over Model A1. Therefore, these results strongly support that Model A1 is more parsimonious and desirable than Model A2.

Insert Tables 2 & 3 about here

These results indicate that the adolescent boys and the adolescent girls relate to both their fathers and their mothers in essentially the same way. Thus the hypothesis that
there is a difference between the father-adolescent affective alliance and the mother-adolescent affective alliance is not supported by the data. The two variables father-adolescent affective alliance and mother-adolescent affective alliance are equivalent to each other in the models. In view of these results, these two variables were combined and named parent-adolescent affective alliance in the subsequent analyses.

Part B: Test for Hypotheses 2 and 3

The direct effects of economic hardship on father's marital happiness, mother's marital happiness and parent-adolescent affective alliance were first established before each of the adolescent outcomes was included. The path coefficients between economic hardship and the other three variables are common to all the other models in subsequent analyses. All three paths were hypothesized to be significant in all models. The results for the boys' data (Model B1) and for the girls' data (Model B2) are illustrated in Figure 3.

Examination of the path coefficients indicated that, for both adolescent boys and adolescent girls, economic hardship has significant effects on father's marital happiness, mother's marital happiness, and the adolescent's perception of the parent-adolescent affective alliance. For adolescent boys
(Model B1), the effect is strongest for the mother's marital happiness ($S.S. = 0.369, t=4.381, p<0.0005$), followed by the father's marital happiness ($S.S. = 0.208, t=2.467, p<0.0075$), and the adolescent's perception of the parent-adolescent affective-alliance ($S.S. = 0.161, t=2.037, p<0.025$). For adolescent girls, the effect is strongest for the mother's marital happiness ($S.S. = 0.377, t=4.677, p<0.0005$), followed by the father's marital happiness ($S.S. = 0.261, t=3.368, p<0.0005$), and the adolescent's perception of the parent-adolescent affective alliance ($S.S. = 0.213, t=2.752, p<0.005$).

The positive path coefficients indicate that less economic hardship relates to more marital happiness by the father, more marital happiness by the mother, and more parent-adolescent affective alliance. The directionality of these paths is as hypothesized.

These results are applicable to all the other models that are being investigated in the present study; they will not be repeated in the subsequent presentation. The presentation in Part C will focus on the direct and indirect effects of economic hardship on each distress outcome.

**Part C: Test for Hypotheses 4, 5, 6 and 7**

To test hypotheses 4, 5, 6, 7, and to establish which one of the eight models best represents the causal links between economic hardship, intrafamilial processes, and adolescent outcomes, the eight models that were described earlier were
compared to each other as well as compared to a baseline model (see Figure 1 and Figure 4). The baseline model was chosen in place of a null model. Although null models as proposed by Bentler and Bonett (1980) and Bentler (1980, 1982) are useful in exploratory research, they do not reflect the state of prior theory and knowledge (Sobel & Bohrnstedt, 1985). Sobel and Bohrnstedt (1985) proposed the replacement of a null model by a baseline model guided by the state of prior knowledge and theoretical considerations. This is the approach adopted by the present study.

The baseline model (MCB) in the present study assumes that there are five unobservable constructs (economic hardship, father's marital happiness, mother's marital happiness, parent-adolescent affective alliance, and one of the adolescent outcomes) with observable indicators as defined earlier in the method section. Instead of assuming that these indicators are independent of each other, as in the case in a null model, the baseline model assumes that there is a correlation between economic hardship and father's marital happiness, a correlation between economic hardship and mother's marital happiness, and a correlation between father's marital happiness and mother's marital happiness. As such,
this baseline model can be nested within each one of the models that are investigated in Part C. Moreover, this baseline model has a lot more organization and structure to it than the null model (see Figure 4).

Before any of the comparisons were carried out, the baseline model (MCB) was compared to the null model (MC0). This provided some indication of how much improvement this model had gained over the null model.

Each model was evaluated using LISREL. To evaluate and compare the overall fitness of the models, the following statistical measures of fit were considered: (a) Change in Chi-Square, (b) Joreskog and Sorbom's (1980) Goodness of Fit Index, (c) Tucker & Lewis's Nonnormed Index (Tucker & Lewis, 1973), (d) Tucker & Lewis's Normed Index (Tucker & Lewis, 1973), (e) Hoelter's Critical N (Hoelter, 1983). The procedure of model evaluation will be described before the results are presented.

Procedure of evaluation in Part C

The models are nested within each other such that the following comparisons can be made.

Comparison 1 (C1): MCB } IEA } DE1
Comparison 2 (C2): MCB } IEB } DE2
Comparison 3 (C3): MCB } IEC } DE3
Comparison 4 (C4): MCB } IED } DE4
Comparison 5 (C5): MCB } DE1 } DE2 } DE4
Comparison 6 (C6): MCB → DE1 ← DE3 ← DE4
Comparison 7 (C7): MCB → IEA ← IEB ← IED
Comparison 8 (C8): MCB → IEA ← IEC ← IED

The procedure of evaluation can be illustrated in Figure 5 (regular procedure). The first four sets of comparisons (C1 to C4) are designed to test the hypotheses regarding the existence of direct effects of economic hardship on adolescent developmental outcomes. If the data would support the notion that there are direct paths from economic hardship to the adolescent outcomes, Models DE1, DE2, DE3, and DE4 would be found to be significant improvements over corresponding Models IEA, IEB, IEC and IED. Conversely, if the data would support the notion that direct effects are absent, Models IEA, IEB, IEC & IED would be found to be more parsimonious than the corresponding Models DE1, DE2, DE3, and DE4.

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Insert Figure 5 about here
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As illustrated in Figure 5 (regular procedure), if Models IEA, IEB, IEC, and IED are supported by the data, comparison 7 and comparison 8 would be carried out, but comparison 5 and comparison 6 would be dropped from the analyses. On the other hand, if Models DE1, DE2, DE3 and DE4 are supported, comparison 5 and comparison 6 would be carried out, but comparison 7 and comparison 8 would be dropped from the
analyses. Comparison 5, comparison 6, comparison 7, and comparison 8 are designed to test the hypotheses regarding the role of marital relationship in mediating the relationship between economic hardship and adolescent developmental outcomes.

For comparison 5 and comparison 6, if Model DE1 is consistently supported, the notion that marital relationship does not have a mediating role between economic hardship and adolescent developmental outcomes is supported. If DE4 is supported consistently in these two comparisons, the notion that marital relationship mediates the effects of economic hardship on the adolescent developmental outcome and on the adolescent developmental outcome via the parent-adolescent affective alliance is supported. However, if neither these cases is true, it may mean that DE2 or DE3 is the best fit model. A conclusion may not be reached statistically to determine whether DE2 or DE3 is better supported by the data because DE2 and DE3 are not nested within each other. Observations would be made on the individual result and on the component fit measures to compare these models.

If Model DE2 is found to be more desirable, the data support the notion that marital happiness mediates the effects of economic hardship onto parental-adolescent affective alliance, which in turn, mediates the effects onto the adolescent developmental outcome. If Model DE3 is found to be
more desirable, the data support the notion that marital relationship mediates the effects of economic hardship onto the adolescent developmental outcome.

The same procedure and rules can be applied to evaluate Models IEA, IEB, IEC, and IED if comparison 7 and comparison 8 are to be carried out instead of comparison 5 and comparison 6. In this manner, all the models can be evaluated systematically.

There are some situations under which the first four comparisons may not be sensitive enough to indicate consistently whether the models with the direct paths or the models without the direct paths are more desirable. One example is when the correlation between economic hardship and the adolescent distress outcome is of a comparative magnitude to the correlation between one of the parents' marital happiness and the adolescent distress outcome. Under these circumstances, an alternative procedure (Figure 6) would be used in which comparisons 5, 6, 7, and 8 are carried out first. If Model DE1 is supported in the first two comparisons (C5 & C6) and Model IEA is supported in the later two comparisons (C7 & C8), comparison 1 would be carried out to compare Model DE1 and Model IEA. If Model DE2 is supported in the first two comparisons (C5 & C6) and Model IEB is supported in the later two comparisons (C7 & C8), comparison 2 would be carried out to compare Model DE2 and Model IEB. If Model DE3
is supported in the first two comparisons (C5 & C6) and Model IEC is supported in the later two comparisons (C7 & C8), comparison 3 would be carried out to compare Model DE3 and Model IEC. If Model DE4 is supported in the first two comparisons (C5 & C6) and Model IED is supported in the later two comparisons (C7 & C8), comparison 4 would be carried out to compare Model DE4 and Model IED.

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Insert Figure 6 about here

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In order to carry out the evaluation procedure systematically as planned, each outcome was tested independently for boys and for girls. However, the results of model testing for all the outcomes within each sex were summarized in one model for convenience. Figure 7 illustrates the results for the adolescent boys' data and Figure 8 illustrates the results for the adolescent girls' data.

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Insert Figure 7 and Figure 8 about here

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Results for self-esteem, loneliness, and depression

For the outcomes that are concerned with self-attitudes (self-esteem, depression, and loneliness), the models supported by the data are the same for both adolescent boys and adolescent girls (see Table 4a to Table 15). Tables 4b,
8, and 12 are summaries for the models for each of the outcomes for adolescent boys. Tables 6, 10, and 14 are summaries for the models for each of the outcomes for adolescent girls. Tables 5, 9, and 13 are summaries for the model comparisons for adolescent boys. Tables 7, 11, and 15 are summaries for the model comparisons for adolescent girls. Comparisons of models indicate consistently that the baseline models (MCB) are significant improvements over the respective null models (MCO) (see step no. 1 on Tables 5, 7, 9, 11, 13, 15). Also, the group of models without the direct paths from economic hardship to the outcomes (Models IEA to IED) are more parsimonious and have better fits to the data than the group of models with direct paths (Models DE1 to DE4) (see step no. 2 to 5 in Tables 5, 7, 9, 11, 13, 15). Subsequently, IEA to IED were compared to each other with MCB as the baseline model (see step no. 6 & 7 in Tables 5, 7, 9, 11, 13, 15). These comparisons consistently indicate that IEA is the most parsimonious model for the data on adolescent self-esteem, loneliness, and depression.

Insert Tables 4a to 15 about here

For both boys and girls, the data indicate that the effects of economic hardship on self-esteem, loneliness, and depression are indirect. Moreover, these indirect effects are
mediated through the parent-adolescent affective alliance only. There is no mediated effect on these outcomes via the father’s marital happiness or the mother’s marital happiness.

**Boys' Self-Esteem.** Both the overall fit indices and the component fit indices indicate excellent fit of the data to the model. For boys' self-esteem, the chi-square for 31 df is 38.63, goodness of fit index is 0.961, and the Hoelter's critical N is 218.55. The normed index indicates an increase of 66% in the variance explained as compared to the baseline model and the normed index indicates an increase of 32% in the variance explained as compared to the baseline model. The standardized coefficient of the path from parent-adolescent affective alliance to adolescent boys' self-esteem is 0.303 (t=3.810, p<.0005). More parent-adolescent affective alliance is related to more self-esteem in adolescent boys (see Figure 7).

**Girls' Self-Esteem.** For girls' self-esteem, the chi-square for 31 df is 45.74, goodness of fit index is .955, and the Hoelter's critical N is 193.52. The normed index indicates an increase of 62% in the variance as explained compared to the baseline model and the normed index indicates an increase of 39% in the variance explained as compared to the baseline model. The standardized coefficient of the path from parent-adolescent affective alliance to adolescent girls' self-esteem is 0.346 (t=4.636, p<.0005). The positive
relationship signifies that more parent-adolescent affective alliance is related to more self-esteem in adolescent girls (see Figure 8).

Boys' Depression. For boys' depression, the chi-square for 50 df is 62.67, goodness of fit index is 0.949, and the Hoelter's critical N is 203.72. The nonnormed index indicates an increase of 64% in the variance explained as compared to the baseline model and the normed index indicates an increase of 29% in the variance explained as compared to the baseline model. The standardized coefficient of the path from parent-adolescent affective alliance to boys' depression is -0.357 (t=-4.315, p<.0005). The direction indicates that more parent-adolescent affective alliance is related to less depression in adolescent boys (see Figure 7).

Girls' Depression. For girls' depression, the chi-square for 50 df is 88.14, goodness of fit index is 0.926, and the Hoelter's critical N is 151.24. The normed index indicates an increase of 46% in the variance explained by the model as compared to the baseline model, and the normed index indicates an increase of 37% in the variance explained as compared to the baseline model. The standardized coefficient of the path from parent-adolescent affective alliance to girls' depression is -0.477 (t=-5.715, p<.0005). The direction of the path coefficient indicates that more parent-adolescent affective
alliance is related to less depression in adolescent girls (Figure 8).

Boys’ Loneliness. For adolescent boys’ loneliness, the chi-square for 31 df is 40.51, goodness of fit index is 0.960, and the Hoelter’s critical N is 209.55. The nonnormed index indicates an increase of 62% in the variance explained as compared to the baseline model and the normed index indicates an increase of 32% in the variance explained as compared to the baseline model. The standardized coefficient of the path from parent-adolescent affective alliance to boys’ loneliness is -0.289 (t=-3.893, p<.0005). The direction of the path coefficient indicates that more parent-adolescent affective alliance is related to less loneliness in adolescent boys (see Figure 7).

Girls’ Loneliness. For adolescent girls’ loneliness, the chi-square for 31 df is 41.48, goodness of fit index is 0.959, and the Hoelter’s critical N is 212.22. The standardized coefficient of the path from the parent-adolescent affective alliance to girls’ loneliness is -0.263 (t=-3.572, p<.0005). The direction of this path indicates that more parent-adolescent affective alliance is related to less loneliness in adolescent girls (see Figure 8).

Results for aggression

Because of two compatible sizes of correlation coefficients in the girls’ data, it is not possible to
establish whether the group of models with direct effects or the group of models without direct effects are better supported by the present data. The two competing correlations are between economic hardship and adolescent's aggression, and between mother's marital happiness and adolescent's aggression. The overall fitness index would always indicate, given this situation, that Model DE1 and Model DE2 are significant improvements over Model IEA and Model IEB. On the other hand, the overall fitness index would also always indicate that Model IEC and Model IED are more parsimonious than Model DE3 and Model DE4. Because of this special situation, an alternative but equally valid comparison procedure was used. Each group of models (Model DE1 to DE4 and Model IEA to IEB) were compared internally before the comparisons for the direct effects were carried out (see Figure 6). The model results for boys and girls are summarized in Table 16 and Table 18. The model comparisons are summarized in Table 17 and Table 19.

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Insert Tables 16 to 19 about here
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For both boys and girls, the baseline model (MC0) is a significant improvement over the null model of complete independence (see step 1 in Table 17 and Table 19). Model DE1 is found to be the most parsimonious model among the group of
models with direct paths (see step no. 2 and 3 in Table 17 and Table 19). Also, Model IEA is found to be the most parsimonious model among the group of models without direct paths (see step no. 4 and 5 in Table 17 and Table 19). When Model DEI is compared to Model IEA in a nesting context using Model MCB as a baseline, Model DEI shows significant improvement over Model IEA for both the boys' data and the girls' data (see step no. 6 in Table 17 and Table 19). Therefore, it is concluded that Model DEI is most consistent with the present data.

Path coefficients for these models indicate that there are significant direct effects of economic hardship on aggression for both adolescent boys and girls. More economic hardship is related to more aggression. However, in both boys and girls, the indirect effect of economic hardship that is mediated through parent-adolescent affective alliance on aggression does not reach significance.

**Boys' Aggression.** For the boys' model, the chi-square with 16 df is 18.48, goodness-of-fit index is 0.976, and the critical N is 267.03. The nonnormed index indicates a 74% increase in variance explained as compared to the baseline model and the normed index indicates a 39% increase in variance explained as compared to the baseline model. The standardized coefficient of the direct path linking economic hardship to adolescent boys' aggression is -0.201 (t=-2.468,
p<.0075). This indicates that more economic hardship is related to more aggression in adolescent boys (see Figure 7).

**Girls' Aggression.** For the girls' model, the chi-square for 16 df is 22.01, goodness of fit index is 0.973, Hoelter's critical N is 227.91. The nonnormed index indicates a 66% increase in the variance explained as compared to the baseline model and the normed index indicates a 45% increase in the variance explained as compared to the baseline model. The standardized coefficient of the direct path linking economic hardship to adolescent girls' aggression is -0.247 (t=-2.935, p<.0025). This indicates that more economic hardship is related to more aggression in adolescent girls (see Figure 8).

**Results for delinquency**

**Boys' Delinquency.** The results for each of the models tested for adolescent boys' delinquency is summarized in Table 20. The comparisons of the models are summarized in Table 21. The baseline model (MCB) shows significant improvement over the null model (MCO) of complete independence (see step no. 1 in Table 21). Further comparisons of models with (Models DE1 to DE4) and without the direct effects (Models IEA to IED) of economic hardship on adolescent boy’s delinquency (see step no. 2 to no. 5 in Table 21) indicate that the group of models with the direct effects (Models DE1 to DE4) are significantly improvements over the models without the direct effects (Models IEA to IED). Subsequently, the models with the direct
effects (Models DE1 to DE4) are compared to each other with MCB as the baseline model (see step no. 6 and 7 in Table 21). These comparisons consistently indicate that Model DE1 is the most parsimonious model that fits the data best.

Insert Tables 20 and 21 about here

This result indicates that the effect of economic hardship on adolescent boys' delinquency is both direct and indirect. The indirect effect is mediated through the parent-adolescent affective alliance. There is no mediated effect on the adolescent boy's delinquency via the father's marital happiness or the mother's marital happiness.

For the adolescent boys' model on delinquency, the chi-square with 16 df is 18.63, goodness of fit index is 0.975, and Hoelter's critical N is 263.49. The nonnormed index indicates a total increase of 88% in the variance explained as compared to the baseline model, and the normed index indicates a total increase of 58% in the variance explained as compared to the baseline model. The standardized coefficient of the direct path linking economic hardship to adolescent boys' delinquency is -0.263 (t=-3.271, p<.0025). The standardized coefficient of the path linking parent-adolescent affective alliance to adolescent boys' delinquency is -0.185 (t=-2.634, p<.005). Both paths are significant. The direction of these
paths confirms that more economic hardship is directly related to more delinquency in adolescent boys. Furthermore, more economic hardship is related to less parent-adolescent affective alliance, which in turn, is related to more delinquency in adolescent boys (see Figure 7).

**Girls' Delinquency.** The results of model testing for the effect of economic hardship on girls' delinquency are summarized in Table 22. The results for the comparisons of models are presented in Table 23. The paths are illustrated in Figure 8.

Insert Tables 22 and 23 about here

Again, the baseline model (MCB) indicates a significant improvement over the null model (MCO) of total independence (see step no. 1 of Table 23). Comparisons of models indicates that the group of models without the direct effects (Models IEA to IED) are more parsimonious than the group of models (Models DE1 to DE4) with the direct effects (see step no. 2 to 5 in Table 23). Addition of direct paths to these models does not improve these models to any significant degree. Subsequently, the models without the direct effects (Models IEA to IED) are compared to each other with MCB as the baseline model (see step no. 6 and 7 in Table 23). The first group of comparisons (see step no. 6 in Table 23) indicates
that while IEA significantly improves over MCB, addition of the two paths (B_{31}, B_{32}) in Model IEB does not improve Model IEA at all. This indicates that the paths B_{31} and B_{32} are likely to be inconsistent with the data. Inspection of the path coefficient in Model IEB for these two paths confirmed that they are surely insignificant. However, when Model IED is compared to Models IEB, IEA, and MCB in a nesting context, there is a significant improvement in all the overall fitness indices (see step no. 6 in Table 23). These results indicate that the addition of the path B_{41} and B_{42} are likely to be significant for the overall fitness of the model. Therefore, it is likely that a model with B_{41} and B_{42} but without B_{31} and B_{32} would fit the data best, which is the situation in Model IEC.

The second set of comparisons were then carried out (see step no. 7 in Table 23). As has been found before, Model IEA shows significant improvement over MCB. When Model IEC is compared to Model IEA, Model IEC also shows significant improvement over Model IEA. However, when Model IED is compared to Model IEC, no significant improvement is made. This comparison confirms the importance of the paths B_{41} and B_{42} in the model. Therefore, it is obvious from both comparisons that Model IEC is the most parsimonious model.

The overall fitness indices of Model IEC shows excellent fit to the data. The chi-square for 15 df is 18.72, goodness
of fit index is 0.976, and Hoelter’s Critical N is 258.41. The nonnormed index indicates a total increase of 81% in variance explained as compared to MCB. The normed index indicates a total increase of 57% in variance explained as compared to MCB.

Examination of the component fitness indices indicates that the effects of economic hardship on adolescent girls’ delinquency are indirect only (see Figure 8). Moreover, the indirect effects are mediated through the parent-adolescent affective alliance as well as through mothers’ marital happiness. The effect of fathers’ marital happiness on adolescent girls’ delinquency is not significant.

The standardized coefficient of the path linking parent-adolescent affective alliance to adolescent girls’ delinquency is -0.144 (t=-2.099, p<.02). This indicates that more parent-adolescent affective alliance is related to less delinquency in adolescent girls. The standardized coefficient of the path linking mothers’ marital happiness to adolescent girls’ delinquency is -0.281 (t=-3.084, p<.0025). This indicates that more marital happiness of mothers is related to less delinquency in adolescent girls.
DISCUSSION

The purpose of the present study was to investigate the direct and indirect effects of economic hardship, through family relationships, on the functioning of adolescent boys and adolescent girls. Models based on different existing theories on the nature of these effects were compared to each other using LISREL.

Economic Hardship and Parent-Adolescent Affective Alliance

The hypothesis that under economic hardship there is a difference between the father-adolescent affective alliance and the mother-adolescent affective alliance was not supported. The results indicate that under economic hardship, both the father-adolescent affective alliance and the mother-adolescent affective alliance are affected to the same extent. For both boys and girls and for every outcome examined, the father-adolescent affective alliance and the mother-adolescent affective alliance relate to the other variables in the model in the same way. Further testing using the father-adolescent affective alliance and the mother-adolescent affective alliance as a combined variable support the conclusion that economic hardship has a negative effect on the parent-adolescent affective alliance.

These results support the belief that mothers today may be more vulnerable to the effects of economic hardship than during the Great Depression (McLoyd, 1989). Unlike the
situation in the 1930s, the contemporary mother is often employed in the work force. Today, work can be an important source of a mother's identity, self-esteem, and psychological fulfillment (McLoyd, 1989). This may cause a change in her attitude and reaction toward family income loss. Due to this kind of change in the structure of society since the 1930s, the parental difference is likely to diminish today. Therefore, it is possible that the mother's psychological well-being is more likely to be affected directly by economic hardship or indirectly by the mental status of the father (Dew et al., 1987; Liem, 1983; Liem & Rayman, 1982) nowadays than during the Great Depression.

These results are also consistent with findings in the life-stress research which indicate that under stressful life circumstances, there is a decrease in nurturance and support and an increase in power-assertive disciplinary style of the mothers' parenting behaviors (Conger et al., 1984; Crnic & Greenberg, 1987; Liem & Rayman, 1982; Longfellow, Zelkowitz & Saunders, 1982; McLoyd, 1989; Panaccione & Wahler, 1986; Patterson, 1988; Patterson, DeBarsyshe, & Ramsey, 1989; Siegal, 1984; Warr & Parry, 1982; Weinraub & Wolf, 1983; Zelkowitz, Saunders, Longfellow, & Belle, 1979). These behaviors are likely to promote a poor mother-adolescent relationship and therefore decrease their affection and alliance toward each other.
In summary, economic hardship adversely affects the psychological well-being of both parents, the supportive behavior of both parents toward their children, and the perception of both parents in the eyes of their children. A combination of these factors promotes negative parent-child interactions and results in a negative parent-adolescent relationship, thus weakening their affection and alliance.

Economic Hardship and Marital Happiness

The findings of the present study support the hypothesis that economic hardship has a direct negative effect on marital happiness. As expected, this effect was found to be significant for both the father's perception and the mother's perception of marital happiness. The fact that this finding was replicated in two samples (boys and girls) supports its robustness.

These results are consistent with previous findings that economic hardship generates frustration, anger, and depression in both the husband and the wife (Liker & Elder, 1983; McLoyd, 1990). Furthermore, economic hardship promotes power struggles, communication breakdown, and conflict over financial matters between the father and the mother. These factors, together with psychological distress (Guadagno, 1983; Liem et al., 1982; Rosenblatt & Keller, 1983; Zvonkovic et al., 1983) and role-strain (McCubbin et al., 1980) caused by economic hardship, would lead to or exacerbate a poor marital
relationship (Atkinson, Liem, & Liem, 1986; Bowman, 1988; Perucci, Targ, Perrucci, & Targ, 1987) as reflected by the parents' perception of their marital happiness. In the extreme cases, marital dissolution may result (Bakke, 1940).

Marital Relationship and Parent-Adolescent Affective Alliance

The hypothesis that economic hardship has a negative indirect effect on parent-adolescent affective alliance mediated through the parents' marital happiness is not supported in any one of the analyses. The results indicate that in both boys and girls the parent-adolescent affective alliance, the father's marital happiness, and the mother's marital happiness are all directly and negatively affected by economic hardship. No relationship between either parent's marital happiness and the parent-adolescent affective alliance was found after the effects of economic hardship on these three variables were controlled for.

However, it is important to note that the fact that neither the father's marital happiness nor the mother's marital happiness mediates the effect of economic hardship on the parent-adolescent affective alliance does not imply that the parents' marital happiness does not play a role in the mediational process. As pointed out earlier, one of the indirect effects of economic hardship on adolescent girls' delinquency is mediated through the mother's marital happiness. The two mediated causal linkages co-exist in the
model for adolescent girls' delinquency. Cummings et al. (1981) found that younger children who were exposed to parental conflict were more likely to have emotional and behavior problems. The present study found similar adverse effects for adolescent girls' delinquency.

Economic Hardship: Direct or Indirect Effects on Adolescents

The hypothesis that the effect of economic hardship on adolescent functioning is indirect only is not supported in all cases. It was found that the effect of economic hardship on adolescent distress can be direct only, indirect only, or both direct and indirect depending on the nature of the distress outcome and the sex of the adolescent.

For aggression, the effect of economic hardship on both adolescent boys and girls is direct only. For self-esteem, loneliness and depression, it was found that the effects are indirect only. The indirect effect is mediated through the parent-adolescent affective alliance. For delinquency, the effects for adolescent boys are both direct and indirect and the indirect effect is mediated through the parent-adolescent affective alliance. For adolescent girls' delinquency, the effects of economic hardship are mainly indirect and the indirect effects are mediated through both the parent-adolescent affective alliance and the mother's perception of marital happiness. Therefore, the hypothesis that the effect of economic hardship on adolescent distress is indirect and
indirect only does not seem to be adequate in explaining or describing the effect of economic hardship on all kinds of adolescent distress.

The direct and indirect effects of economic hardship on adolescent’s aggression have not been investigated in the past. However, previous research by Elder et al. (1984, 1985a, 1986) looking at the effects of economic hardship on a group of young children who were born just before the Great Depression indicated that the primary influence of the Depression hardship on temper tantrums and difficult behavior of children was indirect through the arbitrary discipline of the father.

This age difference in effects may be explained by using Elder’s (1979) notion of interaction of economic hardship and life stage (timing of the event in the lives of both the children and the parent). Younger children are less likely to be able to understand the meaning of family economic hardship. They are also less susceptible to the direct impact of economic hardship such as adjustment in their spending because their personal expenses tend to be less than those of adolescents. Therefore, they are less likely to be directly affected by family economic hardship. On the other hand, adolescents are in a better position to understand the implication of economic hardship. They are also more likely to be frustrated by the adjustment in their spending in
response to this family crisis because they have more autonomy in personal spending than younger children. As a result, they are also more likely to be directly affected by and angry at the financial hardship.

Furthermore, temper tantrums and difficult behavior of children under economic hardship were found to be significantly related to the parents' behavior (Elder et al., 1984, 1985a, 1986) but in the present study the aggressive behavior of adolescents was not found to be significantly related to the parent-adolescent affective alliance. Temper tantrum behavior of younger children was explained as a behavioral response to punitive parenting (Elder et al., 1984, 1985a, 1986). However, punitive parenting may have differential outcomes on a person depending upon the timing of economic hardship in the lives of the person (Moen et al., 1983).

The direct and indirect effects of economic hardship on adolescents' delinquency were not investigated in the Great Depression studies, but these effects have been investigated in a recent study by Lempers et al. (1989). It is interesting to note that when economic hardship and delinquency-drug abuse were measured using the adolescent's self-reports, as in the Lempers et al. (1989) study, the direct effect was found to be non-significant. When these measures were reported by the parents, as in the present study, the direct effect was found
to be significant. The reason may be that the two studies were not measuring the same psychological construct when they employed different sources of information. Adolescents' perception of economic hardship might be different from that of parents because first, parents may hide the economic hardship from their adolescents (Clark-Lempers, Lempers, & Netusil, 1990) and second, adolescents are not directly responsible for earning money and budgeting for the family expenses and may be less able than their parents to appreciate the family economic situation.

Parent-Adolescent Affective Alliance in the Mediational Process

The hypothesis that the indirect effects are mediated only through the parent-adolescent affective alliance is supported in the analyses for all of the outcomes except in girls' delinquency. Economic hardship has indirect effects on girls' delinquency through both the parent-adolescent affective alliance and the mother's marital happiness.

The present study indicates that the parent-adolescent relationship is the most important family mediational link between economic hardship and adolescent distress. However, it is not the only way that all the effects are mediated. Economic hardship, as stated, has an indirect adverse effect on adolescent girls' delinquency which is mediated through the mother's perception of marital happiness. Moreover, this
effect is independent of the indirect effect mediated through
the parent-adolescent affective alliance.

In summary, for the distress outcomes self-esteem, loneliness, depression, and delinquency, the findings of this study support the notion that parental support in the form of affection and reliable alliance may act as a buffer against the adverse effects of economic changes. Moreover, this parental support may be diminished because of the same adverse changes (Lempers & Clark-Lempers, 1990). For delinquency in adolescent girls, mothers' marital happiness is found to have the same buffering effect. However, for adolescent aggression, no buffering effect is found with either of these mediational variables. These results provide support for Clark-Lempers et al.'s (1990) suggestion that how family financial adversity relates to child behavior might vary significantly, dependent on the age and the sex of the child and on which distress outcome is being examined.

Sex Differences in Effects

The hypothesis that the adverse effect of economic hardship mediated through the parent-adolescent affective alliance is only significant for adolescent girls, not for adolescent boys, is not supported in any of the analyses. The results indicated that whenever the parent-adolescent affective alliance is significant in mediating the effect of
economic hardship on an outcome for adolescent girls, the same is true also for adolescent boys.

Elder et al. (1985b) found that the effect of economic hardship mediated through the parent-adolescent relationship influenced the psychosocial well-being of girls but not boys. Elder et al. (1985b) explained that this is related to the adolescent girl's smaller size and strength, and her greater exposure to family discord and tension. However, both the Lempers et al. (1989) study and the present study found that the effect of economic hardship mediated through the parent-adolescent affective alliance influenced the distress outcomes for both adolescent boys and adolescent girls in the same way. One possible explanation is that there is an increase in equality of parental treatment for boys and girls nowadays because of the increased equality in opportunities for both sexes in today's society as compared to the society in the 1930s. This may mean that when parents are distressed by economic hardship, the adverse effect is transmitted to both their adolescent sons and daughters.

Another possible explanation for this difference in findings may be related to the source of information. Based on mothers' reports, economic hardship was found to indirectly affect adolescent girls but not adolescent boys (Elder et al., 1985b). Based on adolescents' reports, economic hardship was shown to indirectly affect both adolescent boys and adolescent
girls (Lempers et al., 1989). Based on parents' report on economic hardship and adolescents' and parents' report on the distress outcomes as in the present study, economic hardship is also found to affect both sexes indirectly.

Economic Hardship and Adolescent Self-Esteem

Self-esteem refers to "the evaluation which the individual makes and customarily maintains concerning himself/herself; it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself/herself to be capable, successful, significant and worthy" (Coopersmith, 1967, p. 4). For both adolescent boys and adolescent girls, it was found that the effect of economic hardship on self-esteem is indirect only and is mediated through the parent-adolescent affective alliance.

The family has been widely accepted as an important context for children's and adolescents' self-esteem because it is the place where a person's initial sense of himself/herself is formed (Gecas & Schwalbe, 1986). Previous research suggests that the reflected appraisals of parents are especially critical for the self-conception of children and adolescents (Helper, 1958; Manis, 1958). Therefore, parental attitudes toward the child as reflected in their interactions and their relationships with their children are believed to have an important influence on children's self-esteem
(Bachman, 1970; Coopersmith, 1967; Gecas, 1971). Results of the present study are consistent with this previous research. Economic hardship reduces parent-adolescent affective alliance. This in turn conveys a negative appraisal of the adolescent's self-worth to the adolescent, thereby affecting the self-esteem of the adolescent.

Economic Hardship and Adolescent Depression

Previous research has pointed to the importance of the parent-adolescent relationship in depressed children. Depressed children tend to have unaffectionate and abusive parents (Kaslow, Rehm, & Siegel, 1984; Puig-Antich, Lukens, Davies, Goetz, Brennan-Quattrock, & Todak, 1985a; Puig-Antich, Joaquim, Blau, Marx, Greenhill, & Chambers, 1985b). The present study's results are consistent with the previous findings. For both adolescent boys and adolescent girls, it was found that the effect of economic hardship on depression is indirect only and is mediated through the parent-adolescent affective alliance.

Robertson and Simons (1989) propose that parents are natural sources of support and understanding for the adolescent. They suggest that due to the volatile nature of peer relationships at a time of social sorting and identity formation, certain types of doubts and anxieties cannot be easily shared with friends. Therefore, the quality of the parent-adolescent relationship can be considered as the most
important source of social support. Economic hardship indirectly affects the adolescent's depression because it decreases parent-adolescent affection and alliance, thereby diminishing parents as sources of confidence and social support for the adolescent during a period of high stress (Robertson & Simons, 1989).

Economic Hardship and Adolescent Loneliness

Williams states that loneliness "involves the human need for intimacy in interpersonal relationships, and results from the painful awareness of feeling apart from desired or wanted close relationship with others" (1983, p. 52). Loneliness is often characterized by an unpleasant, painful, anxious longing for another person or persons (Hartog, Audy, & Cohen, 1980), feelings of emptiness, hopelessness, restlessness, alienation, anxiety, and being unloved (Hays & DiMatteo, 1987; Perlman & Peplan, 1981). The present study indicated that for both adolescent boys and adolescent girls, the effect of economic hardship on loneliness is indirect and is mediated through the parent-adolescent affective alliance.

Previous studies have documented some important family factors relevant to the experience of loneliness among college students such as poor relationship with their parents, little family togetherness (Paloutzian & Ellison, 1982), and separation and alienation from parents (Mijuskovic, 1986). Economic hardship results in parenting practices that reduce
warmth and reliable alliance. Adolescents who perceive their parents as unaffectionate, nonsupportive, and nonunderstanding would find it difficult to form an intimate interpersonal relationship with them or to look up to them as confidants. Loneliness may be the result of this period of rapid transition, weakened parental relationship, and uncertain peer relationship.

Economic Hardship and Adolescent Aggression

For both adolescent boys and girls, the results indicate that there is a significant direct effect of economic hardship on their aggression. No significant mediated effects of economic hardship on adolescent aggression via the parents' marital happiness or the parent-adolescent affective alliance were found after the direct effects had been controlled.

Adolescents may resent the adjustments in their lifestyle due to economic hardship (McLoyd, 1989). They may feel insecure (Greenley, 1979). They may also be frustrated by a sense of helplessness (Beck, 1976) toward the family financial situation because they are still in school and cannot do very much to change things (Siegal, 1984). As a result, they may display anger and dissatisfaction in their general behavior in order to cope with these changes and adjustments. Both adolescent boys and adolescent girls may display a higher level of aggression in their behavior.
Economic Hardship and Adolescent Delinquency

For adolescent boys but not for adolescent girls, economic hardship was found to have a direct effect on delinquency. The direct effect may be explained by the same mechanism that explains the direct effect of economic hardship on adolescents' aggression. These adolescents are angry and frustrated by the financial hardship they have to bear but they are not in a position to help or to change things. In the extreme cases, boys may be especially at-risk of becoming delinquents. It is possible that because there are strong social sanctions against delinquency in girls (Chesney-Lind, 1977; Nye, 1978), adolescent girls are less likely to react to economic hardship by committing delinquent behavior. Boys, on the other hand, may become rebellious and anti-social. This would increase their vulnerability of associating with deviant peers and delinquency. This may be one of the explanations for the phenomenon that there are generally more male delinquents than female delinquents (Chesney-Lind, 1977; Nye, 1978).

Economic hardship also has indirect effects on adolescent boys' and adolescent girls' delinquency. The indirect effect of economic hardship on adolescent boys' delinquency is mediated through the parent-adolescent affective alliance. The indirect effect of economic hardship on adolescent girls' delinquency is mediated through the parent-adolescent
affective alliance as well as the mother's perception of the marital happiness.

The finding of an indirect effect on adolescent boys' and adolescent girls' delinquency mediated through the parent-adolescent affective alliance is consistent with Patterson, Dishion, and Bank (1984) and Patterson et al.'s (1989) work on family mediation of delinquency in adolescents. They suggest that family economic hardship can be viewed as a stressor which has a disorganizing effect on the marital relationship as well as on parenting practices. Distressed parents tend to use explosive and inconsistent discipline practices with their children. Ineffective parenting promotes negative parent-adolescent affective alliance and places the child at-risk for delinquent behavior. They found that during adolescence a failure in parent monitoring increases the probability that the adolescent associates with deviant peers, which then contribute to the adolescents' delinquency.

Adolescent girls' but not adolescent boys' delinquency is related to the mother's perception of marital happiness. This is consistent with the suggestion by some researchers that the family context of female delinquents is especially dysfunctional (Conger & Peterson, 1984; Felice & Offord, 1964; Gibbons, 1976; Widom, 1978). Because of the strong social sanctions against delinquent behavior among girls (Chesney-Lind, 1977; Nye, 1958), it is believed that it must take an
especially deviant family background to foster delinquency among girls (Henggeler, Edwards & Bonduin, 1987). Some studies have indicated that female delinquents report a higher degree of parental conflict (Morris, 1964) and marital dissatisfaction (Nye, 1958) than male delinquents. It has also been observed that parents and mother-adolescent dyads in families of female delinquents have higher rates of conflict than their counterparts in families of male delinquents (Henggeler et al., 1987).

Although it was not empirically verified in the present study that the female delinquents' family contexts are worse than the male delinquents, the results of the present study provide support for the notion that family context is highly related to female delinquency. Maybe because female adolescents are more invested in interpersonal relationships than male adolescents (Block, 1983) and maybe because sons tend to spend more time with peers outside the home than daughters (McLoyd, 1989), adolescent girls are more exposed to and affected by family discord than adolescent boys (Elder, 1985b).

In general, adolescent aggression is a direct reaction to economic hardship. It is not related to intra-family mediational factors. On the other hand, adolescent delinquency is very much related to family mediation factors,
although adolescent boys' delinquency is also a direct effect of economic hardship.

Summary

From these results, it can be concluded that economic hardship has negative effects on distress of adolescent boys and girls. The effects may be direct and direct only, indirect and indirect only, or both direct and indirect depending on the outcome and the gender of the adolescent. Both the father-adolescent affective alliance and the mother-adolescent affective alliance are negatively affected by economic hardship and both are involved in the mediational process. Although the parent-adolescent affective alliance is the most important mediator of the adverse effects, the mother's perception of the marital relationship is also significant in mediating the negative effect of economic hardship on adolescent girls' delinquency. Furthermore, the parents' marital happiness does not have a relationship with the parent-adolescent relationship after all the other effects have been controlled.

Specifically, it was found that the effects of economic hardship on both adolescent boys' and girls' self-esteem, loneliness, and depression are indirect and are mediated through the parent-adolescent affective alliance. The effects of economic hardship on adolescent boys' and girls' aggression are primarily direct. The effects of economic hardship on
adolescent boys' delinquency are both direct and indirect. The indirect effect is mediated through the parent-adolescent affective alliance. For adolescent girls, the effects of economic hardship on delinquency are indirect and are mediated through (1) the parent-adolescent affective alliance and (2) the mother's marital happiness.

Because economic hardship may affect adolescent distress through different pathways depending on the nature of the distress outcome and the gender of the adolescent, it is important to examine multiple distress outcomes for adolescent boys and adolescent girls separately when evaluating models. Building on theories from various research areas such as stress and adolescence, family relationship and social support, family therapy, and family mediation of stress, the present study was able to construct theoretically interesting models and test these models systematically for multiple distress outcomes and for each sex separately. This method has been proved to be a successful and efficient way of evaluating theories underlying the intricate relationship between key variables of interest. Results of the present study have provided not only a deeper understanding of the intrafamilial processes involved in how economic hardship affects adolescents, but also insight into many inconsistencies and controversial issues in previous research.
REFERENCES


GENERAL SUMMARY AND IMPLICATIONS

Summary

The aims of this dissertation were to (1) examine existing literature on the relationship between life changes and stress during adolescence, (2) examine existing literature on the effects of economic hardship on families, and (3) investigate the direct and indirect impact of economic hardship on adolescent distress. The first two aims were accomplished by literature reviews presented in Section I and Section II. The third aim was achieved by conducting an empirical study which is presented in Section III.

Section I reviewed literature on life changes and stress during adolescence. One of the most consistent findings among current research studies is that adolescence is a time of multiple and rapid changes (Powers, Hauser, & Kilner, 1989; Simmons & Blyth, 1987). During adolescence, biological, psychological, and social factors interact at an accelerated rate to shape a person's development (Brooks-Gun & Petersen, 1983; Hill, 1987; Petersen, 1988). School transitions, changes in social roles, and pubertal growth factors intermix to influence the mental health and developmental outcomes of adolescence (Blyth, Simmons & Carlton-Ford, 1983; Simmons, 1987; Simmons & Blyth, 1987). Each of these factors is potentially detrimental if change occurs at too young an age or at too fast a pace (Simmons & Blyth, 1987).
Coleman (1974) has proposed a focal theory of change. He has suggested that in early adolescence it is easier to adjust to life's changes one at a time than to make all the adjustments simultaneously. In general, great discomfort results for adolescents when change comes too suddenly, too early, or too frequently. Such adolescents are likely to have adjustment problems both at home and in other social environments (Simmons & Blyth, 1987). Therefore, a major crisis such as economic hardship may constitute an additional source of life change and stress for the adolescent to deal with. Based on the focal theory of change, it is expected that the adolescent who has to deal with this additional change will face greater risk of experiencing the damaging effects of change.

According to the theory of social provision (Sullivan, 1953; Weiss, 1974), different relationships can be perceived as providing for different social needs that emerge during certain stages of development. If these social needs are not met, an individual will experience negative emotions. The specific emotions experienced vary depending on which provision is missed. Previous literature has also pointed to the significance of the parent-adolescent relationship as an important source of social support for adolescent development. Research evidence indicates that how the parent-adolescent relationship and the parents' marital relationship are
affected by family economic hardship may have great implications for adolescent development. Adolescent children of families suffering from economic hardship appear to be especially at-risk of suffering direct and family-mediated effects of economic hardship.

In Section II, findings on the effects of economic hardship on families were examined. Economic hardship can be perceived as an external stressor that is transformed into a crisis for all family members. This crisis in turn affects intrafamilial processes. The effects of economic hardship on children and adolescents are likely to be direct, indirect, or both.

The direct effect may be related to the fact that economic hardship is an additional source of life change for the adolescent to cope with during a period of rapid changes in development. Also, it might result from feelings of losing control, security and leadership as well as a sense of anger, frustration and helpless toward the family situation.

The indirect effect is mediated through a cycle of punitive parental behavior, negative parent-child interactions, and adverse parent-child relationship. During the Great Depression, the father-child relationship, in particular, was more affected than the mother-child relationship, because economic hardship had a more salient
effect on the unemployed man than on the woman (Elder, 1974; Elder, 1979; Elder et al., 1985).

Inconsistencies exist in past studies on some important issues that require further research. These issues are: (1) the mother’s role in the mediational process, (2) the significance of direct effects, (3) the role of the parents’ marital relationship in the mediational process, (4) sex differences in vulnerability to the indirect effect mediated through the parent-adolescent relationship. Shortcomings of earlier and recent studies include the reliance on a single source of information, not using the children as informants, employing a retrospective design, focussing only on the parent-child relationship and not the triadic relationship, ignoring sex differences and parental differences. Furthermore, replication is needed for generalization.

To address the issues presented in Section I and Section II, the study in Section III investigated the direct and indirect effects of economic hardship on adolescent distress. Early and middle adolescent boys and girls and their parents were interviewed in their homes. Both the fathers and mothers provided information on family economic hardship, personal perceptions of marital happiness, and behavioral observations of adolescents’ aggression and delinquency. The adolescents provided information on their affective alliance with their parents, their self-esteem, loneliness, and depression. Based
on studies of the effects of the Great Depression on families, the following predictions were made: (1) There is a difference between the father-adolescent affective alliance and the mother-adolescent affective alliance under economic hardship, (2) Economic hardship has a direct and negative effect on the parent-adolescent affective alliance, (3) Economic Hardship has negative effects on both the father's and the mother's marital happiness, (4) The effect of economic hardship on adolescent functioning is indirect and indirect only, (5) All the indirect effects of economic hardship on adolescent distress are mediated through the parent-adolescent affective alliance, (6) There is a significant indirect effect of economic hardship on the parent-adolescent affective alliance mediated through the parents' perception of marital happiness, (7) The indirect effect of economic hardship mediated through the parent-adolescent affective alliance is only significant for adolescent girls, not adolescent boys.

These hypotheses were evaluated using results from systematic comparisons of eight theoretically based models representing the various possible causal linkages. These models were tested using LISREL. The hypothesis that there is a difference between the father-adolescent affective alliance and the mother-adolescent affective alliance under economic hardship is not supported. The father-adolescent affective alliance and the mother-adolescent affective alliance are
affected to the same extent by economic hardship and these two variables are essentially equivalent. The hypothesis that economic hardship has a direct and negative effect on the parent-adolescent affective alliance and the hypothesis that economic hardship has direct negative effects on both the father's and the mother's marital happiness are both supported by the present data. However, the hypotheses regarding the direct and indirect effects of economic hardship on adolescent distress and the difference in effects for boys and girls (Hypotheses 4 to 7) are not supported. Economic hardship is found to have direct effects on adolescent boys' and girls' aggression and on adolescent boys' delinquency. Therefore, effects are not indirect only. Moreover, the mother's marital happiness is found to be significant in mediating the effect of economic hardship on the adolescent girl's delinquency and this indirect effect is independent of the parent-adolescent affective alliance. Therefore, parent-adolescent affective alliance is not the only way through which all the indirect effects are mediated. Furthermore, there is no relationship found between parent-adolescent affective alliance and parents' marital happiness after all the other effects have been controlled. Finally, every significant indirect effect of economic hardship on adolescent girls mediated through the parent-adolescent relationship is the same as that found for adolescent boys.
Elder's (1974, 1979) and Elder et al.'s (1985) Family Mediation Model from the Great Depression provided a very useful framework for guiding the research on the impact of economic hardship on children and adolescents. The present study has expanded on this work by refining the detail of the intrafamilial processes involved. Through replication of the testing procedure on both the boys' sample and the girls' sample, and on multiple distress outcomes, the present study has achieved a better understanding of the impact of economic hardship on adolescent distress and how these effects are mediated through family relationships.

The parent-adolescent affective alliance may be regarded as an important source of support for the adolescent in developing a sense of self-worth and a base for forming intimate and confident relationships. Economic hardship affects the psychological well-being of the parents and so deprives the adolescent of this important source of social support. As a result, the adolescent is at-risk of low self-esteem, loneliness, and depression. When the parent-adolescent affective alliance is weakened, the adolescent is also more likely to feel angry with the family and society. The adolescent is at a greater risk of associating with deviant peers and becoming a delinquent at these times.

Moreover, economic hardship is an additional negative life stress that the adolescent needs to face at a time of
rapid and multiple life and social changes. Anger and frustration at the helpless situation may lead to a higher level of aggression in the adolescent. Adolescent boys are especially placed at-risk of delinquency in extreme circumstances. Because of the strong social sanctions against delinquency in girls, adolescent girls' delinquency as a direct reaction to economic hardship is not as likely as in adolescent boys.

Although both the father's and the mother's marital relationships are affected adversely by economic hardship, the significance of the parents' marital relationship in the mediational process only applies to adolescent girls' delinquency. Specifically, it is through the mother's perception of the marital happiness that this effect is mediated. This may be due to the adolescent girls' greater involvement in interpersonal relationships at home.

In summary, results of this study demonstrate the pervasive impact of economic hardship on a variety of adolescent distress outcomes including self-esteem, depression, loneliness, aggression, and delinquency. How each of these outcomes is linked to economic hardship depends on the nature of the particular distress outcome and the gender of the adolescent. Both the parent-adolescent relationship and the parents' marital relationship play important and specific roles in the mediational processes.
Limitations and Future Implications

Although the present study has made some improvement over the previous studies, there are also several limitations to this study. First, this study was conducted in a midwestern state of the U.S.A. which was experiencing the effect of a farm crisis. Although the impact of this farm crisis may be typical of the impact of economic crises experienced in areas that are also dependent on the agricultural industry, it may be different from the effects of sudden unemployment, temporary lay-offs, and job demotions that occur in urban areas. Second, the subjects came primarily from white, middle and working class families. Therefore, results cannot be generalized beyond a similar population without replication of the findings to other groups of people, such as African American families or chronically poor families. Another characteristic of the present sample is that only intact families were included. Perhaps this sampling procedure excluded families who were most seriously affected by the economic hardship. It would be interesting to compare the role of different family relationships in the mediational process in the separated/divorced families and the intact families. Another limitation is that the present findings are based on analyses of cross-sectional data using LISREL. While it is possible to make statistical conclusions on how well the data fits a model, it is not possible to prove the causal
direction of the linkages. In order to make those conclusions, prospective, longitudinal studies are needed to trace the relationship of different variables across time.

Other than improving on the limitations of the present study, a number of other recommendations for future research can be made as a result of the present study. First of all, as it was pointed out in the discussion, comparisons of findings from the present study and the previous studies suggest that the perception of economic hardship by the parents and the perception of economic hardship by the adolescent may be two different psychological constructs. It would be interesting for future studies to include both variables in the same model so that the relationship between these two variables and their relationships with the other variables can be studied.

Also, the present study has not examined the relationship between objective measures of income loss and subjective perceptions of financial hardship. In this research, economic hardship was defined as perceived financial inadequacy to meet the family’s basic needs. A model with both objective and subjective measurements would be able to provide further information on how much of the effects of objective income loss are mediated through the subjective perception of financial stress.
Second, previous research in this area has often measured parenting behavior as the family mediation variable in the model. There is an underlying assumption that parenting behavior is an indication of parent-child relationship. However, parenting behavior may be influenced very much by parenting values. Parenting styles may be less related to the parent-child relationship than was assumed. In the present study, direct measurement of an aspect of the parent-adolescent relationship was used instead. However, it is still not known how the parent-adolescent relationship is related to changes in parenting behavior under economic hardship. Future research is needed to investigate the relationship between parenting values, parenting styles and parent-child relationship, and how all of them change under economic hardship.

Third, the present study has focused on examining how well the data support different models linking economic hardship to different types of adolescent distress. It has not investigated the relationship between the various distress outcomes. With a longitudinal, prospective design, future research may expand on the present finding by examining the relationship between these outcomes.

Fourth, research is also needed to trace the long-term impact of economic hardship on subjects. Although this type of research has been done with subjects during the Great
Depression, little research is available on the long-term impact of the present day economic crises on children and adolescents.

Fifth, while the parents' marital relationship and the parent-adolescent relationship are important to adolescent development, there are other intra- and extra-familial relationships that are also significant to the adolescent's development. For example, grandparents, siblings, friends, and teachers may be sources of social support to the adolescent. Therefore, it is very important for future research to study how these relationships change during times of family economic hardship and how they may help to provide support to the adolescent.

Finally, while the present study has helped to understand how the adverse effects of economic hardship for adolescents are brought about, research is needed on how these adverse effects on adolescents may be prevented or intervened. On the one hand, because family relationships are the key variables in the mediational process, policies and intervention programs should emphasize how to preserve family relationships and integration in times of financial hardship. On the other hand, one must not neglect that the economic hardship also directly affects certain aspects of adolescent distress such as aggression and delinquency. Therefore, efforts should be made to increase the adolescent's understanding of the factors
precipitating the hardship and help the adolescent to adopt a healthy attitude of coping with changes and adjustments. With more studies investigating the network of social support in adolescents, intervention programs may be designed to promote social support through multiple resources. This approach may increase the chance of success in protecting adolescent boys and adolescent girls from the possible debilitating consequences of family economic hardship.
REFERENCES


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APPENDIX A: CORRESPONDENCE
Dear Mr. and Mrs.  

Enormous changes have taken place in the last few years in Iowa due to the farm crisis. The economic costs of this crisis have been discussed, but the social and emotional costs to families are just being recognized. As faculty at Iowa State University, we are conducting a study to look at the effects of the state’s current economic situation on the well-being of the Iowa family. This research is supported by the National Institutes of Health.

We are particularly interested in the well-being of Iowa’s adolescent children. Your local school was selected as part of a state wide sample of Iowa schools. Families were chosen at random from within the sixth grade at your school. To participate, a family must include both natural parents, a sixth grader and a brother or sister within a certain age range. If your family agrees to be in the study, a professional interviewer will come to your home at your convenience to complete questionnaires with each of these four family members. This will take about one hour and your family will receive $70 for your time and effort.

We will be contacting you by telephone within the next few weeks to answer any questions you may have and to determine whether your family is eligible to be included and willing to participate. All information you provide will be kept strictly confidential and your names will not be attached to any of the completed questionnaires. You would, of course, be free to withdraw from the project at any point should you wish to do so.

Your family’s voluntary cooperation in this project is vital to its success and will be greatly appreciated. If you have any questions about the study before our researcher calls you, please do not hesitate to contact Toni Genalo, Project Manager, 515-294-5244.

Sincerely,

Jacques Lempers, Professor  
Child Development Department
We agree to participate in the research study of adolescents being conducted by Iowa State University. For our efforts our family will receive $70.00.

We understand that all information gathered will be held strictly confidential and that we can withdraw from the study at any time.

______________________________
Mother’s signature

______________________________
Father’s signature

______________________________
6th/8th Grader’s signature    Parent for 6th/8th Grader

______________________________
Other Child’s signature    Parent for Other Child

Date: ___/___/___    Month  Day  Year

Witness for ISU:

______________________________
Interviewer’s signature
APPENDIX B: FIGURES FOR SECTION II AND SECTION III
Direct effect model 1 (DE1)

Father's Marital Relationship

Parent-Adolescent Relationship

Economic Hardship

Mother's Marital Relationship

Distress Outcome

Direct effect model 2 (DE2)

Father's Marital Relationship

Parent-Adolescent Relationship

Economic Hardship

Mother's Marital Relationship

Distress Outcome

Figure 1. Eight possible models based on existing theories
Direct effect model 3 (DE3)

Father's Marital Relationship

Parent-Adolescent Relationship

Economic Hardship

Mother's Marital Relationship

Distress Outcome

Direct effect model 4 (DE4)

Father's Marital Relationship

Parent-Adolescent Relationship

Economic Hardship

Mother's Marital Relationship

Distress Outcome

Figure 1 (Continued)
Indirect effect model A (IEA)

- Father's Marital Relationship
- Parent-Adolescent Relationship
- Economic Hardship
- Mother's Marital Relationship
- Distress Outcome

Indirect effect model B (IEB)

- Father's Marital Relationship
- Parent-Adolescent Relationship
- Economic Hardship
- Mother's Marital Relationship
- Distress Outcome

Figure 1 (Continued)
Indirect effect model C (IEC)

Father's Marital Relationship

Parent-Adolescent Relationship

Economic Hardship

Mother's Marital Relationship

Distress Outcome

Indirect effect model D (IED)

Father's Marital Relationship

Parent-Adolescent Relationship

Economic Hardship

Mother's Marital Relationship

Distress Outcome

Figure 1 (Continued)
Model AB (Baseline model for Part A)

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\[ E_1 \rightarrow \begin{array}{c} n_1 \rightarrow x_1 \rightarrow d_1 \\ n_2 \rightarrow x_2 \rightarrow d_2 \\ n_3 \rightarrow \end{array} \]

<table>
<thead>
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<td>Affective</td>
<td>Alliance</td>
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Model A2 (Model without equality constraints)

\[ E_1 \rightarrow \begin{array}{c} \eta_1 \rightarrow \eta_2 \rightarrow \eta_3 \rightarrow \eta_4 \rightarrow \eta_5 \rightarrow \eta_6 \rightarrow \eta_7 \rightarrow \eta_8 \rightarrow \eta_9 \end{array} \]

<table>
<thead>
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<th>Father's Happiness</th>
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Figure 2. Models for testing the difference between the father-adolescent affective alliance and the mother-adolescent affective alliance in Part A
Model A1 (Model with equality constraints)

Equality constraints in model A1:  
\[ B_{31} = B_{41} \]
\[ B_{32} = B_{42} \]
\[ B_{53} = B_{54} \]
\[ r_{31} = r_{41} \]

Figure 2 (Continued)
**Model B1 (Adolescent boys)**

\[ \begin{align*}
X_1 & \rightarrow 0.703 \text{ Economic Hardship} \\
X_2 & \rightarrow 0.903
\end{align*} \]

\[ \begin{align*}
\text{Economic Hardship} & \rightarrow 0.161 \text{ Parent-Adolescent Affective Alliance} \\
& \rightarrow 0.208** \text{ Father's Marital Happiness} \\
& \rightarrow 0.369*** \text{ Mother's Marital Happiness}
\end{align*} \]

\[ Y_1 \rightarrow 0.944 \text{ Parent-Adolescent Affective Alliance} \]
\[ Y_2 \rightarrow 0.907 \text{ Mother's Marital Happiness} \]

**Model B2 (Adolescent girls)**

\[ \begin{align*}
X_1 & \rightarrow 0.672 \text{ Economic Hardship} \\
X_2 & \rightarrow 0.913
\end{align*} \]

\[ \begin{align*}
\text{Economic Hardship} & \rightarrow 0.213** \text{ Parent-Adolescent Affective Alliance} \\
& \rightarrow 0.261*** \text{ Father's Marital Happiness} \\
& \rightarrow 0.377*** \text{ Mother's Marital Happiness}
\end{align*} \]

\[ Y_1 \rightarrow 0.881 \text{ Parent-Adolescent Affective Alliance} \]
\[ Y_2 \rightarrow 0.931 \text{ Father's Marital Happiness} \]
\[ Y_3 \rightarrow 0.849 \text{ Mother's Marital Happiness} \]
\[ Y_4 \rightarrow 0.876 \text{ Mother's Marital Happiness} \]

* \( p < .05 \)

** \( p < .01 \)

*** \( p < .001 \)

**Figure 3.** Results of model testing for the effects of economic hardship on the parent-adolescent affective alliance and the parents' marital happiness in Part B.
Null Model (MCO)

Model CB (MCB)

Figure 4. Null model and Baseline model for testing the effects of economic hardship on adolescent distress in Part C
For each model:
Evaluate overall fitness:
X-sq, GFI, CN,

Model Comparisons:
Evaluate C(X-sq), Normed, Nonnormed

Do:
C1, C2, C3, C4

If direct effects are
supported (DE1, DE2, DE3

Data either support
DE1 or DE4, otherwise,
compare DE2 & DE3.

If direct effects are
not supported (IEA, IEB
IEC, IED), do C7 & C8.

Data either support
IEA or IED, otherwise,
compare IEB & IEC.

List of symbols
X-sq: Chi-Square
C(X-sq): Change in chi-square
GFI: Goodness of Fit Index
CN: Hoelter's Critical N
Normed: Normed Index
Nonnormed: Nonnormed Index

List of comparisons:
C1: MCB | IEA | DE1
C2: MCB | IEB | DE2
C3: MCB | IEC | DE3
C4: MCB | IED | DE4
C5: MCB | DE1 | DE2 | DE4
C6: MCB | DE1 | DE3 | DE4
C7: MCB | IEA | IEB | IED
C8: MCB | IEA | IEC | IED

Figure 5. Regular procedure of model evaluation in Part C
For each model:
Evaluate overall fitness:
X-sq, GFI, CN,

Model Comparisons:
Evaluate C(X-sq), Normed, Nonnormed

Do:
C5, C6, C7, C8

If DE1 & IEA are supported, do C1.
If DE4 & IED are supported, do C4.

If DE2 & IEB are supported, do C2.
If DE3 & IEC are supported, do C3.

List of symbols
X-sq: Chi-Square
C(X-sq): Change in chi-square
GFI: Goodness of Fit Index
CN: Hoelter's Critical N
Nonnormed: Nonnormed Index
Normed: Normed Index

List of comparisons:
C1: MCB \ IEA \ DE1
C2: MCB \ IEB \ DE2
C3: MCB \ IEC \ DE3
C4: MCB \ IED \ DE4
C5: MCB \ DE1 \ DE2 \ DE4
C6: MCB \ DE1 \ DE3 \ DE4
C7: MCB \ IEA \ IEB \ IED
C8: MCB \ IEA \ IEC \ IED

Figure 6. Alternative procedure of model evaluation in Part C
Figure 7. Effects of economic hardship on adolescent boys' distress

* p < .05.
** p < .01.
*** p < .001.
Figure 8. Effects of economic hardship on adolescent girls' distress
APPENDIX C: TABLES FOR SECTION III
Table 1
Means, Standard Deviations, and Correlations among All Variables in the Models for Boys (Above the Diagonal) and Girls (Below the Diagonal)

Variable List:
1. Family economic hardship
2. Father's marital happiness
3. Mother's marital happiness
4. Father-adolescent affective alliance
5. Mother-adolescent affective alliance
6. Parent-adolescent affective alliance
7. Adolescent's self-esteem
8. Adolescent's loneliness
9. Adolescent's depression
10. Adolescent's aggression
11. Adolescent's delinquency

B: Adolescent boys
G: Adolescent girls
M: Mean
SD: Standard deviation

N for Adolescent Boys = 192 (listwise deletion)
N for Adolescent Girls = 188 (listwise deletion)
Table 1 (Continued)

|    | M     | SD    |     |     |     |     |     
|----|-------|-------|-----|-----|-----|-----|-----
|    | B     | G     | B   | G   | 1   | 2   |
| 1  | .12   | -.19  | 9.24| 9.73| ----| -.22**|
| 2  | 7.58  | 7.61  | 2.27| 2.35| -.21**| ----|
| 3  | 7.52  | 7.44  | 2.17| 2.45| -.34***| .57***|
| 4  | 26.86 | 26.79 | 3.14| 3.87| -.19**| .07|
| 5  | 27.21 | 27.47 | 2.90| 3.21| -.19**| .10|
| 6  | 54.06 | 54.26 | 5.90| 6.79| -.20**| .09|
| 7  | 27.81 | 27.58 | 3.41| 3.72| -.19**| .11|
| 8  | 20.82 | 19.75 | 5.91| 5.79| .20**| -.10|
| 9  | 7.43  | 7.26  | 2.31| 2.19| .11 | -.08|
| 10 | 12.20 | 10.94 | 6.51| 6.34| .22**| -.10|
| 11 | 2.16  | .91   | 2.26| 1.41| .13*| -.12|

* p < .05.
** p < .01.
*** p < .001.
Table 1 (continued)

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Table 2

Model Summaries for Testing the Difference between Father-Adolescent Affective Alliance and Mother-Adolescent Affective Alliance in Part A

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MODEL BAB: Boy's baseline model
MODEL BA1: Boy's model with equality constraints
MODEL BA2: Boy's model without equality constraints
MODEL GAB: Girl's baseline model
MODEL GA1: Girl's model with equality constraints
MODEL GA2: Girl's model without equality constraints
Table 3
Comparisons of Models for Testing the Difference between Father-Adolescent Affective Alliance and Mother-Adolescent Affective Alliance in Part A

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MODEL BAB: Boy's baseline model
MODEL BA1: Boy's model with equality constraints
MODEL BA2: Boy's model without equality constraints
MODEL GAB: Girl's baseline model
MODEL GA1: Girl's model with equality constraints
MODEL GA2: Girl's model without equality constraints
Table 4a

List of Symbols in Table 4b to Table 23

MC0: Null model of total independence
MCB: Baseline model for comparisons
DE1: Direct effect model 1
DE2: Direct effect model 2
DE3: Direct effect model 3
DE4: Direct effect model 4
IEA: Indirect effect model A (parallel to DE1)
IEB: Indirect effect model B (parallel to DE2)
IEC: Indirect effect model C (parallel to DE3)
IED: Indirect effect model D (parallel to DE4)
C(DF): Degree of freedom
C(CHI-SQ): Change in chi-square
GFI: Goodness of fit index
CN: Hoelter's critical N
NONNORMED: Nonnormed index
NORMED: Normed index
N: Number of subjects
Table 4b

Summary of Models for Boys' Self-Esteem in Part C

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* supported model
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Comparisons of Models for Girls Self-Esteem in Part C

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Table 8

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Comparisons of Models for Boys' Loneliness in Part C

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* supported model
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* supported model
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* supported model
Table 21
Comparisons of Models for Boys' Delinquency in Part C

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* significant
Table 22

**Summary of Models for Girls' Delinquency in Part C**

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* supported model
Table 23

**Comparisons of Models for Girls' Delinquency in Part C**

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