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EFFECTS OF RESIDENTIAL MOBILITY ON ADOLESCENT SELF-EFFICACY AND EDUCATIONAL SUCCESS

by

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A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
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This study was designed to determine how residential mobility, including the timing of the mobility, affects adolescent outcomes. Using longitudinal data (collected in 1976, 1981, and 1987) from the National Survey of Children, a conceptual model that links residential mobility to the adolescent outcomes of self-efficacy and educational success through the mediating effects of family stress and authoritarian parenting behaviors was tested. The sample included 416 African-American and white parents and their children. Latent variable analysis using LISREL 7 resulted in inconclusive findings. However, results pointed toward possible direct effects of family stress on parental warmth, adolescent self-efficacy, and educational success. Additionally, results suggest a similarity between families who remained in one residence for 10 years and those who moved only during Wave 1. Furthermore, families who experience continuous mobility appear to differ from their more stable counterparts. An important, unintended finding of this research was the low reliabilities of scales constructed from items with excellent face validity.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro

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CHAPTER I

INTRODUCTION

Research concerning the consequences of family residential mobility was scarce a decade ago (Stokols & Shumaker 1982), a fact that holds true today as well. A review of the literature since 1974 identified 17 published articles that directly addressed the outcomes of family residential mobility; only three related mobility and child outcomes (cf., Hendershott, 1989; Kroger, 1980a, 1980b). Important evidence suggests, however, that the demographic shifts in America today place children at even greater risk for being affected by residential mobility than ever before (Johnson & Wahl, 1995). For example, the increased numbers of single-parent, female-headed families and homeless families is associated with being precariously housed and, thus, with multiple changes of residence (Rossi, 1994). Likewise, the experience of numerous employers by breadwinners is associated with residential mobility for families (Johnson & Wahl, 1995).

Three groups are inherently mobile: homeless families, military personnel, and migrant workers. Regarding homeless families, estimates in 1987 were that between 500,000 and 600,000 people were homeless (Burt, 1992), with families accounting for 12%-38% of these figures (Burt, 1992; Jencks, 1994; Molnar, Rath, & Klein, 1990). These estimates reflect urban counts and typically are tied to shelter use. Thus, they

can represent homeless families in general, but may more adequately reflect specific groups of homeless families.

The definition of homelessness currently includes not only those who are absolutely without shelter, but also those who are precariously housed (Burt, 1992; Rossi, 1994). Precariously housed families live with friends or family, often with more than two families per residence, live in places dangerous for habitation, and/or pay rents so out of proportion to their income that basic necessities are unaffordable (Rossi, 1994). The precariously housed are largely invisible and, thus, uncounted as homeless (First, Rife, & Toomey, 1994; Rossi, 1994). However, based on conservative criteria of vulnerability (single-parent status and earnings at 51% of poverty level), Rossi (1994) estimated that about 2.6 million families were precariously housed and, thereby, at risk for becoming homeless.

Research regarding homeless families consists mainly of descriptive studies and is limited to specific geographic locations (e.g., Detroit, Ohio, San Francisco, Minnesota, Washington, DC). Rossi (1994) found only 30 studies based directly on homeless families. Included in these were case studies (e.g., Kozol, 1988) and ethnographies of soup kitchens and women's shelters (e.g., Glasser, 1988; Liebow, 1993). Although some accounts are rich in detail surrounding the homeless experience of one family or the experience within one shelter, sample sizes and the research designs used do not allow generalizing to the larger homeless population.

Studies focusing on shelter services and sources of vulnerability to family homelessness have concentrated on the developmental and health outcomes of young

children (e.g. Bassuk & Gallagher, 1990; Boxill & Beaty, 1990; Wright, 1990). Adolescence, even though at this age the development of identity is the prime developmental task, has not been addressed. Little mention is made of how families deal with the inherent complexity of homelessness and its long-term effects. No mention is made of what effects early homelessness has on adolescent outcomes. Whereas multiple transitions (e.g., entering high school, starting to date, working for pay, experiencing puberty) are a natural and potentially stressful characteristic of adolescence, adding the residential mobility associated with homelessness to the expected transitions increases the risk of negative outcomes from pile-up of stressors.

Descriptive profiles are the major contribution of research thus far. From these profiles it is known that homeless families have moved several times in the year prior to becoming homeless, exhibiting high levels of residential mobility (Bassuk & Gallagher, 1990).

High residential mobility is not, however, solely characteristic of the homeless. In 1980 the average person in the U.S. moved 14 times during his or her lifetime (Kroger, 1980b). Considering the 1989 estimated number of precariously housed families as 2.6 million (Rossi, 1994), it is reasonable to expect an even larger number of lifetime moves for the current population with many occurring during childhood. This may be particularly true for children residing in military and migrant families.

Military personnel experience high residential mobility and high stress (Garber & McNelis, 1995). With little choice of residence, their families may be dissatisfied with location and accommodations, and this dissatisfaction serves as one source of

family stress. Related research has shown that remaining in a place that is inadequate for one's needs, coupled with limited choices, results in negative outcomes for adults (Stokols & Shumaker, 1982; Stokols, Shumaker, & Martinez, 1983). Similarly, migrant workers travel to find seasonal work, generally at substandard pay, and they take up residence at work sites. Thus, they experience limited meeting of needs and restricted choice. Further, these families are perceived as outsiders in both their home states and their work communities. They experience limited time of residence in both communities and may not be actively involved in community issues. Moreover, estimates suggest that half of migrant children perform seasonal work by age nine (Ramos, 1995), thereby placing them at risk for limited education. Working children may attend school tired or may only attend sporadically. While working and assisting with the financial support of the family may contribute positively to a child's sense of self-efficacy, having no choice in the decision to work may be negatively associated with the child's development of self-efficacy.

The period of 7 to 12 years of age is the time for developing a sense of efficacy, according to Erikson (Thomas, 1992). Children who are not provided opportunities to accomplish tasks they recognize as interesting and valuable may feel a sense of inadequacy or low self-efficacy. Highly mobile families, whether military, migrant, or homeless, experience less residential stability and the accompanying stressors (e.g., keeping track of one's possessions, changing social networks, and frequent changes of schools). Under stressful conditions, parents are less likely to practice effective parenting behaviors, such as patience, responsiveness, and support

(cf., McLoyd, 1990; Webster-Stratton, 1990). Thus, parents' provision of encouragement, support, and opportunities for children to develop a sense of adequacy may be reduced when families are highly mobile. Insofar as this is true and insofar as parenting affects development, adolescent development may be differentially affected by earlier mobility, mobility during adolescence alone, or continuous mobility throughout childhood and adolescence. Hence, research on how residential mobility affects the development of adolescents is warranted.

Further, it is known that the family environment differs for boys and girls. For example, sons of married mothers and daughters of single mothers experience more positive home environments than their counterparts (Menaghan & Parcel, 1991). Because family life, in general, differs according to the sex of the child, it follows that boys and girls may experience residential mobility diffently.

A paucity of probability samples and longitudinal data has limited explanatory research and the development of empirically driven theory concerning families who experience residential mobility, especially homeless families (Rossi, 1994). Although the current study does not use data from a homeless population or those who reside in military or migrant families per se, the study examines the phenomenon of residential mobility and its effects on children over time. In so doing, the findings are relevant to understanding processes attendant to the subsequent stress of multiple moves, whatever their source.

Purpose

A conceptual model linking early residential mobility to family stress and adolescent outcomes was tested. The model suggests that residential mobility does not directly affect adolescent outcomes. Instead, the model posits that residential mobility results in higher levels of family stress. Higher levels of stress increase the likelihood of authoritarian parenting behaviors that affect adolescent self-efficacy and educational success. Race, the presence of a non-parent adult significant to the child, adolescent's valuing educational success, and parents' marital and financial status are proposed to affect the relationships between key variables in the model. Importantly, this research addresses the timing of residential mobility as an influence on adolescent outcomes. Thus, three primary research questions underlie the study: How does residential mobility affect adolescent outcomes? Does timing of residential mobility (i.e., early, later, or continuous) in the child's life affect adolescent self-efficacy and educational success? How is the experience of residential mobility different for boys and girls?

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter is to review recent literature related to families and residential mobility. The literature reviewed supports the chosen theoretical framework of this study. Assessment of previous research identifies relevant findings as well as gaps in the current knowledge as it relates to the conceptual model being tested.

This chapter is organized in the following manner: First, the present state of American families is considered. Second, theoretical foundations for this research are addressed within the context of the conceptual model. This is followed by a discussion of the key constructs in the model (family residential mobility, stress, parenting behaviors, and adolescent outcomes), and conditions for alteration of the model.

American Families Today

Two key demographic changes suggest that more families are vulnerable to the loss of an income than ever before. During the past two decades, the percentage of children maintained by a single parent increased from 11% to 24%. It is well-documented that most single-parent families are female-headed and result from divorce, that after divorce a woman's standard of living drops, and that, generally, employed women earn less than men performing the same job. Also, the number of dual-earner families increased during the same period from 40% to 60% (Johnson &

Wahl, 1995). It is equally well-documented that in most dual-earner families the woman's income helps to sustain the family, rather than afford it a high standard of living.

Increased vulnerability to negative outcomes (e.g., homelessness, poor health) due to inadequate income also is borne out by increasing poverty rates. During the decade of the 1980s, the percent of people living in poverty increased to 16.5%, one third higher than the 1970s average (12.3%), and in 1989, 31.5 million individuals lived below the poverty level of $12,674 for a family of four (Johnson & Wahl, 1995). The likelihood of living in poverty is strongly related to race and family structure. People of color are more likely to experience poverty. For example in 1980, 34.9% of Puerto Ricans in American lived in poverty, as did 26.3% of African- Americans, 21.7% of Mexican-Americans compared to only 6.5% of non-hispanic whites (Billingsley, 1992). Also vulnerable to poverty are female-headed, single-parent families, a family structure increasing in number. Estimates suggest that 53% of families in poverty are single-parent and female-headed. Following the color line established above, the subgroup most vulnerable to poverty is the African-American female-headed family, followed by Hispanic female-headed families, and then white female-headed families (Jennings, 1994; Johnson & Wahl, 1995). In addition, the number of two-parent families is decreasing, while the number of children born to unmarried mothers is increasing. In 1991, 30% of all children born were born to unwed mothers, up from 18% in 1980 (U.S. Department of Health & Human Services, 1991). This means increasing numbers of children are at risk for undesirable outcomes

because of their economic disadvantage, with about 20% of American children living in poverty (Jennings, 1994).

These figures indicate that American families are changing in structure, with a growing likelihood that they will be headed by a single parent who is female. Furthermore, growing numbers of American families are poor, and children are increasingly at risk for living in poverty. As a result, more families are likely to experience chronic economic stress, evidenced in the number who are precariously housed and homeless.

Theoretical Foundation

Family stress theory serves as the theoretical cornerstone for this research. Concepts essential to understanding its current application are examined in the following section. According to family stress theory, stressors are events or conditions and, as such, affect all families. Some stressors originate from outside the family and some from within. Each stressor represents a potential for change in the family system (Boss, 1988). However, the number of stressors, the magnitude of change, and the quality of the change are important considerations when ascribing conditions as distressful (Pearlin, Menaghan, Lieberman, & Mullan, 1981). Whether or not stressors produce stress and/or strain within the family depends on both the family's resources and the family's perception of the stressor (Lazarus, 1993; Pearlin, 1991, 1993). Stressors, then, are not to be equated with stress (Boss, 1988). Likewise, stress is not equivalent to distress.

Stress may be thought of as pressure or tension. Using a mechanistic example, pushing against a wall is pressure, and one person's pressure probably will not cause the wall to collapse. In this case, the person is the stressor, his/her pushing is stress on the wall, and the wall's collapsing is distress. Whereas one person's pressure caused no damage, a large number of people pressing against the wall at the same time might force a collapse. Likewise, multiple stressors accumulating over time (i.e., pile-up), especially chronic stressors interacting with developmental transitions, are likely to produce family stress. Whether or not the family is negatively affected (distressed) by the pile-up depends on the family's resources, which may be financial, social, psychological, or physical in nature, and its ability to use those resources. Endurable levels of distress are maintained by the family's managing stress through coping behaviors (Pearlin, 1991).

Coping behaviors may be functional or dysfunctional. Dysfunctional coping behaviors may produce stress and, thus, be considered stressors themselves (Boss, 1988). For example, a work-stressed mother who comes home and diffuses her stress by taking a walk with her restless children may be functionally coping. Her work-related stress is not escalating into family distress. On the other hand, slapping and yelling at her children would represent less functional coping behaviors leading to distress and, potentially over time, to a family crisis.

When in crisis, the family has difficulty functioning well (i.e., stress is not managed). Family members may no longer perform their assigned roles, individual members tend to move into a survival mode, and family organization suffers (Boss,

1988; McCubbin & Thompson, 1987). Generally, crisis is considered a negative outcome; however, some family crises may serve the family well. For example, families experiencing various forms of abuse (e.g., incest) may benefit from moving into crisis so the "normal" pattern of interaction can change and the abuse stop. The crisis of confronting the issue of incest would enable the family to redefine (i.e., reorganize) itself and alter the explicit and implicit rules by which members live.

To summarize, that change accompanies any crisis holds true for all families, because crisis prompts change in roles, rules, and modes of interaction. When stress is managed, such changes are avoided. The outcomes of stress, then, are coping or crisis (Boss, 1988). In the case of coping, families use their resources to manage stress. When in crisis, families become disorganized and resources go unutilized or underutilized. Under most conditions, it is preferable that families cope, employing behaviors that diminish family stress. However, under some conditions, family welfare profits from crisis.

Conceptual Model

A conceptual model is proposed and presented (see Figure 1, Appendix A) that articulates the processes through which residential mobility affects adolescent outcomes. Both paths and factors affecting the paths are discussed. Finally, specific conditions that affect the various relationships depicted in the model are examined.

Family Residential Mobility

For the first time in American history, families comprise a major proportion of those who are homeless, nearly one third (Bassuk & Buckner, 1994). Thus,

researchers have examined family homelessness for its effects on the health, education, and development of children (see Bassuk & Gallagher, 1990; Boxill & Beaty, 1990; Eddowes, 1992; Hausman & Hammen, 1993; Tower, 1992; Wright, 1990), and children do not fare well. Many homeless families move frequently prior to becoming homeless (Bassuk & Gallagher, 1990), and after becoming homeless, many move from shelter to shelter (Burt, 1992; Rossi, 1994). As a result, residential mobility is a fact of life for homeless families and those at risk for homelessness.

For researchers, the combined characteristics of high mobility and poverty make homeless families difficult to track unless they are shelter residents (Rossi, 1994). Because most of what is known about homeless families has come from urban shelter populations (Rossi, 1994), we do not have a complete picture of homelessness. Policies of individual shelters determine the composition of their populations, so shelters are selective and tend to include families who in some ways are the worst off (Burt, 1992; Rossi, 1994; Weinreb & Buckner, 1993). From the population of poor families, shelters tend to house those least willing or able to cope with conditions other poor families manage to handle (Berlin & McAllister, 1994). For example, poor, urban, young, uneducated mothers are most frequently on shelter rolls and are least likely to have the knowledge and experience necessary to deal with parenthood, low wages, poor housing, and drug-infested neighborhoods. However, other precariously housed families who have experienced crises, such as divorce, violence, or unemployment, also may find themselves homeless. Whereas somethings are known about child outcomes among the selected shelter populations, little is known about

child outcomes among precariously housed families or those prone to high residential mobility.

That American families are mobile is not new. Stokols and Shumaker (1982) estimated that 20% of the population changed residences each year. More recently, Larner (1990) suggested that 80% of all residential moves were within county lines and conducted research focusing only on local moves. In her study of African Americans (n = 78), white Americans (n = 102), and Swedes (n = 128), Larner found that well over one third of the Americans moved at least once during the three-year study. Compared to the Swedes and white Americans, more African Americans moved, with over half moving at least once.

Although mobility is a common phenomenon in the lives of American families, it has been the focus of few empirical investigations. Nevertheless, this limited literature suggests that residential mobility is a multidimensional construct, including number, distance, and recency of moves (Hendershott, 1989; Kroger, 1980a, 1980b; Larner, 1990; Stokols & Shumaker, 1982; Stokols, Shumaker, & Martinez, 1983; Stretch & Kreuger, 1993). With somewhat equivocal results, the effects of residential mobility have been assessed mainly in terms of adult illness symptoms, social networks, child development, and adolescent self-concept. For example, from research involving 121 non-faculty volunteers from one university, 95 of whom were female, it is known that some adults experience a greater number of illness-related symptoms, less sense of community, and rate themselves as less energetic when they experienced more frequent residential relocation (Stokols, Shumaker, & Martinez, 1983).

Psychological characteristics have been cited as mediating the effects of residential mobility in adults, such that possessing a disposition to explore new environments increased energy and lifted the spirit (Stokols & Shumaker, 1982; Stokols, Shumaker, & Martinez, 1983). Although frequent residential change is potentially stressful, Stokols and associates argued that the effects of such mobility on personal health depend on one's perception of the quality of the current situation. Whereas individuals with certain characteristics may be energized by high mobility, the combination of staying in a place that fails to adequately meet one's needs and having no better options is congruent with negative health consequences. Thus, persons with low socioeconomic status (SES), having limited residential options, are at risk for negative consequences from high residential mobility.

Small sample size and the absence of probability sampling do not justify broad generalization of the findings derived from Stokols and associates. However, their research does suggest that low income renders high mobility more stressful.

Some studies suggest differential effects of residential mobility on adults and children. For example, Kroger (1980b) found that moves of greater distance correlated negatively with self-concept in a study of 242 two-parent, middle-class, American high school juniors. However, given the highly restricted, homogeneous nature of the sample, it is questionable whether this finding is relevant to other groups of high school students. Other research (Larner, 1990) found short distance moves had negative effects on adults' social networks. However, Larner compared African Americans, white Americans, and Swedes ($\underline{N}$ = 308), and only examined short-distance

moves. These studies suggest that our understanding of the differential effects of mobility on adults and children is limited by both sample selection and research methodology.

Other findings indicate that moving differs in meaning and effects according to social location, choice over moving, and availability of resources. Being of low SES, having little choice, and few available resources, coupled with residential mobility, negatively affects the social networks of adults, especially for whites (Larner, 1990). Larner found the emotional intensity of social ties for white mothers was not related to the proportion of kin in their social network. For African-American mothers, however, high kin dominance of the network structure corresponded with high emotional intensity. Although single-mother, African-American renters under 30 years of age were more likely to be mobile than their white counterparts, results indicated that the high mobility experienced by African-American mothers did not account for high turnover in their social networks. Instead, being of single-parent status and low educational attainment did account for the high turnover experienced within the social networks of African-American mothers. Larner argued that the lack of dependence on neighbors and the greater dependence on family for social support helped to explain the relatively benign effects of multiple moves on the social networks of African Americans. The findings from this 1990 study suggest that insofar as a change in one's social network is stressful, highly mobile whites are more at risk for the associated stress than are their African-American counterparts.

Residential Mobility and Adolescent Outcomes

Because of the multiple transitions inherent in the lives of adolescents (e.g., experiencing puberty, beginning dating, entering the work world, entering high school), residential mobility is an important area of investigation. Coupled with other changes, the changes accompanying resident mobility increase the risk of pile-up and place residentially mobile adolescents at greater risk for negative outcomes than their less mobile peers.

In studies of the relationship between high residential mobility and adolescent outcomes, self-concept has been the primary outcome measured. Findings are mixed. Kroger (1980b) reported finding no relationship between number of moves and self-concept in her study of 242 eleventh-graders. However, the reliability of her self-concept measure is unspecified; thus, rendering the finding questionable. Although she provided the name of the scale, no specifics were offered, and no record of the scale could be found by this researcher. Coupled with this lack of information, the marked insufficiency in reporting supportive statistics makes one skeptical of her results.

In a study similar to Kroger's, Hendershott (1989), looked at three separate dimensions of self-concept (mastery over the environment, self-esteem, and self-denigrating comments) in a sample of 205 middle school students. She found a curvilinear relationship between mobility and mastery over the environment. That is, a moderate number of moves (3-4) provided no negative effects on mastery, whereas less mobility (1-2 moves) and higher mobility (5 or more moves) were negatively associated with mastery over the environment. The combination of having moved

more recently and fewer times predicted low scores on mastery; whereas, having moved more recently and more times predicted greater numbers of self-denigrating comments. Hendershott's findings suggest that moderate mobility promotes feelings of mastery and that higher mobility coupled with more recent moves fosters a negative self-image. Sense of mastery is related to self-efficacy insofar as mastering a task or situation increases confidence in one's ability to affect his or her environment. Thus, Hendershott's research supports a relationship between self-efficacy and residential mobility. However, her sample was taken from a single, southwestern middle school which prevents inferences regarding other populations, especially later adolescents. Hence, further testing of her results is warranted.

Educational outcomes also have been related to residential mobility, albeit indirectly. In a study of 580 African-American, Latino, and white early adolescents (9-15 year-olds) experiencing a normative transition from elementary to junior high school, declines were found in preparation for class and grade point average (GPA) (Seidman, Allen, Aber, Mitchel, & Feinman, 1994). The change in school was accompanied by a change in peer network, and both perceived social support and extracurricular involvement decreased. There is little reason to expect these findings to be less true for youth experiencing changes of school due to residential mobility.

Timing of Residential Mobility

Generally, findings suggest that the social network of children is unaffected by local residential mobility (Larner, 1990). However, some evidence suggests that the development of young children may be affected by any residential moves. Work by

both Bryant and Jalongo (as cited in Larner, 1990) suggests that one task of preschool children is to develop independence within a limited geographic area (e.g., several city blocks). The development of such independence can be disrupted when familiar surroundings are lost via a move of even one mile. Such a move for a young child can be as drastic as an adult's moving across the country. When a child is distressed, family stress is exacerbated, because when one member displays symptoms of distress, the family as a whole is not successfully coping (Boss, 1988). Further, insofar as self-efficacy (i.e., an attitude of confidence in one's ability to affect his/her environment) is related to independence, the development of self-efficacy may be inhibited by early disruptions in independent activity brought about by high residential mobility.

Thus based on the extant albeit limited literature, high residential mobility would be expected to negatively affect both adolescent self-efficacy and educational success. When younger children (preschool and kindergarten) undergo frequent changes of residence and the resultant implicit reduction in independent activity, their adolescent development of self-efficacy would be expected to be hampered. During school years, high residential mobility would be expected to produce negative effects on educational success.

Family Stress

Although the scope of research in the area of residential mobility is limited, it does suggest that residential mobility negatively affects both adult and adolescent outcomes. What remains less clear is whether residential mobility primarily affects

such outcomes directly or whether, as proposed here, there may be certain family processes that mediate the effects.

The construct of pile-up, taken from family stress theory (McCubbin & Thompson, 1987), addresses the notion that the presence of multiple stressors over time increases the potential for negative outcomes in a family. Stress, however, does not necessarily result in poor outcomes. Only when family resources are inadequate to meet the demands of stress, will functioning become less than optimum as coping behaviors become less effective. Hence, pile-up of stressors over time may result in strain on family resources, such that the family no longer functions optimally and may exhibit ineffective and inappropriate coping. Less desirable outcomes may follow (Boss, 1988).

Some stressors result from the social nature of the family as well as from the family's membership in the larger society. All stressors have a potential to bring change to the family system, and certain stressors accumulate as an inherent part of life. For example, the expected and often planned for family transitions of marriage, birth, and death may be accompanied by a change in residence, a change in financial status, and a change in the family's emotional support system. These stressors are developmental (i.e., expected) and may be preceded by anticipatory coping, thereby lessening their strain on the family's resources (Pearlin, 1991). Other stressors are unexpected and unanticipated, such as job loss or expulsion from school (Boss, 1988; Pearlin, 1993). Still other stressors are chronic. For example, discrimination due to race is a chronic stressor, especially for people of color (Peters & Massey, 1983).

Insofar as stress is linearly and negatively related to income, poverty and low SES also become chronic stressors. Moreover, chronic stressors may interact with unexpected stressors such that the stress produced is amplified. In this case stress resulting from pile-up is no longer additive, rather it exceeds the sum of the parts (Pearlin, 1993). Thus, the model proposes that when high residential mobility is accompanied by high family stress over time, the negative effects of residential mobility on adolescent outcomes are exacerbated.

Relationship between Residential Mobility and Family Stress

That moving is fraught with many possible stress-producing circumstances is undeniable. Packing and unpacking, leaving friends and family, and exchanging the familiar for the unfamiliar all can contribute to increased stress and possible deleterious effects. Even desirable moves have been linked to depression and gastro-intestinal problems (Stokols & Shumaker, 1982). Furthermore, certain conditions may be present that increase the likelihood for an even more negative outcome to result. For example, single-parent families may be at increased risk for elevated levels of stress beyond that associated with the event of moving. The absence of another adult with whom to share responsibilities can be stress-provoking (Hetherington, 1987; Thoits, 1982). Singly assuming the responsibilities of moving a family would be expected to be even more stressful if changing residences occurred several times in one year, as is the case for many precariously housed families.

Moreover, it is well documented that single parents are at risk for low financial status. At minimum wage, a single-earner family earned $8,840 per year in 1990.

This is considerably less than the $13,359 designated as poverty level in 1990 for a family of four. In fact, at the same wage a dual-earner family would be only a little above that poverty line. Additionally, over the last 20 years, access by the poor to monetary resources has decreased. In 1970, payments in the form of Aid to Families with Dependent Children (AFDC) provided support at 66% of the poverty line, and by 1991 the figure had dropped to 41% (Jennings, 1994). Because financial status is one indicator of the availability of resources, stress is likely greater for those with fewer material resources (McCubbin & Thompson, 1987). Thus, the positive relationship between residential mobility and stress posited in the model is expected to become stronger in the presence of other stressors, specifically single-parent family structure and low income.

Pile-up is experienced by all families at some times and more frequently by families of lower SES (McCubbin & Thompson, 1987). Families of low SES suffer from multiple stressors as well as chronic stressors. Many of these families are faced with loss of employment or threat of loss of employment from a job that is classified already as low wage (Rubin, 1994; Voydanoff & Donnelly, 1988). Many also face difficulty obtaining and maintaining child care, securing medical services, obtaining affordable transportation, securing food and clothing, and remaining sheltered (Jennings, 1994; McLoyd, 1990). Thus, low SES families are at risk for poorer outcomes as the pile-up of stressors results in strain that exceeds the strength of their resources, and strained resources threatens family functioning.

Importantly, pile-up results from multiple stressors and affects both children and adults. For adolescents, pile-up may be equated to multiple transitions, and the presence of multiple transitions (e.g., change of schools, beginning dating, entering puberty) has been associated with reduced functioning (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). Simmons and associates, using a sample of 447 limited to whites from the Milwaukee public schools, examined grades and self-concept scores (specifically, self-esteem) of sixth- and seventh-grade students according to the number of transitions the students were experiencing. The transitions included change of residence, change of school, pubertal change, beginning dating, and major family disruptions (e.g., divorce, remarriage, death). More transitions were associated with lower grades and reduced self-concept. For younger children, research shows that multiple transitions associated with marital disruptions have a similarly negative effect (Hetherington, 1989). For adults when resources become strained, conflict heightens in both frequency and intensity, and interpersonal interactions are negatively affected. (McCubbin & Thompson, 1987; Rubin, 1994). Based on his review of literature as well as his own work, Janis (1993) concluded that heightened stress impedes decision-making processes. He argued that highly stressed adults do not perceive all alternatives nor appraise all available information. This can negatively affect parenting behaviors. Thus, empirical studies support the notion that pile-up of stressful events negatively affects both parents and children.

Not all factors increase the positive relationship between residential mobility and stress. McCubbin and Thompson (1987) argued that social support can buffer the

effects of stress on family functioning. This argument has been supported by research (cf. Cochran, Riley, Gunnarson, & Larner, 1990; Hobfoll & Vaux, 1993; McLoyd, 1990). Thus, the importance of social support is recognized; however, it is excluded from the model to be tested due to limitations imposed by the data used.

Parenting Behaviors

Much literature speaks to the effectiveness and ineffectiveness of certain parenting behaviors. Early research identified four behaviors as important in explaining parental influence on child outcomes: support, coercion, induction, and power (Rollins & Thomas, 1979). The findings from more recent studies support and extend these findings (cf. Baumrind, 1991; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994; Steinberg, Lamborn, Dornbusch, & Darling, 1992).

Constellations of parenting behaviors provide a typology of parenting, and certain parenting types have been associated with specific child outcomes. Overwhelmingly, two dimensions of parenting appear to be most influential: control/punishment and warmth. Control and punishment characterize coercive behaviors and are associated with authoritarian parenting, as are rejecting and unresponsive behaviors (indicators of low warmth). Explaining and offering reasons (induction), along with communicating acceptance and warmth, and providing firm control are associated with authoritative parenting. Generally, authoritarian behaviors are associated with less desirable child outcomes (e.g., slow cognitive development, low self-esteem, and external locus of control), whereas authoritative parenting behaviors are associated with more positive child outcomes, such as higher academic

achievement and self-esteem and internal locus of control (Baumrind, 1971, 1991; Bornstein, 1992; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Maccoby & Martin, 1983; Simons, Whitbeck, Conger, & Melby, 1990; Steinberg, Elmen, & Mounts, 1989; Steinberg et al., 1994; Steinberg, Lamborn et al., 1992).

When socializing children, patience is required to explain and negotiate rules, and often patience is limited in overburdened families (e.g., low financial status, single-parent, high mobility). In fact, evidence suggests that overburdened families are less nurturing and exhibit more punitive, controlling, and nonresponsive behaviors (cf., McLoyd, 1990; Webster-Stratton, 1990).

In the context of high residential mobility coupled with high levels of stress, parents interacting with children produces a climate ripe for increased coercive parenting behaviors. Research shows that more stressed parents are less likely to display child-centered, effective parenting behaviors, such as ineffective and inconsistent behaviors or behaviors characteristic of more authoritarian parenting (cf., Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1993; Conger, McCarty, Yang, Lahey, & Kroop, 1984; Lempers, Clark-Lempers, & Simons, 1989).

Recall that many homeless families and precariously housed families have a lone parent (Burt, 1992; Jencks, 1994; Rossi, 1994). Regarding single parent families, research has demonstrated that single mothers exhibit less effective parenting under conditions of high stress (Simmons, Beaman, Conger, & Chao, 1993). Using a sample of 209 divorced mothers of young adolescents, Simmons and associates found significant associations between negative life events and psychological distress, as well

as between psychological distress and ineffectual parenting. Although application of their results is limited because the sample was from a single state, other studies had similar findings. Consistently, single parents are found to be more irritable and punitive and less affectionate (cf., Hetherington, 1989; Webster-Stratton, 1990). Because studies show a link between stress and parenting behavior, the model under consideration includes these dimensions. The model suggests that higher levels of stress are associated with higher levels of control and lower levels of warmth in parenting.

Adolescent Outcomes

As posited in the model, the effects of residential mobility combined with high levels of stress are predicted to result in less effective parenting behaviors. In turn, these parenting behaviors are expected to negatively affect adolescents. The limited research of the effect of residential mobility on adolescent outcomes has shown that self-efficacy is affected. These studies were noted earlier. Ancillary evidence (Simmons et al., 1987) suggests that mobility also affects other outcomes such as academic performance (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Dornbusch, Ritter, & Steinberg, 1992; Steinberg et al., 1989; Steinberg et al., 1994; Steinberg, Lamborn et al., 1992). Both outcomes, self-efficacy and educational success, are included in the model, and relevant research is discussed in the following sections.

Self-efficacy

Confusion between self-concept, self-efficacy, self-esteem, and competence abounds. These terms have been used interchangeably in the literature. When distinctions are made, they lack clarity. Important to the present study is self-efficacy, or the belief that one is capable (i.e., an attitude of competence or self-confidence).

Berry and West (1993) and Gecas (1982) argued theoretically for the presence of a more global self-efficacy. Insofar as one's sense of self is gained from the consequences of one's agency regarding his or her environment, a global self-efficacy exists. This may be particularly salient to the educational environment, because students spend a good deal of their waking hours in school where they get an overall sense of competence or positive regard about self (Harter, 1983).

Parenting behaviors have been positively associated with self-concept, such that more child-centered parenting behaviors associate with a more positive self-concept (Gongla & Thompson, 1987). Although self-concept as a broad construct is not the same as self-efficacy, efficacy is considered to be one dimension of self-concept (Harter, 1983; Marsh, 1995). Because self-concept is derived socially (Gecas, 1982), and the appraisals of all persons are not equally important (Harter, 1983; LaRossa & Reitzes, 1993), assuming the appraisals of parents are important to children, parenting behaviors will influence children's self-concept and self-efficacy. However, the extent of parental influence may depend on several things: age of the child, as during adolescence peer appraisals increases in importance; time spend with parents, for more

time with parents necessarily allows less time with friends; and attachment to parents through affecting formation of friendships (Warr, 1993).

Theory and research support the notion that self-efficacy is power-sensitive, such that being in a subordinate position is detrimental to its development (Gecas, 1982; Bandura, 1993). Children are typically in a subordinate position to their parents. Those children who are punished and controlled experience even greater subordination and may feel less efficacious. Furthermore, punitive, controlling parenting emphasizes the negative more than does parenting behaviors that are encouraging and supporting (e.g., warmth). Thus, low warmth and high control in parenting are expected to be associated with lower levels of adolescent self-efficacy.

Insofar as self-efficacy is socially influenced, social support beyond that of one's parents would affect it (i.e, the presence of a significant non-parent adult). Research results along this line are mixed. Although social support was not associated with greater academic success (DuBois, Felner, Brand, Adan, & Evans, 1992), high school students who participated in a program for minority students that included enhanced social support from teachers and tutors had higher grades and a greater academic motivation than those who were not in the program (Hayes & Comer, 1990). Thus, the model posits that the presence of a significant non-parent adult in the life of adolescents moderates the effects of poor parenting on both self-efficacy and educational success such that the negative effects are reduced.

Educational Success

Although no study was found that links parenting behaviors to adolescent self-efficacy, much recent research has centered on parenting and academic achievement in adolescents. Warm, inductive, and firm controlling parenting behaviors, those associated with authoritative parenting styles, generally are associated with higher academic achievement (Baumrind, 1991; Dornbusch et al., 1987; Dornbusch et al., 1992; Steinberg et al., 1989; Steinberg, Lamborn et al., 1992; Steinberg et al., 1994), with achievement measured as GPA, an indicator related to high school graduation (Howard & Anderson, 1978). However, this correlation does not hold equally for all racial groups (Chao, 1994; Steinberg, Dornbusch, & Brown, 1992). Both Asian and Hispanic students (especially Hispanic females) differ from the expected direction. For both groups higher grades were associated with more controlling and punitive parenting (i.e., authoritarian parenting style) (Steinberg, Dornbusch et al., 1992). Whereas white students benefitted from authoritative parenting, no relationship was found between more authoritative parenting styles and academic performance (i.e., GPA) for African-American students (Dornbusch et al., 1992). Research shows that African-American parents, characterized as more strict and controlling (i.e., authoritarian) (hooks, 1993), demonstrate an absolute, unconditional acceptance of the child (Nobles, 1988), behaviors similar to the Asian parenting studied by Chao. In other words, supportive parenting behaviors accompany the strictness and control found in these families. Thus, the model suggests that minority status moderates the

negative relationship between parenting characterized by high control and low warmth and educational success. When students are white, this relationship will be stronger.

It has been suggested (Bandura, 1993; Gecas & Schwalbe, 1983; Marsh, 1995) that the development of self-efficacy is task-specific. Educational research is typically based on this assumption. For example, a sense of math self-efficacy has been associated with better math performance (Campbell & Hackett, 1986; Marsh, 1995; Pajares & Miller, 1994). Accordingly, Bandura would argue that for a particular child, there is a math self-efficacy, a science self-efficacy, a runner self-efficacy, an artist self-efficacy, etc. In addition, success at a given task improves one's efficacy for that task. Conversely, the higher one's level of efficacy for a given task, the greater one's success is expected to be in that task (Gecas, 1982).

Unlike Marsh (1995), Gecas (1982) suggested that the value placed on the task influences the gain in efficacy. The more highly valued the task, the greater the impact of success on one's efficacy. Thus, in the proposed model when education is valued, the positive relationship between adolescent self-efficacy and educational success is strengthened.

Other Influential Factors

Two other factors likely influence the various relationships in the proposed model. Sex of child is one such factor. Male and female children experience different family environments. As examples, some research has shown that males with married mothers and females with single mothers experience more positive home environments (Menaghan & Parcel, 1991). Other research has shown African-American mothers

describe their sons more negatively than their daughters (Jackson, 1993), and such descriptions likely translate into differential treatment. Still other research findings suggest that adolescent females are more conscious of the regard received from their peers (Simmons et al., 1987), making them more vulnerable to negative outcomes than adolescent males when residential mobility generates a change in their peer network. It follows that residential mobility and family stress affect boys and girls differently. Thus, the relationships in the conceptual model are thought to differ according to sex of the child.

A second factor, timing of residential mobility, also is expected to affect the various relationships in the model. Research findings suggest (a) that by age 10 the influence of the early home environment on child achievement is reduced and (b) that the early home environment exerts more influence before age 7 (Bradley, Caldwell, & Rock, 1988). Hence, as suggested earlier with regard to self-efficacy, the model is expected to be more predictive when high residential mobility occurs before age 7. However, with regard to educational success, a constantly changing educational environment is expected to negatively affect success, and the model is expected to be more predictive when high residential mobility occurs after age 7.

Summary

In summary, the American family is undergoing demographic shifts as evident in an increase in female-headed families of minority status. Female-headed families, especially those of color, are at greater risk for low financial status. Thus, as

suggested by the conceptual model presented, these families also are at risk for more residential mobility and family stress.

The effects of American residential mobility on adolescent outcomes has been studied on a limited scale. Although both family stress and parenting have been studied extensively, the possibility of their mediating the effects of residentially mobility on adolescent outcomes has not been studied. The conceptual model for this research posits a positive relationship between residential mobility and family stress. The accumulation of pile-up from residential mobility and stress is posited to result in less effective parenting behaviors. In turn, through the effects of stress on parenting behaviors, high residential mobility is suggested to reduce adolescent self-efficacy and educational success. Thus, adolescent members of residentially mobile families, such as those who are homeless or precariously housed, or those who are in military or migrant families, are at greater risk for lower self-efficacy and less educational success.

Hypotheses

The following hypotheses were derived from the conceptual model and served as the basis for statistical testing.

Ho1

Families with higher residential mobility will score higher on a measure of family stress than those with lower residential mobility.

Ho1a. Under the condition of single-parent family/low financial status, the strength of the relationship between residential mobility and family stress will increase.

Ho2

High levels of family stress will be associated with high levels of control and low levels of warmth, both indicators of authoritarian parenting.

Ho3

High levels of authoritarian parenting will be associated with lower levels of adolescent self-efficacy and educational success.

Ho3a. Under the condition of the presence of a significant non-parent, the strength of these relationships will be reduced.

Ho3b. Under the condition of nonminority status, the strength of this relationship will increase for educational success only.

Ho4

Higher levels of adolescent self-efficacy will be associated with high levels of adolescent educational success.

Ho4a. Under the condition that the adolescent highly values educational success, the strength of this relationship will increase.

Ho5

Relationships within the proposed model will be stronger for females than for males.

Ho6

Relationships within the proposed model will be stronger when high residential mobility is experienced earlier rather than later in the child's life.

CHAPTER III

METHODOLOGY

This chapter contains information about the sample, including its source and descriptive statistics. Additionally, constructs within the conceptual model are operationalized, analytic methods are explained, and limitations imposed by the data are discussed.

Sample

Data for this study were drawn from the National Survey of Children (NSC: Zill, Peterson, Moore, & Furstenberg, 1992). These data consist of three waves collected in 1976, 1981, and 1987. Although screening began in 1976, data collection began in 1977. The weighted sample, corrected for age, sex, race, and residential locale, is representative of children born between 1964 and 1969. A multi-stage, stratified, probability sample of households with at least one child was drawn within the continental United States. For families with two eligible children, both children were interviewed; for those in which more than two were eligible, two were randomly selected. The full 1976 wave consists of 2,301 children from 1,747 households that represent 80% of the original draw. Wave-2 data (1981, $\underline{N}$ = 1423) consists of 82% of the 1976 sample, and Wave-3 data (1987, $\underline{N}$ = 1147) includes 54% of the 1976 sample. Eighteen percent of Wave 3 were not interviewed in Waves 1 and 2, which indicated the inclusion of a replacement sample.

The longitudinal nature of the NSC was attractive for this research, because it provided the possibility of comparing the effects on children of high mobility earlier in their lives versus later. However, attrition is always a problem with longitudinal samples, and it could be that families that moved most were lost over the 10-year span of data collection.

The Current Study

A subset was drawn from NSC data for the current study. Because the long-term goal of the investigator is to study homeless families, the sample identified for use here included, but was not limited to, families most like those who are homeless. However, the sample did not specifically include a homeless population.

Research has shown that family shelters typically are populated by families with young children (under the age of six) and include disproportionate numbers of African Americans (Burt, 1992). Thus, the criteria for selection of the sample used here assured the inclusion of the youngest target children in 1976. Criteria for selection of the sample were:

1. Data were available on the child at all three waves.

2. The child's age at Wave 1 was less than 10 years. (This assured that residence changes reported in the first wave occurred before the child was of school age; the earliest children could begin school was six years of age.)

3. The child resided with at least one parent in 1987.

4. Race was either white or African American.

These criteria produced a sample of 416 that was 76% white and 24% African American. This compares favorably to the original sample (73% and 24%, respectively). Most responding parents, 97% of whom were female, in 1976 were married (71.2%), 20.2% were either separated or divorced, 5.5% were never married, and 3.1% were widowed. By Wave 2 the marital status of responding parents had changed so fewer were married and more were divorced (see Table 1, Appendix B). Other information on the sample showed the age of respondents ranged from 21 to 66 years (M = 34, SD = 6.9, Mo = 30). Parental educational attainment at Wave 1 ranged from less than 8 years to 17 years. Mothers reported on average 11.8 years (SD = 1.3), whereas fathers had 12.4 years (SD = 2.9). In Wave 1 (1976) the average family income was around $11,000 per year (mode = $15,000-$20,000). At Wave 2 (1981) family income had increased to an average of $15,000-$20,000 (mode = $25,000-$35,000), and the number of dependents dropped to a mean of 4.5 from 4.8 in Wave 1.

Of the children interviewed, 48.3% were male and 51.7% were female. At Wave 1 in 1976, children ranged in age from 6 to 9 years (M = 7.9, SD = .91). Five and one half percent were six years of age, 32.0% were seven, 32.0% were eight, and 30.5% were nine. By Wave 3 (1987), the range in age of the adolescents interviewed was 17 to 20 years. This suggests that 23 individuals (5.5%) could have been high school students with the possibility of on-time graduation. Whereas adolescents were asked if they had received a high school diploma, GED, or neither, on-time high school student status could confound the measure of educational success. Hence,

subsequent analyses included only those individuals who were older than six years old at Wave 1, reducing the sample to 393.

Residential mobility within the sample varied little over Wave 1 and Wave 2 report periods. The number of moves ranged from 0-11 in Wave 1 and 0-7 in Wave 2. At each report period, most respondents reported making no changes of residence during the previous five years. For those who did move the modal number of moves was two (see Table 1).

Operationalization of Model Constructs

Appendix C contains a complete listing of the interview questions and responses used for operationalizing each variable in the conceptual model. Here, variables along the main path are discussed first, followed by moderating variables. Construction of composites is addressed. Some measures in the present study are similar to scales previously constructed from NSC data. For example, using only data from Wave 1, Peterson and Zill (1986) combined child perception items in a composite measure of the parent-child relationship.

Residential Mobility

Family residential mobility was operationalized as the number of different residences occupied in the last five years. Kroger (1980b) used a formula for residential mobility that included both number of residences and distance moved. Although the inclusion of distance moved would add another dimension to this indicator, the NSC data did not provide this information. Furthermore, insofar as this

research serves as the foundation for future efforts with precariously housed and homeless families, the number of moves is most salient here.

To obtain the number of residential moves, responding parents were asked: "Including the present address, altogether, how many different addresses has the family lived at in the last 5 years, that is since (present month, 1971)?" (Wave 1) In Wave 2 parents were asked, "Including the present address, altogether, how many different addresses have you lived at since January 1977, about the time of the first interview?" Responses ranged from 0 to 11 in Wave 1 and from 0 to 7 in Wave 2.

Family Stress

Selected potentially stressful life events reported by the responding parent measured family stress. The use of life events as a measure of stress was based on stimulus-oriented theories of stress and on an engineering model, wherein individuals are posited to hold an innate capacity for resilience. When cumulative stress is greater than resilient capacity, individual functioning deteriorates. Although more current stress research is based on interactional theories and would suggest the desirability of including a valence indicating the respondent's belief about the event, life event scales have served as sensitive, predictively valid measures when one's purpose is to achieve a group measure of stress potential rather than a precise individual measurement and prediction (Derogatis & Coons, 1993). Thus, the stress measure used here was derived from the presence of certain life events. The initial selection included events that fell within the scope of the six life-events factors identified by Skinner and Lei in 1980: personal and social activities, work changes, marital problems, residence changes,

family issues, and school changes (cited in Miller, 1993). However, factor-analysis of the 28 items originally selected to indicate stressful events suggested three factors: (a) father employment-related stress (Wave 1), (b) father employment-related stress (Wave 2), and (c) child behavior-related stress (see Table 2, Appendix B). Essentially, the three factors agreed with the two categories suggested by Pearlin (1991) as the sources of all stressors and strains: labor and love. The labor-related stressors were associated with the father's employment, while the love-related stressors involved the child's behavior.

Fathers' Employment Stress Scales

Two distinct stress factors related to fathers' employment, one consisted of three items from Wave 1 and the other consisted of two items from Wave 2. Items with factor loadings lower than .45 were dropped. After analyses to optimize reliabilities, the three-item stress scale related to father's employment at Wave 1 included his employment status, whether he was looking for work, and whether he was a student. The two-item scale related to the father's employment at Wave 2 included his employment status and whether he was looking for work. (Although the question referred to spouse, 97% of the respondents were mothers. Thus, these data were taken as representative of fathers.) Employment status was coded (1) if unemployed and (0) if employed. Similarly, looking for work was coded (1) and not looking for work was coded (0). Student status was coded (1) and not a student was coded (0). The scale alphas were .60 and .65 respectively for Waves 1 and 2.

Child Behavior Stress Scale

To reduce the number of paths in the analytic model and maintain optimal reliability, items with factor loadings of less than .45 were dropped. Three items related to the child's behavior made up the resulting scale. The items indicated whether the child had stolen anything, had a note sent from school regarding behavioral problems, and had ever seen a psychiatrist, all from Wave 2 (see Appendix A for verbatim questions.) Items were scored yes (1) and no (0). The child-related stress scale had an alpha of .52.

Parenting Behaviors

Parenting behaviors attributed to the mother by the target child were used to construct the measures reflecting authoritarian parenting. Limitations of the NSC data precluded the inclusion of information concerning fathers' parenting behaviors. Items thought to represent control and warmth were factor-analyzed, and two factors emerged (see Table 3, Appendix B).

Warmth

Because the warmth factor was part of the same analysis as the control factor, the same procedure was followed for both factorsa. Items that initially loaded at $\geq .20$ were included and then systematically eliminated to optimize reliability. The final scale consisted of three items. One item was from Wave 1: "When you do something especially good, does your mother tell you that you've been good?" (0 = yes, 1 = no). Two items were from Wave 2: "When you've done something especially good, does your mother often, sometimes, or never kiss you or hug you?" and "When you've done

something especially good, does your mother often, sometimes, or never tell you that she's pleased?" Responses ranged from often (0) to never (2). Because warmth is negatively related to authoritarian parenting (Baumrind, 1971), responses were coded so high scores indicated a lack of warmth. The alpha was .51.

Control

When items that loaded on the control factor at $\geq .40$ were included in the scale, the resulting reliability was low (alpha = .35). To improve the reliability of the measure, items initially loading $\geq .20$ were included (eight items), and then a systematic removal was undertaken to optimize reliability. The final scale included seven items. Five items related to rules concerning the child being allowed to watch television (whenever and whatever the child chose), play with friends, eat anything, and select clothing (Wave 1). Two items indicated whether mother was firm and whether mother wanted to know what the child was doing (Wave 2). The scale alpha was .46.

Adolescent Self-efficacy

Factor loadings from seven items supported the inclusion of two questions as the measure of self-efficacy (see Table 4, Appendix B); however, the reliability for these two items was low (alpha = .38). Reliability was improved by including items with loadings $\geq .35$. The final scale used four items. The child was asked his/her agreement to: "I am able to make my plans work," "I can do many things well," "I am no good at all," and "I am satisfied with my ability to cope with difficulties." Responses were coded so high scores indicated high levels of self-efficacy and ranged

from 0 to 5 for the first item. The responses of all other items ranged from 0 to 3. The scale alpha was .45.

Adolescent Educational Success

The measures of educational success were derived from responses by the child at Wave 3 to two questions: "Have you gotten a high school diploma, a GED, or neither?" Responses were coded as: diploma (3), GED (2), and neither (1). It is recognized that a diploma and a GED are equivalent. However, in the interest of on-time completion of high school requirements, the two are rarely equivalent. In Guilford County, North Carolina, only one student in five years received a GED concurrent with high school graduation (L. Amos, personal communication, September 6, 1995). The second item asked, "In your current/last year of high school, are/were you: One of the best students in your class, above the middle, in the middle, below the middle, or near the bottom of the class?" Responses to this item were coded above the middle (3) middle (2), and below the middle (1). The reliability (alpha) of these two items was calculated to be .45.

Moderating Variables

Several moderators were proposed in the model. These included marital and financial status, presence of a significant non-parent adult, the child's race, and the adolescent's value of education.

Marital and Financial Status

Both marital status and income were expected to moderate the effects of residential mobility on family stress. These moderators were conceptualized in the following manner.

Single parent status. Single-parent status was determined from one question in both Waves 1 and 2. Parents were asked to indicate if they were currently: married, widowed, separated, divorced, or never married? Because most parent respondents were female and female single-parent status is known to place families at financial risk, single-parent family designation was coded higher than two-parent family designation. Because earlier rather than later residential mobility was posited to pose the higher risk, single-parent status was coded higher for Wave 1 than for Wave 2. The marital status of the responding parent across Wave 1 and Wave 2 was determined as follows: married in both waves (1), married in Wave 1 only (2), married in Wave 2 only (3), and single in both waves (4).

Financial status. Financial status in both Waves 1 and 2 was determined on the basis of average income per individual. Yearly family income and number of people depending on that income were used to compute this average.

Dissimilar response categories for yearly family income occurred in the data. Collapsing some categories in Wave 1 made them more similar to those in Wave 2. Average income per individual was calculated by taking the average for the income response category and dividing by the number of people depending on that income. For example, if in Wave 1, the family income was reported $5,000-$9,999 and 5

people depended on that income, the average individual income would be $1500. Use of the category average negated the problem of category overlap that was present in the Wave 2.

Poverty thresholds for a family of four for 1976 and 1980 were $5,815 and $8,414, respectively (U.S. Bureau of the Census, 1988). Dividing each of these by four provided a per individual threshold of poverty (1976 = $1,454; 1980 = $2,104). The threshold per individual was used to designate high and low financial status. Although all families above this point are not of high financial status, the interest in the implications of this research for those most at risk for homelessness justifies this choice. To be consistent with the hypothesized period of higher risk, coding across Wave 1 and Wave 2 became: high in both waves (1), high in Wave 1 only (2), high in Wave 2 only (3), and low in both waves (4).

Significant Non-parent

The presence of a significant adult other than the parent of the adolescent was indicated by the child's Wave 3 response to several questions considered conditionally. The order of consideration for the questions was as follows:

1. "Who, if anyone, is there other than your father or stepfather whom you consider to be like a father to you?"

2. "Who, if anyone, is there other than your mother or stepmother whom you consider to be like a mother to you?"

Questions 1 and 2 were coded such that if anyone was mentioned, a significant non-parent was considered present.

3. "To what relatives, friends, or other people could you turn to listen with sympathy to your concerns and problems?"

4. "To what relatives, friends, or other people could you turn to give you advice about schooling or a job?"

Instructions for questions 3 and 4 directed respondents to circle all that apply and to include mother, father, spouse/partner, other relative, and friend, neighbor, or other. If any response other than mother or father was circled, a significant non-parent was considered present.

The four questions were addressed in the following manner: If someone was mentioned in response to question 1, no other question was considered. However, if the response to question 1 was no one, then question 2 was considered. If the response to question 2 was no one, then question 3 was considered. If either mother, father, or no one was circled for question 3, then question 4 was considered. The coding of this variable was significant non-parent present (1) and no significant non-parent present (0). Thus, the variable consisted of 2 levels.

Race of the Target Child

A Wave 1 coding by the interviewer indicated race of the target child. This categorical variable included only white (1) and African American (2). Other minorities made up 3% of the original NSC sample and were not included in this study.

Adolescent's Value of Education

Skipping school was considered to indicate a lack of valuing education. In Wave 3 the adolescent was asked if he or she skipped school quite often. This question was coded yes (1) and no (2).

Analyses

All items used to measure the latent constructs in the major paths of the conceptual model were subjected to SPSS Factor Analysis. To allow for the likely correlation between factors, oblique rotation was used, and maximum-likelihood extraction was employed to remain consistent with the estimation method used for the latent variable analysis.

Latent variable analysis using LISREL 7 was employed to analyze the data because the proposed conceptual model included multiple variables of a latent nature (i.e., not directly assessed). Analytically two models were considered: a measurement model and a structural model. Measurement models include the relationships of observed variables to a latent variable; whereas, structural models specify relationships only between latent variables (Loehlin, 1992). The measurement model is generally equivalent to confirmatory factor analysis. Latent variable modeling has advantages over other forms of analysis. Most important to this study is that all relationships within the main paths of the conceptual model may be analyzed simultaneously (Joreskog & Sorbom, 1989) rather than using a series of regression analyses.

Limitations

The data used in this study were limited in several ways. Available information across waves of data collection was sometimes inconsistent. Similar questions were not always asked at each wave. When similar questions were asked, response choices sometimes varied. Some questions overlapped across waves such that it was impossible to determine during what period the event occurred. For example, in Wave 1 parents were asked if the child had ever seen a psychiatrist, and in Wave 2 the identical question was asked. Thus, it was impossible to tell whether a positive response at Wave 2 indicated seeing the psychiatrist early or later in the child's life. Furthermore, some response categories within a single question also contained overlap (e.g., income categories of $5,000-$10,000 and $10,000-$15,000). These limitations restricted the range of scores for family stress, parenting variables, and financial status.

CHAPTER IV

RESULTS AND DISCUSSION

Analyses of data examined the analytic model by factor analysis for suitability of the factors included. Discussion of that analysis contains an explanation of the decision to reduce the number of items in the original model before beginning the latent variable analyses. Results from latent variable analyses follow and include reasons for further reduction in the number of items in the analytic model. Finally, the results are discussed within the framework of the proposed hypotheses and the theory employed in the design of this study.

Suitability of Factors

All 23 items used to measure the constructs in the major paths of the conceptual model were placed in a factor analysis employing oblique rotation, which allows for correlations among factors. Seven factors were expected: (a) three stress factors (fathers' employment stress at Wave 1, fathers' employment stress at Wave 2, and child behavior-related stress), (b) two parenting factors (control and lack of warmth), (c) one self-efficacy factor, and (d) one educational success factor. The results are presented in Table 5 of Appendix B.

One control item, mother is firm, had a loading of only .14 and was removed. Another factor analysis was then conducted on the remaining 22 items. Simple structure (i.e., items clearly loading on only one factor) was then reached with a seven-

factor solution (see Table 6, Appendix B). Although the loadings of some items were < .40 (e.g., controlling parenting behaviors), the factors are clearly defined. However, only five items have communalities above .5. These low communalities indicate that the latent variables left much of the variance in the observed measures unexplained.

Model Testing

Employing LISREL 7 structural equation modeling with maximum likelihood estimates, the analytic model presented in Figure 2 (Appendix A) was tested with the reduced sample (N = 393), which included only cases with children older than six years in 1976. Contrary to the conceptual model, the reciprocal relationship between self-efficacy and educational success was set to zero to reduce the number of parameters estimated. (A zero setting removes the path from the analytic model, and no estimates are calculated for that path.) Constraining the correlation in this way does not assume a lack of correlation; rather, the constraint allows variance due to the relationship between self-efficacy and educational success to be included in the other paths of the model. Although this is an analytically sound approach, the constraint prohibits examination of the relationship between self-efficacy and educational success, removing from consideration two hypotheses: "Higher levels of adolescent self-efficacy will be associated with higher levels of adolescent educational success," and "Under the condition that the adolescent highly values educational success, the strength of this relationship will increase." Whereas exploring the causal relationship between self-efficacy and educational success was desirable, elimination of these paths does not alter the major theoretical basis for the study (i.e., stress theory). The paths

representing the notion that parenting behaviors mediate the effects of family stress on adolescent self-efficacy and educational success remain.

Two indices available in LISREL 7 were used for evaluating the overall fit of the estimated covariance matrix (model) to the actual covariance matrix (data): adjusted goodness-of-fit index (AGFI) and chi-square (χ^2). The AGFI takes into account the degrees of freedom and can have values that range from 0 to 1.00. Numbers greater than .90 indicate a good fit. Similarly, chi-square values that are not significant also indicate a good fit. Using these criteria, the goodness-of-fit indices confirmed a good overall fit of the model to the data, AGFI = .931; χ^2 (192, $\underline{N}$ = 320) = 239.21, $\underline{p}$ = .009. Chi-square values tend to be larger than what is expected due to specification error in the model if sample sizes are large or if there are departures from normality (Joreskog & Sorbom, 1988). Hence, a rule of thumb ratio of less than two to one, χ^2 to degrees of freedom, was utilized when examining χ^2 values.

While the goodness-of-fit criteria show the model fit the data, the matrices of residuals associated with observed measures contained some negative values. When residual values are negative, the implication is that more than 100% of the variance in the negative item was explained. This is an impossibility. Thus, statistics that depend on these matrices for calculation may not be trusted. Examination of individual elements in the matrix of $\underline{t}$-values associated with the relationships between independent and dependent latent variables (i.e., the gamma matrix) suggests an improved fit could result by eliminating some paths. Paths that were definitely not significant (i.e, those with values not approaching 2.0) (see Table 7, Appendix B) were

set to zero, effectively removing them from the model, and the model was analyzed again.

It was hoped that analysis with the reduced model would eliminate the negative values from the matrices of residuals. The fit continued to look good, AGFI = .932; χ^2 (199, $\underline{N}$ = 320) = 250.95, $\underline{p}$ = .007, but each residual matrix associated with the observed measures continued to contain negative values. Importantly, however, the paths that appeared to promise significance in the first model remained. Although the $\underline{t}$-values associated with those paths could not be taken as dependable and no causal relationships concluded, the values suggested important considerations.

In essence, $\underline{t}$-values from both fittings suggest that three paths relating family stress directly to self-efficacy, warmth, and educational success may be significant, if the residual matrices contained no negative values. Child behavior-related stress appeared to be positively related to low warmth ($\underline{t}$ = 2.047). In other words, the greater the number of child-related stressor events, the less warm parenting behaviors were. This is consistent with the hypothesized relationship. However, these results cannot be taken as supporting the hypothesis, because the presence of negative values in the residuals matrices leaves in question the reliability of statistics dependent on those matrices.

With regard to the $\underline{t}$-value, child behavior-related stress also may be related negatively to educational success ($\underline{t}$ = -2.430). This suggests that the greater the number of child-related stressor events, the less the likelihood the adolescent successfully completed high school on time. A direct relationship between stress and

educational success was not hypothesized. Instead, parenting behaviors were expected to be affected by stress, and they, in turn, would affect educational success. Whereas the original notion cannot be ruled out with these results, a suggestion of a direct relationship is evident here. The addition of this path has both logical and intuitive appeal. Stressful events attributed directly to the child not only would affect the family unit, but also would affect the child as an individual. Insofar as multiple transitions are stressful, stress has been shown to have negative effects on grade point average (GPA) (Simmons et al., 1987). Necessarily, a lowered GPA will affect educational success minimally in the form of class standing or maximally by impeding graduation from high school.

The third promising path related fathers' employment stress at Wave 1 to adolescent self-efficacy ($t = 3.097$), suggesting that greater employment-related stress was associated with higher levels of self-efficacy. This path was not hypothesized in the conceptual model. The effects of family stress on adolescent self-efficacy were thought to be mediated by parenting factors, or represent an indirect and negative relationship. Instead, these data suggest the relationship may be direct and positive.

Timing of Residential Mobility

It was of interest whether earlier, later, or continuous shifts in residence were important in explaining the outcomes. Hence, the sample was divided into four patterns of residential mobility: (a) families not changing residences during the report periods of Wave 1 or Wave 2 or residentially stable ($n = 151$), (b) families with residential changes only between 1971 and 1976 or early mobility (Wave 1 report

period) (n = 104), (c) families with residential changes only between 1976 and 1981 or later mobility (Wave 2 report period) (n = 44), and (d) families who changed residences during both report periods or continuous mobility (n = 87). Results from testing the model with these designations follow.

The Four Mobility Designations

It should be noted that a more desirable grouping scheme would have categorized families by timing of moves and numbers of moves. However, the sample was too small to allow a more restricted categorization (see Table 8, Appendix B). This limitation makes those who moved once a year look like those who only moved once in five years.

When the model was fit for families who did not move at all during Wave 1 or Wave 2 (n = 151), the results indicated a "fatal error" in the data, and the analysis was terminated due to the absence of variability in one indicator, father's looking for work. (At Wave 1 for this group none were looking for work.) To compensate for the fatal error, the item was dropped from further analyses.

After 200 iterations with the altered model, a unique solution that fit the estimated covariance matrix to the actual covariance matrix was not found (i.e., the admissability test failed). Subsequent analyses included only two indicators of the latent variable, fathers' employment stress at Wave 1.

When the model was tested for the group that moved only during Wave 1 (n = 104), it also failed the admissability test. The small samples comprising the remaining

two groups (44 and 87 respectively) were not tested, because the number of parameters being estimated in the model exceeded the minimum adequate for the sample sizes.

These findings could be interpreted in several ways. First, the analytic model itself may have been improperly specified. That is, the relationships between variables may not be those tested in the model. Second, the measures used to indicate the latent variables may be unreliable. Another possible interpretation is the number of cases may be inadequate for the number of parameters estimated. Of these, only the model could be changed in this study.

Because of the results regarding residential mobility, a reexamination of the results from testing the model with the full sample was warranted. Upon reexamination, the latent variable, fathers' employment stress at Wave 2, was dropped from analyses, because none of the t-values in the gamma matrix associated with this variable approached 2.0 (see Table 7, Appendix B). Generally, any change in the analytic model, such as dropping the fathers' employment stress at Wave 2, represents a change in theoretical conceptualization. However, removing this construct does not represent a substantial conceptual shift within the model. That is, family stress continued to be measured by events involving both father and child, although father employment was included for Wave 1 only. No other changes were made in the model, and multiple measures of family stress remained available.

Next, the reduced model was fit for three groups: families with no moves, those who reported earlier moves only, and those who reported continuous moves (moves in both Wave 1 and Wave 2). This model is presented in Figure 3 (Appendix

A). No solution was found for the group of nonmovers, and the AGFI (.856) indicates a poor fit of the model to the data. These results suggest the conceptual model was not appropriate for families who did not move.

When the model was tested for families who reported at least one move during only Wave 1 ($\underline{n}$ = 104), the residuals matrix for dependent observed measures contained a negative value. As explained previously, the presence of a negative residual places in question the reliability of values dependent on that matrix. Further, the goodness-of-fit values provide mixed information. The AGFI (.779) indicates a poor fit of the model to the data, while χ^2 (139, $\underline{n}$ = 84) = 217.54, $\underline{p}$ = .000) indicates a good fit. The plot of standardized residuals was visually examined (see Figure 4, Appendix A). A straight line through the data that lies above the diagonal indicates a good fit, while one that lies below the diagonal indicates a poor fit. Deviations from a straight-line fit may indicate any of three conditions: specification errors, departures from linearity, or departures from normality (Joreskog & Sorbom, 1989). This plot deviates from the expected straight line along the upper range of values. Thus, the fit of the model to these data is poor. Maximum-likelihood estimation, used in this study, assumes the data exhibit a multivariate normal distribution (Norusis, 1990). These data did not meet that assumption (see Table 9, Appendix B), but it was hoped that the departure from normality would not be severe enough to seriously affect the results. Clearly, this may not be the case. Alternatively, however, it may be that the model itself continues to be misspecified.

Fitting the model for families who moved only during Wave 2 was inappropriate. The number of cases (44) was fewer than the number of parameters to be estimated. As a result, the model remains untested for this designation, and it is not possible to compare the effects of Wave 1 mobility and Wave 2 mobility. Given these limitations, it was impossible to address the hypothesis of stronger relationships within the conceptual model due to residential mobility occurring earlier rather than later in a child's life.

The fit of the model for families who moved during both Wave 1 and Wave 2 ($\underline{n}$ = 87) yielded results similar to those for families moving only during Wave 1. Both residuals matrices for observed measures contained negative values, and the goodness-of-fit indices (AGFI = .763, χ^2 (139, $\underline{n}$ = 70) = 200.93, $\underline{p}$ = .000) pointed in opposite directions, a poor fit and a good fit. Examination of the plot of standardized residuals (see Figure 5, Appendix A), however, indicated a moderate fit of the model to the data.

Sex of the Child

According to hypothesis 5, the relationships in the model were expected to be stronger for female than for male adolescents. Fitting the reduced model to the data for both females and males produced similar results. Neither analysis passed the admissability test, and both models presented mixed goodness-of-fit results. Again, the AGFI indicates a poor fit (females and males respectively, .85 and .84), while the chi-square statistic indicates a good fit: females was χ^2 (139, $\underline{p}$ = .000) = 240.59, and males was χ^2 (139, $\underline{p}$ = .000) = 256.68. Insofar as the analytic results were similar, it

can be said that there were no differences in the model fits for females and males. However, this cannot be taken as evidence that the conceptual model does not differ by sex of the child. That question remains unanswered by these data.

Summary of Findings

Fitting the analytic model to the data proved unsuccessful. The reasons for the lack of success are unclear. It could be that the analytic model was misspecified and truly does not fit the data; however, the fit indices from the full-sample, 22-item analysis do not support this conclusion. An equally credible explanation is that observed measures for the latent variables were inadequate. Examination of descriptive data for the full-sample model presented in Table 9 reveals large skewedness and kurtosis for some items, most notably items associated with the stress-related variables. Because the analyses included an estimate of the measurement error present in each observed measure when calculating the composite to represent a latent variable, rather than relying on a single computed composite value, it was thought that the impact of low reliabilities (e.g., the largest alpha = .65) would be negligible. This does not appear to be the case for these data. If the reliability of the data were better, transformations to reduce skewedness and kurtosis might provide a remedy for the failed admissability tests.

Discussion

Several important possibilities are suggested by the results of this study, and each can be explained within the framework of family stress theory and the proposed model. The absence of significant paths does not negate the indication that families

who are residentially stable are in some way different from those who are more mobile. Families who did not move and those who moved only at Wave 1 appeared similar in that the analytic model did not fit for either group. However, the model moderately fit for the group consisting of families who moved during both Waves 1 and 2. Surely, when continued frequently over the course of 10 years, episodes of packing, unpacking, locating shelter, and changing social networks can contribute to the pile-up of stressors. To deal with the pile-up, families with few resources may employ coping behaviors that result in ineffective parenting (e.g., more controlling and less warm parenting behaviors) (McLoyd, 1990; Webster-Stratton, 1990). The negative effects of high control and low warmth in parenting behaviors has been associated with poor adolescent outcomes, especially lower academic achievement and an external locus of control, particularly in white families (Baumrind, 1991; Bornstein, 1992; Lamborn, et al., 1991; Simmons et al., 1990; Steinberg, Lamborn et al., 1992). Thus, through considering the concept of pile-up from family stress theory, the differences in goodness-of-fit for the different patterns of mobility lend some support to the notion that the effects of stress on adolescent outcomes may be mediated by certain parenting behaviors.

Other results suggest specific aspects of family stress may be related to low-warmth parenting behaviors, adolescent self-efficacy, and educational success. Consistent with Boss' (1988) position, stressed individuals influence the stress of the family unit; if one member is not functioning well, consequences result for the entire family. Thus, the outcomes in this study that point

toward a relationship between child behavior-related stress and low warmth are advanced. Further support for the possible validity of this connection can be found in the research of Stice and Barrera (1995). They found behavior problems in children negatively related to parental support, and their support measure contained items indicative of warmth.

Other outcomes of this study point toward the possibility of a negative relationship between child behavior-related stress and educational success. The reciprocal effects of parenting behaviors on child behaviors and child behaviors on parenting behaviors found by Stice and Barrea (1995) supports the position of the conceptual model that the effects of family stress on adolescent educational success are mediated by parenting behaviors, insofar as reciprocal effects are cyclic. Family stress theory aids in explaining this unpredicted, but not unlikely path. Individual stress, logically becomes a part of family stress. Likewise, through a slight alteration of the conceptual model, the notion of parental dysfunctional coping behaviors influencing the coping behaviors of their children, and vice-versa, represents a plausible, explanation for high levels of child-behavior related stress to be associated with lowered levels of educational success.

Finally, the hint of a positive relationship between fathers' employment-related stress at Wave 1 and adolescent self-efficacy must be addressed. This relationship is both unexpected and counter-intuitive, and it cannot be explained by the proposed conceptual model. Higher stress is related to lower levels of functioning according to family stress theory, both for the family unit and for the individual family members

(Boss, 1988; Pearlin, 1991). Hence, family stress theory does not provide an effective basis for explaining the suggestion that greater father employment stress is associated with higher levels of self-efficacy.

The lack of significant paths in the analyses suggest that none of the hypotheses were supported. Thus, testing of moderator effects was unwarranted. Although, the results should not be taken as definitive evidence of a poorly constructed conceptual model and absolute justification for discarding the model, they suggest an alternative model may be more appropriate.

Much research supports the position that stress negatively affects parenting effectiveness (cf., Conger et al., 1993; Lempers et al., 1989; McLoyd, 1990; Simons et al., 1993; Webster-Stratton, 1990), and this study focused specifically on the effects of stress on controlling and warm parenting behaviors. However, an alternative model is supported by the research of Pittman and Bowen (1994) and includes the child's perception of parental support rather than the authoritarian parenting behaviors, control and low warmth. Findings from Pittman and Bowen's study suggest higher quality in the parent-child relationship results when the child feels supported by the parent. Further, their research suggests a high quality parent-child relationship positively affects the child's personal/psychological adjustment, as well as adjustment within the new community to changes of residence. Perhaps a more accurately specified analytic model could be derived from a conceptual model that included supportive parenting behaviors rather than the broader idea of authoritarian parenting. Stress theory continues as an appropriate theoretical basis for the alternative model, because a cogent

argument can be made for irritability and unresponsiveness of highly stressed parents (i.e., those encountering pile-up of stressors) being negatively related to supportive behaviors (see Hetherington, 1989; Lempers et al., 1989; McLoyd, 1990; Webster-Stratton, 1990).

Furthermore, it could be that the total number of moves is more important than the timing of moves when conceiving residential mobility, and perhaps the individual stress is more important than family stress. As suggested by Seidenberg (cited in Brown & Orthner, 1990) in reference to families moved because of corporate relocation, credentials (i.e., one's passport to acceptance) are lost. Following each move, one must prove him- or herself. That is, success and status in one locale is not easily carried over to another. If this is valid for adults, it must be more problematic for adolescents who already are undergoing multiple normative transitions in addition to changing residences. Insofar as each move requires an expenditure of energy to gain a place in the new environment, frequent moves would be tiring, perhaps so tiring as to cause one to give up (i.e., to cause a reduction in self-efficacy). If desirable moves that improve one's situation can be related to reduced self-efficacy, which is consistent with the work of Stokols and Shumaker (1982), then the relationship would be even stronger for those who move from one undesirable situation to another and who have no choice over the move. Thus, a case can be made for an alternative conceptual model. This altered model would posit direct effects of adolescent stress on both adolescent self-efficacy and educational success, and the number of lifetime

residence shifts and the perceived desirability of the move would moderate each relationship.

While the results from these analyses may call for altering of the conceptual model, it is important to consider other potential causes for the absence of significant findings. First, latent variable modeling assumes a linear relationship between variables. It could be that parental control behaviors are not linearly related to self-efficacy and educational success. It also is possible that the relationship between stress and ineffective parenting is not linear. Perhaps there is an optimum above which these relationships change direction and are, thus, curvilinear. If this were true for either or both of these relationships, the condition would seriously violate the procedure's assumptions and render the results invalid.

Secondly, the presence of a relationship between warmth and control was untested. Whereas, high control and low warmth are indicative of the authoritarian parenting style (Baumrind, 1971, 1991), perhaps inclusion of a second order latent variable incorporating both warmth and control would have produced a better analytic model. However, the size of the current sample prohibited this addition.

Thirdly, the effects of fathers' employment stress is confounded with marital status. At Wave 1, 27% of the families consisted of single mothers and 33% at Wave 2. The parenting measures used were the child's perception of mother's control and mother's warmth. Thus, where fathers were absent from the house, father's employment stress was likely to have little direct affect on the parenting measure, and

about 30% of the sample fit this profile. This confound may have influenced the absence of significant findings.

The longitudinal nature of the data was attractive, because testing for effects due to timing of residential mobility would address one of the questions of interest: Does the timing of residential mobility in a child's life affect adolescent self-efficacy and educational success? However, when the sample was divided into groups by mobility timing patterns, one group (families moving only during Wave 2) could not be tested because the sample was too small. Results indicated a possible difference between families who did not move, those reporting moves at Wave 1 only, and those who reported moves at both Waves 1 and 2. For the patterns of mobility represented by nonmoving families and those reporting moves only at Wave 1, analysis of the most reduced model resulted in a poor fit of the model to the data. This suggests that families experiencing these two patterns of residential mobility differ from those who reported moves at both Waves 1 and 2. In other words, continuous residential mobility may differ from both lack of residential mobility and isolated periods of mobility. Furthermore, these results could be taken as support for the notion that the total number of moves is more important than the timing of residential changes.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Provided first in this chapter is a brief summary of the study and the results. Conclusions and implications for future research follow.

Summary

This study was designed to determine how residential mobility, including the timing of the mobility, affects adolescent outcomes. A conceptual model that links residential mobility to the adolescent outcomes of self-efficacy and educational success as mediated by family stress and authoritarian parenting behaviors was tested. Data were from the National Survey of Children (NSC) and included 416 African-American and white parents and their children. The respondents were part of a nationally representative, longitudinal sample who participated in all three waves of data collection (1976, 1981, and 1987).

On the basis of previous research multiple items were selected from the three survey waves to measure the key constructs: family stress, authoritarian parenting behaviors, adolescent self-efficacy, and adolescent educational success. Similarly, items were chosen to measure the proposed moderators: marital status, financial status, ethnicity, presence of a non-parent adult significant to the child, and adolescent's value of education.

Factor analyses were used to select the best set of observed measures of the latent constructs. An additional factor analysis of all selected items supported their use as indicators of seven latent variables: three stress variables, two parenting variables, and one variable each for self-efficacy and educational success.

Although the testing of the model using LISREL 7 did not provide conclusive results, several trends were noted. Results pointed toward possible direct effects of family stress on parental warmth, adolescent self-efficacy, and educational success. Other results suggest a similarity between families who remained in one residence for 10 years and those who reported having moved only prior to 1976 (Wave 1). Furthermore, results also suggest that families who reported having moved at both Waves 1 and 2 differ from those who did not move at all and those who moved at least once during the 1976 report period.

Conclusions

Overall, the findings from this study were inconclusive, and the proposed hypotheses could not be supported. Analyses produced either incomplete or unreliable results. Limitations within the data appear to have affected the analyses. For example, after 200 iterations, no fit of the model to the data was found (i.e., the admissability test failed).

Although unsupported by significant paths within the analytic models, on the basis of goodness-of-fit indices alone, results do suggest possible differences between families with differing patterns of mobility. Non-mobile families and those moving earlier in the child's life may be different from those who moved more continuously.

This is consistent with stress theory in which this study is grounded. Although it is possible that non-mobile families may experience a pile-up of stressors, those who must move households and move them more frequently over longer periods of time have additional stressors (e.g., packing, unpacking, locating shelter, changing social networks) not likely to affect their more residentially stable counterparts.

Implications for Future Research

Several limitations in the current study have implications for future research. First, it is clear that a major limitation of this study was the small sample size, especially when compared to the complexity of the analytic model. As a result, testing of the complete conceptual model was truncated, and important distinctions between mobility groups could not be made. Families who move five times in five years are likely to be qualitatively different from those who move only one time in five years. Yet, in this study they were grouped together because of sample size constraints. These constraints also made it impossible to examine the possibility of curvilinear relationships. If, as Hendershott (1989) suggested, moderate numbers of moves are beneficial and high numbers of moves are detrimental to adolescent outcomes, any effect was lost because the sample sizes were inadequate to allow grouping by number of moves.

Secondly, in longitudinal research, families who move frequently are the ones most likely to be lost from the study over time. Wave 3 (1987) data included only 54% of the 1976 sample. Thus, 46% of the original sample was lost over the 10-year period. It is reasonable to expect that many of those not included in Wave 3 were lost

because of their residential mobility. Thus, it is unlikely that the sample used in this study is representative of national residential mobility. To generate a longitudinal sample large enough for testing a complex model of causal effects associated with residential mobility will certainly require a data base representative of national levels of residential mobility.

Lastly, using extant data precludes control of how constructs are measured. The originators of the data were not interested in residential mobility per se, so measurement of relevant constructs had to be forged from items and scales included in the NSC questionnaires for a different purpose. While the measurement items appeared to adequately represent the latent variables (i.e, had face validity), the reliabilities of the scales the items composed were surprisingly low. For example, the self-efficacy measure for the current study consisted of four items taken from three attitudinal scales. Although face validity was good, taken together the items did not produce a reliable measure of self-efficacy. Clearly, an important finding of this research is that the use of extant data may hamper satisfactory measurement of certain constructs important to the study, even when the items selected for their measurement appear related. Future research would do well to employ reliable scales that operationalize the key concepts before judging the proposed model faulty.

In the absence of a national longitudinal data base that includes homeless families and those precariously housed, scholars use of extant national data bases. Selecting subsamples of the NSC data, or any secondary data source, as was done here to reflect the characteristics of those in shelter populations (i.e., single, black, young,

poor female-headed families) permits an examination of within group variation. However, there are at least two major shortcomings in this approach. First, sample sizes will be small due to selection of minority respondents. Second, the effects of residential mobility can be assessed this way only by implication, for such samples are not likely to capture highly mobile families. Additionally, residential mobility is not limited to single, black, young, poor, female-headed families; therefore, between group comparisons are desirable and are prohibited the introduction of selection criteria.

As a result, family researchers should lobby for the inclusion of mobility measures (e.g., distance moved as well as number of moves). This may provide a clearer picture of the precariously housed. Homeless families may be even more difficult to identify and include in studies over time; typical methodologies do not adequately address issues of data collection from highly mobile populations.

At present there is no large-scale data base that systematically includes homeless or precariously housed families and contains items used for measuring the outcomes in the conceptual model used here. Following such families is difficult, costly, and time consuming. Thus, obtaining a data base of this nature is unlikely without strong financial commitment from a stable funding source, as well as strong personal commitment to longitudinal research from a team of researchers. It is impossible to know the full impact of the long-term effects of these family conditions on children without further research that focuses on causal relationships. To obtain the richness of detail that is critical to a more thorough understanding of the issues surrounding residential mobility, future research should include intensive interviews

with a variety of family types who have experienced limited residential stability. Research designs that include multiple measures from multiple sources using both qualitative and quantitative methods are required, if a complete picture of childhood in a residentially mobile family is to emerge.

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APPENDIX A

This appendix contains figures 1-5 cited in the text.

Figure 1. Effects of Residential Mobility on Adolescent Self-Efficacy and Academic Achievement

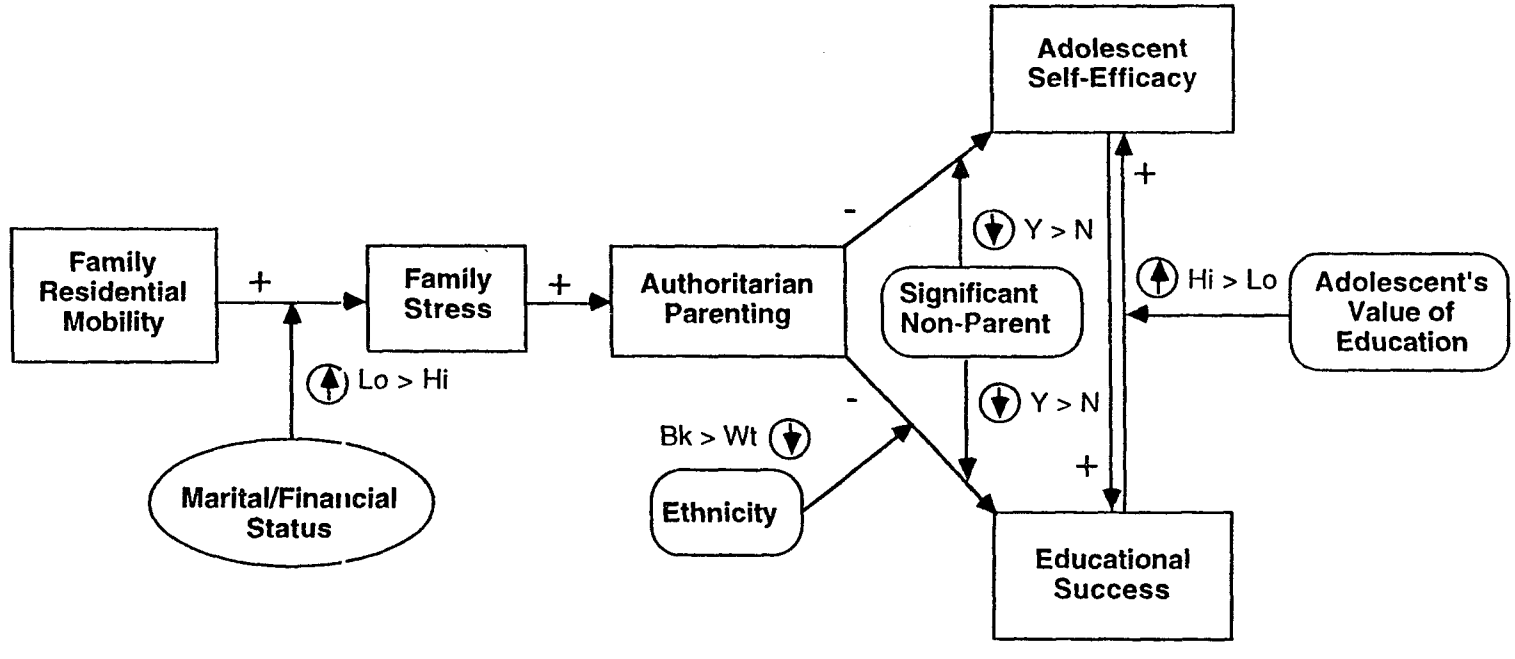
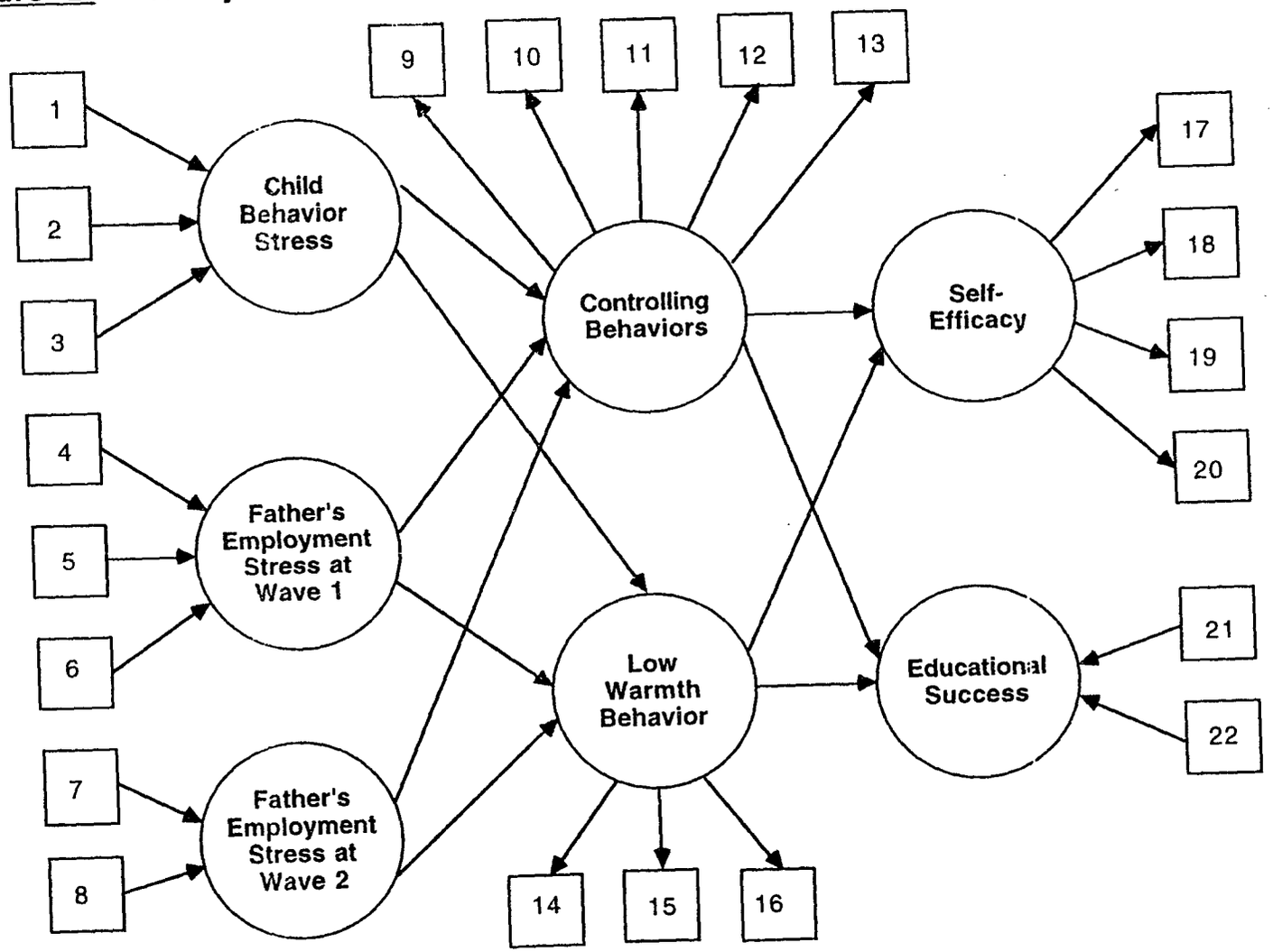
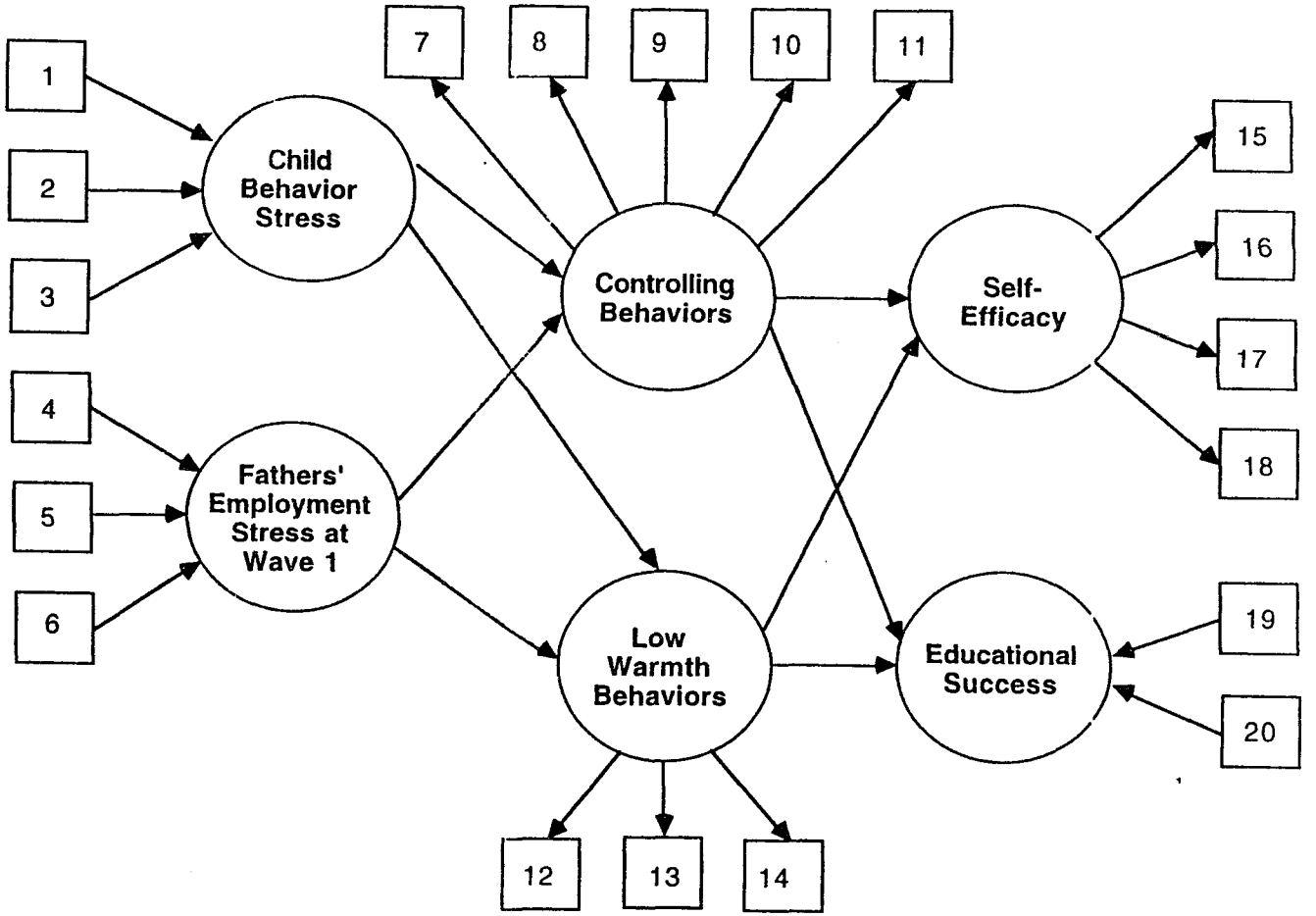


Figure 2. **Analytic Model**



Note. Boxes = Observed measures.
Circles = Latent constructs.

Figure 3. Reduced Analytic Model



Note. Boxes = Observed measures.
Circles = Latent constructs.

Figure 4

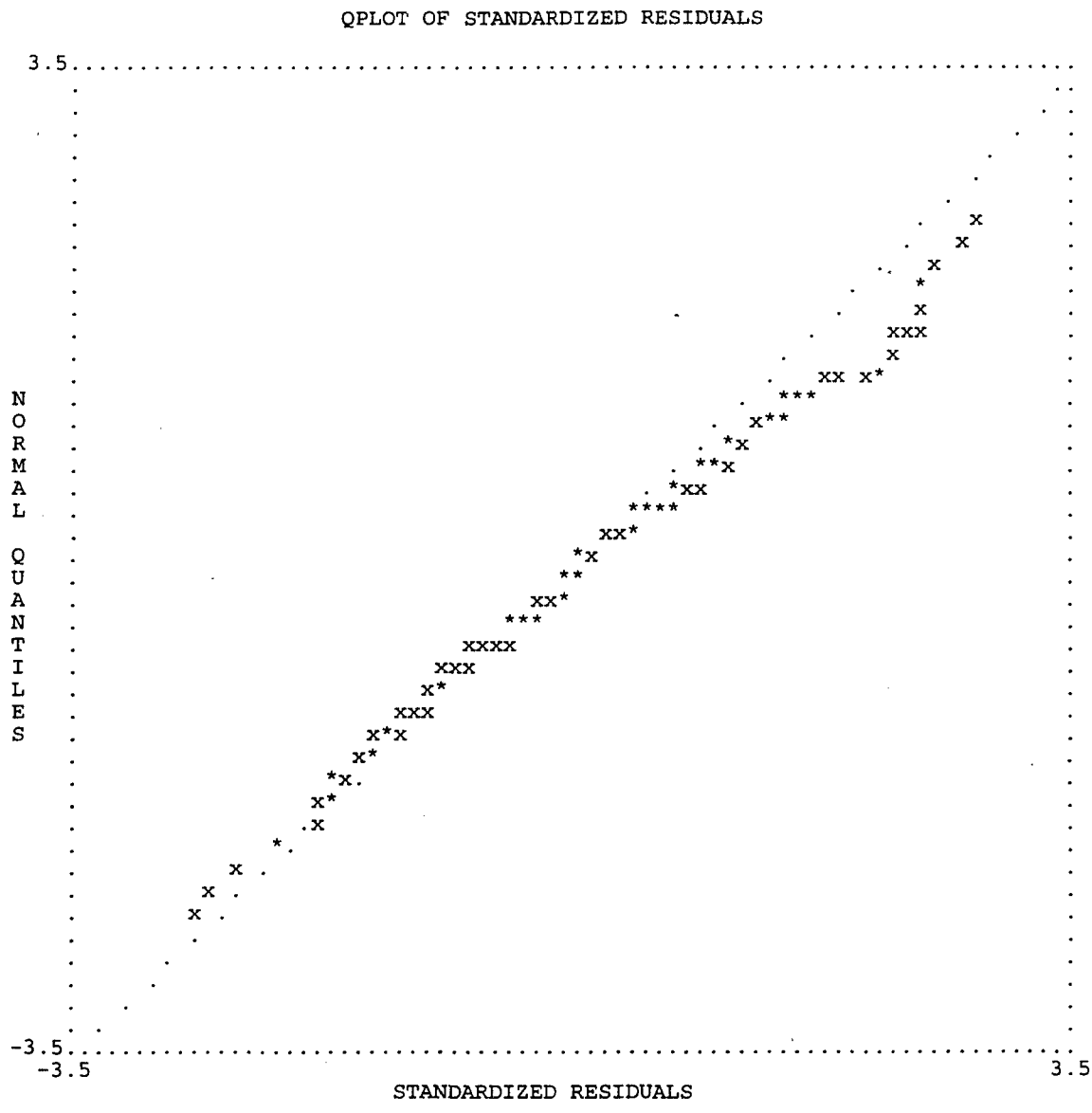
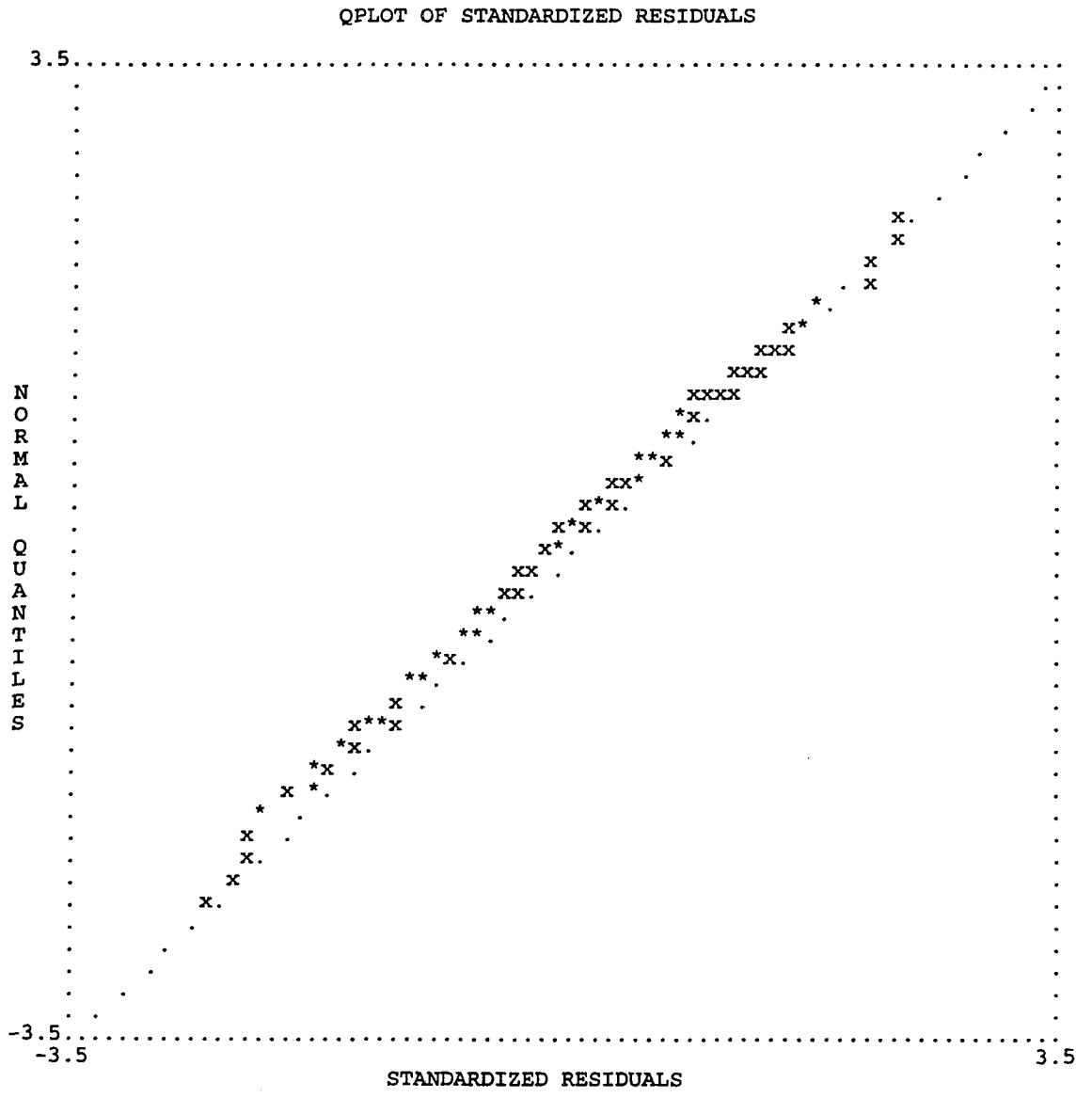

QPLOT OF STANDARDIZED RESIDUALS
3.5
-3.5
NORMAL QUANTILES
-3.5
3.5
STANDARDIZED RESIDUALS

Figure 5


QPLOT OF STANDARDIZED RESIDUALS
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NORMAL QUANTILES
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STANDARDIZED RESIDUALS

APPENDIX B

This appendix contains tables 1-9 cited in the text.

Table 1

Description of Sample

Characteristic	N	(%)	N	(%)
Marital Status	Wave 1		Wave 2[a]	
Married	296	(71.2)	268	(64.7)
Widowed	13	(3.1)	11	(2.6)
Separated	40	(9.6)	32	(7.7)
Divorced	44	(10.6)	78	(18.8)
Never Married	23	(5.5)	25	(6.0)
Parents education				
Highest grade	Respondent		Spouse	
≥8	33	(8.0)	33	(9.6)
9	24	(5.8)	16	(3.8)
10	31	(7.5)	29	(7.0)
11	49	(11.8)	15	(3.6)
12	177	(42.5)	123	(29.6)
13	28	(6.7)	22	(5.3)
14	21	(5.0)	30	(7.2)
15	8	(1.9)	13	(3.1)
16	32	(7.7)	26	(6.3)
17	11	(2.6)	38	(9.1)
missing	2	(.4)	71	(17.1)
M(SD)	11.8(1.3)		12.4(2.9)	
Family income[b]	Wave 1[a]		Wave 2[a]	
<$5000	60	(14.9)	41	(9.9)
$5000-$9,999	81	(19.5)	61	(14.7)
$10,000-$14,999	88	(21.2)	65	(15.6)
$15,000-$19,999	81	(19.5)	61	(14.7)
$20,000-$24,999	47	(11.3)	47	(11.3)
$25,000-$34,999	31	(7.4)	83	(20.0)
≥$35,000	14	(3.4)	21	(12.3)

(table continues)

Number of dependents	Wave 1		Wave 2	
1			1	(.2)
2	12	(2.9)	22	(5.3)
3	56	(13.5)	71	(17.1)
4	142	(34.1)	130	(31.3)
5	91	(21.9)	110	(26.4)
6	57	(13.7)	42	(10.1)
7	33	(7.9)	22	(5.3)
8	14	(3.4)	8	(1.9)
9	7	(1.7)	5	(1.2)
10			2	(.5)
11	2	(.5)		
13			1	(.2)
14	2	(.5)		
Missing			2	(.5)
M (SD)	4.8 (1.65)		4.5 (1.50)	

Age of child	N	%
6	23	(5.5)
7	133	(32.0)
8	133	(32.0)
9	127	(30.5)
M (SD)	7.88 (.91)	

Number of moves in last 5 years	Wave 1[a]		Wave 2[a]	
0	205	(49.3)	273	(65.6)
1	7	(.7)	13	(3.1)
2	120	(28.8)	84	(20.2)
3	41	(9.9)	25	(6.1)
4	18	(4.3)	8	(1.9)
5	13	(3.1)	5	(1.2)
6	6	(1.4)	0	
7	2	(.5)	5	(.5)
8	2	(.5)	0	
11	1	(.2)	0	
M (SD)	2.8 (1.40)		2.4 (1.03)	

[a]Due to missing cases percentages do not add to 100. [b]Waves 1 and 2 did not use identical categories; thus, categories are approximations to facilitate comparison.

Table 2

Initial Factor Loadings of Stress Items and Resulting Alphas

Variable	Factors 1	2	3	Communality
Child run away[1]	-.055	-.030	.227	.057
Child stolen anything[1]	.082	.036	.444	.202
Behavior note[1]	.074	.025	.389	.155
Mom employed[1]	.051	.089	-.114	.025
Dad employed[1]	.993	.102	.074	.999
Mom seek work[1]	.205	.008	-.003	.042
Dad seek work[1]	.501	.115	.101	.272
Mom student[1]	.130	-.048	.043	.021
Dad student[1]	.457	-.053	-.101	.223
Sep/divorced w/i last 5 years[1]	.069	-.090	.121	.028
Child stolen anything[2]	.080	.053	.523	.278
Behavior note[2]	.093	.053	.610	.378
Child suspended[2]	.100	.096	.340	.130
Child repeated grades[2]	-.017	.019	.132	.018
Child seen psychiatrist[2]	-.021	.055	.485	.242
Child stopped by police[2]	-.038	-.036	.160	.029
Child stays w/kids in trouble[2]	.086	-.024	.285	.089
Respondent seek work[2]	.131	.033	.079	.024
Spouse seek work[2]	.001	.876	-.015	.768
Mom student[2]	.081	-.055	-.046	.011
Respondent laid off since 1977[2]	-.027	.125	.126	.031
Spouse laid off since 1977[2]	.058	-.396	.129	.171
Respondent back to school since '77[2]	.092	-.095	.082	.025
Spouse back to school since '77[2]	-.057	.056	.113	.019
Respondent employed[2]	.112	.026	-.049	.016
Spouse employed[2]	.061	.622	-.099	.408
Respondent seen psychiatrist since '77[2]	-.079	-.103	.143	.039
Spouse seen psychiatrist since '77[2]	-.084	-.044	.126	.026
Alphas	.60	.65	.52	

[1]Wave 1 data. [2]Wave 2 data.

Table 3

Initial Factor Loadings For Parenting Behavior Items and Resulting Alphas

Variable	Low Warmth	Control	Communality
Can watch TV whenever[1]	.017	.348	.122
Can watch whatever TV[1]	-.029	.423	.178
Can play w/any friends[1]	.070	.288	.091
Can eat whatever[1]	.026	.478	.231
Can wear whatever[1]	.013	.306	.094
Mom spanks you[1]	.037	.161	.028
Mom yells at you[1]	.066	.094	.014
Mom makes you follow rules[1]	.006	.267	.072
Mom says when you're good[1]	.253	.001	.064
Mom kiss & hug you[1]	.315	-.112	.105
Mom is firm[2]	-.119	.206	.052
Mom want's to know where you are[2]	-.135	.260	.079
Mom spanks you[2]	.069	.027	.006
Mom yells at you[2]	.152	.096	.035
Mom says when you're good[2]	.574	.004	.330
Mom kiss & hug you[2]	.715	-.039	.507
Alphas	.51	.46	

[1]Wave 1 items. [2]Wave 2 items.

Table 4

Initial Factor Loadings for Self-efficacy Items

Variable	Factor Loading	Communality
Those who accept condition are happier	.022	.000
Person is master of own fate	.197	.039
Can't ever get ahead	.305	.093
Able to make plans work	.433	.188
Can do many things well	.392	.154
Think am no good at all	.356	.127
Satisfied w/ability to cope w/difficulties	.492	.242
Alpha	.45	

Note: All are Wave 3 items.

Table 5

Factor Loadings of All Major-Path Items

Item	Factors							Communality
	1[a]	2[b]	3[c]	4[d]	5[e]	6[f]	7[g]	
Dad employed[1]	.999	.077	-.008	-.124	.073	.011	-.030	1.00
Dad seek work[1]	.474	-.013	.123	.095	-.001	.000	-.082	.28
Dad student[1]	.435	-.033	-.067	.010	-.041	.008	.059	.20
Spouse seek work[2]	-.019	.535	-.013	.039	.070	.067	.008	.30
Spouse employed[2]	.022	1.008	-.126	-.122	.021	-.030	.024	1.00
Child stolen anything[2]	.039	.014	.551	-.032	.006	.004	.102	.30
Behavior note[2]	.074	-.025	.497	.039	.056	.044	-.097	.29
Child seen psychiatrist[3]	-.073	-.082	.563	-.044	.043	.053	-.052	.34
Mom says when you're good[1]	-.042	.047	.132	.092	.514	-.057	-.110	.31
Mom kiss & hug you[1]	.013	.124	.065	.064	.825	-.033	.043	.70
Mom kiss & hug you[2]	.006	-.069	-.103	-.171	.325	.047	.042	.17
Can watch TV whenever[1]	.043	-.016	.068	.333	.009	-.038	-.013	.12
Can watch whatever TV[1]	-.024	-.054	-.141	.410	-.008	.007	-.000	.19
Can eat whatever[1]	.070	.058	.011	.442	.049	-.113	.062	.23
Can wear whatever[1]	-.000	-.052	-.069	.285	.067	.088	.060	.10
Mom is firm[2]	.025	.055	-.031	.140	-.060	.102	-.054	.05
Mom wants to know what child is doing[2]	-.025	.053	.047	.312	-.072	-.032	.006	.11
Able to make plans work[3]	.040	.031	-.017	-.116	-.075	.354	.002	.15
Can do many things well[3]	.024	.013	.117	-.086	.049	.441	.092	.23
Think am no good at all[3]	.013	-.018	-.204	.037	.059	.328	.012	.17
Satisfied w/ability to cope w/difficulties[3]	-.007	.053	.142	.136	-.056	.695	-.034	.51
Diploma,GED, Neither[3]	-.014	-.035	-.064	.100	.037	.031	.462	.25
Standing in last yr. of high school[3]	.003	.054	.093	-.009	-.078	.002	.703	.47

[1]Data from Wave 1. [2]Data from Wave 2. [3]Data from Wave 3. [a]Fathers' employment stress at Wave 1. [b]Fathers' employment stress at Wave 2. [c]Child behavior-related stress. [d]Controlling parenting behaviors. [e]Low warmth parenting behaviors. [f]Self-efficacy. [g]Educational success. [h]Communality

Table 6

Factor Loadings of the 22 Items in the Analytic Model

Item	Factor 1[a]	2[b]	3[c]	4[d]	5[e]	6[f]	7[g]	Communality
Dad employed[1]	.998	.079	.070	-.026	.009	.007	-.125	1.00
Dad seek work[1]	.472	-.009	-.007	-.091	.014	-.121	.114	.29
Dad student[1]	.434	-.031	-.040	.058	.009	.067	.016	.20
Spouse seek work[2]	-.016	.534	.059	-.007	.090	.023	.061	.30
Spouse employed[2]	.030	1.002	.014	.013	-.004	.144	-.118	1.00
Child stolen anything[2]	.038	.008	.012	.092	-.000	-.545	-.033	.29
Behavior note[2]	.073	-.023	.049	-.090	.041	-.501	.040	.29
Child seen psychiatrist[2]	-.075	-.084	.046	-.048	.048	-.564	-.046	.33
Mom says when you're good[1]	-.042	.046	.495	-.098	-.066	-.140	.085	.30
Mom kiss & hug you[1]	.012	.119	.847	.051	-.052	-.074	.053	.74
Mom kiss & hug you[2]	.003	-.073	.321	.046	.029	.093	-.167	.16
Can watch TV whenever[1]	.044	-.012	-.002	-.027	-.022	-.065	.347	.13
Can watch whatever TV[1]	-.022	-.047	-.018	-.007	.026	.145	.420	.20
Can eat whatever[1]	.073	.061	.045	.050	-.097	-.007	.450	.24
Can wear whatever[1]	.002	-.048	.064	.051	.092	.072	.276	.10
Mom wants to know what child is doing[2]	-.018	.059	-.070	.005	-.039	-.043	.251	.08
Able to make plans work[3]	.040	.035	-.078	-.004	.359	.020	-.106	.16
Can do many things well[3]	.024	.017	.043	.092	.431	-.120	-.092	.23
Think am no good at all[3]	.013	-.012	.047	.003	.334	.205	.046	.17
Satisfied w/ability to cope w/difficulties[3]	-.004	.068	-.072	-.047	.698	-.136	.146	.50
Diploma,GED, Neither[3]	-.016	-.044	.046	.430	.029	.065	.098	.23
Standing in last yr. of high school[3]	.004	.044	-.065	.758	-.026	-.114	-.030	.54

[1]Data from Wave 1. [2]Data from Wave 2. [3]Data from Wave 3. [a]Fathers' employment stress at Wave 1. [b]Fathers' employment stress at Wave 2. [c]Low warmth parenting behaviors. [d]Educational success. [e]Self-efficacy. [f]Child behavior-related stress. [g]Controlling parenting behaviors.

Table 7

T-Values of Gamma Matrix for Full-Sample Model

Variables	Fathers' employment stress[1]	Fathers' employment stress[2]	Child behavior stress
Control	-0.193	-0.427	-1.273
Low warmth	0.480	1.342	1.960
Self-efficacy	2.858	1.663	0.569
Education success	-0.494	-1.490	-2.430

[1]Wave 1 data only. [2]Wave 2 data only.

Table 8

Frequencies of Moves by Time Period

Number of moves	Wave 1 only		Wave 2 only		Waves 1 & 2	
	N	%	N	%	N	%
0	151		151		151	
1	5	(4.8)	2	(4.8)	0	
2	68	(65.4)	35	(79.5)	0	
3	14	(13.5)	5	(11.4)	10	(11.5)
4	9	(8.7)	1	(2.3)	23	(26.4)
5	2	(1.9)	1	(2.3)	18	(20.7)
6	4	(3.8)			18	(20.7)
7	1	(1.0)			6	(6.9)
8	0				4	(4.6)
9	0				1	(1.1)
10	0				4	(4.6)
11	1	(1.0)			0	
12					2	(2.3)
13					1	(1.1)
n for families who move	104		44		87	

Note: Percentages include only those who moved.

Table 9
Univariate Summary Statistics for the 22 Variables in the First Reduced Model

	Summary Statistics							
Item	Mean	SD	Skewness	Kurtosis	Min.	N	Max.	N
Dad employed[1]	0.087	0.283	2.93	6.59	0	292	1	28
Dad seek work[1]	0.022	0.147	6.57	41.01	0	313	1	7
Dad student[1]	0.028	0.166	5.74	30.80	0	311	1	9
Spouse seek work[2]	0.028	0.166	5.74	30.80	0	311	1	9
Spouse employed[2]	0.094	0.292	2.80	5.83	0	290	1	30
Child stolen anything[2]	0.091	0.288	2.87	6.19	0	291	1	29
Behavior note[2]	0.188	0.391	1.61	0.59	0	260	1	60
Child seen psychiatrist[2]	0.122	0.328	2.32	3.38	0	281	1	39
Mom says when you're good[2]	0.250	0.468	1.61	1.60	0	245	2	5
Mom kiss & hug you[1]	0.266	0.442	1.07	-0.86	0	235	1	85
Mom kiss & hug you[2]	0.637	0.686	0.61	-0.73	0	154	2	38
Can watch TV whenever[1]	0.534	0.500	-0.14	-1.98	0	149	1	171
Can watch whatever TV[1]	0.669	0.471	-0.72	-1.48	0	106	1	214
Can eat whatever[1]	0.816	0.388	-1.64	0.67	0	59	1	261
Can wear whatever[1]	0.603	0.490	-0.42	-1.82	0	127	1	193
Mom wants to know what child is doing[2]	2.769	0.458	-1.76	2.18	1	5	3	251
Able to make plans work[3]	4.009	0.679	-1.53	4.11	1	1	5	51
Can do many things well[3]	2.631	0.496	-0.70	-1.12	1	2	3	204
Think am no good at all[3]	2.619	0.570	-1.19	0.44	1	14	3	212
Satisfied w/ability to cope w/difficulties[3]	2.394	0.572	-0.28	-0.76	1	14	3	140
Diploma,GED, neither[3]	2.663	0.725	-1.77	1.27	1	48	3	260
Standing in last yr. of high school[3]	2.447	0.646	-0.75	-0.47	1	27	3	170

APPENDIX C

Verbatim questions and response choices from the original questionnaires used to select the sample and to provide data to measure model constructs. In some cases multiple items were used in a composite to conceptualize a variable.

Residence with Parents

1. The target was asked in wave three if he/she lived with both parents or the mother.
   1 = BOTH,2 = MOTHER, 3 = NOT WITH MOTHER, 4 = DECEASED YOUTH

2. The target also was asked whether he/she lived with the father.
   1 = YES, 2 = NO

Age of Responding Parent

1. At wave 2 the respondent was asked "In what year were you born?"

Educational Attainment of Responding Parent

Wave 1
1. What is the highest grade or year the child's mother finished and got credit for in regular school?

2. What is the highest grade or year the child's father finished and got credit for in regular school?

Wave 2
3. What is the highest grade of school you have completed?

4. What is the highest grade of school your spouse/partner has completed?

Age of Child

1. At wave 1 the child was asked his/her age.
   Accepted range = 6 - 11 YEARS

Ethnicity of Child

1. At wave 1 the interviewer coded the ethnic group of child.

1 = NON-MINORITY, 2 = BLACK, 3 = SPANISH-AMERICAN,
4 = ORIENTAL, 5 = OTHER

Sex of Child:

1. Asked of the child.
1 = MALE, 2 = FEMALE

Residential Mobility
Asked of responding parent

Wave 1
1. Wave 1, asked of parent) Including the present address, altogether, how many different addresses has the family lived at in the last 5 years, that is since (present month, 1971)?

Wave 2
2. (Wave 2, asked of parent) Including the present address, altogether, how many different addresses have you lived at since January 1977, about the time of the first interview?

Marital Status of Parent

1. (Asked at Wave 1 and 2) Are you currently:
1 = MARRIED, 2 = WIDOWED, 3 = SEPARATED,
4 = DIVORCED, 5 = HAVE YOU NEVER BEEN MARRIED?

Family Economic Status

Wave 1

1. Including all sources of income, what was your total family income before taxes in 1975? If uncertain: What would be your best guess?
01 = UNDER $3,000; 02 = $3,000-3,999;
03 = $4,000-4,999; 04 = $5,000-5,999;
05 = $6,000-7,999; 06 = $8,000-9,999;
07 = $10,000-11,999; 08 = $12,000-14,999;
09 = $15,000-19,999; 10 = $20,000-24,999;
11 = $25,000-29,999; 12 = $30,000-34,999;
13 = $35,000 AND OVER

2. How many people depend on this income, including your children?

Wave 2

3. From all sources of income, was your total family before taxes in 1980: If uncertain: What would be your best guess?

1 = UNDER $5,000; 2 = $5,000 to $10,000;
3 = $10,000 to $15,000; 4 = $15,000 to $20,000;
5 = $20,000 to $25,000; 6 = $25,000 to $35,000;
7 = $35,000 to $50,000; 8 = $50,000 OR OVER

4. How many people, including your children, depend on this income?

Family Stress
All were asked of the responding parent.

Wave 1

1. Has the child ever run away from home?
1 = YES, 2 = NO

2. Has the child ever stolen anything, regardless of its value?
1 = YES, 2 = NO

3. Has the child ever had any behavior or discipline problems at school resulting in your receiving a note or being asked to come in and talk with the teacher or principal?
1 = YES, 2 = NO

4. Were you separated/divorced within the last 5 years or earlier?
0 = inapplicable, 1 = within last 5 years,
2 = earlier

5. Is the child's mother presently employed, unemployed, retired, a student, a housewife, or what?"
1 = YES, 2 = TEMPORARILY LAID OFF, 3 = RETIRED,
4 = STUDENT, 5 = HOUSEKEEPER, 6 = DISABLED,
8 = UNEMPLOYED, 10 = COMBO 1,4, 11 = COMBO 1,5,
13 = COMBO 2,5, 14 = COMBO 1,4,5, 16 = COMBO 8,4,
17 = COMBO 8,5, 18 = COMBO 5,4, 20 = COMBO 5,6,
22 = COMBO 5,3, 98 UKN

6. Is the child's father presently employed, unemployed, retired, a student, a housewife, or what?"
1 = YES, 2 = TEMPORARILY LAID OFF, 3 = RETIRED,
4 = STUDENT, 5 HOUSEKEEPER, 6 = DISABLED,
7 = OTHER, 8 = UNEMPLOYED, 9 = ARMED SERVICES,
10 = COMBO 1,4, 11 = COMBO 1,5, 14 = COMBO 1,4,5,
16 = COMBO 8,4, 18 = COMBO 5,4, 19 = COMBO 1,6,
21 = COMBO 3,6, 22 = COMBO 5,3, 98 UKN

7. Is the mother now looking for work?
1 = YES, 2 = NO

8. Is the father now looking for work?
1 = YES, 2 = NO

Wave 2

1. Since January, 1977, about the time of the first interview, has the child ever stolen anything, regardless of its value?
1 = YES, 2 = NO

2. Since January, 1977, about the time of the first interview, has the child had any behavior or discipline problems at school resulting in your receiving a note or being asked to come in and talk to the teacher or principal?
1 = YES, 2 = NO

3. Has the child been suspended, excluded, or expelled from school since January, 1977?
1 = YES, 2 = NO

4. Has the child ever repeated any grades for any reason?
1 = YES, 2 = NO

5. Has the child ever seen a psychiatrist, psychologist, or psychoanalyst about any emotional, behavioral or mental problem?
1 = YES, 2 = NO

6. How many times, if any, has the child been stopped or questioned by police or juvenile officers?
1 = NEVER, 2 = ONCE, 3 = TWICE, 4 = MORE OFTEN

7. Tell me whether this statement has been often true, sometimes true, or not true of the child during the past three months:
Hangs around with kids who get into trouble.
1 = OFTEN, 2 = SOMETIMES, 3 = NOT TRUE,
8 = DON'T KNOW.

5. Are you presently employed, unemployed, retired, a student, keeping house, or what?
1 = YES; 2 = WITH A JOB, BUT NOT AT WORK BECAUSE OF TEMPORARY ILLNESS, SICK LEAVE, VACATION, LABOR DISPUTE, BAD WEATHER;
3 = RETIRED;4 = STUDENT; 5 HOUSEKEEPER;
6 = DISABLED; 8 = UNEMPLOYED; 10 = COMBO 1,4;
11 = COMBO 1,5; 13 = COMBO 2,5;
14 = COMBO 1,4,5; 17 = COMBO 8,5; 18 = COMBO 5,4

6. Is your spouse/partner presently employed, unemployed, retired, a student, keeping house, or what?

1 = YES, 2 = WITH A JOB, BUT NOT AT WORK BECAUSE OF TEMPORARY ILLNESS, SICK LEAVE, VACATION, LABOR DISPUTE, BAD WEATHER, 3 = RETIRED, 4 = IN SCHOOL, 5 = KEEPING HOUSE, 6 = DISABLED, 7 = OTHER, 8 = UNEMPLOYED, 9 = IN THE ARMED SERVICES, 10 = COMBO 1,4, 11 = COMBO 1,5, 17 COMBO 8,5, 18 = COMBO 5,4

6. Are you now looking for work? (asked if any response other than 1 or 2 to question 8a.
1 = YES, 2 = NO, 0 = INAPPLICABLE

7. Is he/she [spouse/partner] looking for work? (asked if any response other than 1 or 2 to question 9a.
1 = YES, 2 = NO, 0 = INAPPLICABLE

8. Since January, 1977, about the time of the first interview, have you been laid off?
1 = YES, 2 = NO

9. Since January, 1977, about the time of the first interview, has he/she [spouse/partner] been laid off?
1 = YES, 2 = NO

10. Since January, 1977, about the time of the first interview, have you gone back to school or taken a course for credit?
1 = YES, 2 = NO

11. Since January, 1977, about the time of the first interview, has he/she [spouse/partner] gone back to school or taken a course for credit?
1 = YES, 2 = NO

12. In the last five years, have you received treatment from a psychologist, psychiatrist, or therapist?
1 = YES, 2 = NO

13. In the last five years, has your spouse/partner received treatment from a psychologist, psychiatrist, or therapist?
1 = YES, 2 = NO

<u>Controlling Parenting Measures</u>
All were asked of the child.

Wave 1

1-5. What rules do you have at home?
Are you allowed to:

Watch TV whenever you want to?
1 = YES, 2 = NO

Watch any kinds of TV programs you want?
0 = INAPPLICABLE, NO ONE ACTS AS MOTHER,
1 = YES, 2 = NO, 3 = DOESN'T HAVE TV

Play with any friends you want?
1 = YES, 2 = NO

Have snacks and eat whatever you want?
1 = YES, 2 = NO

Wear any clothes you want?
1 = YES, 2 = NO

6. How much does your mother make you follow rules?
1 = ALL OF THE TIME, 2 = MOST OF THE TIME
3 = JUST SOME OF THE TIME, 4 = HARDLY EVER

7-8. When you've been bad, does your mother:
spank you?
yell at you?
1 = YES, 2 = NO

Wave 2

1-2. For each item, tell me if it sounds very much like, somewhat like, or not at all like your mother:

She's firm with you and gets you to do what she wants you to do?
1 = very much like, 2 = somewhat like,
3 = not at all like

She wants to know where you are and what you are doing?
1 = very much like, 2 = somewhat like,
3 = not at all like

3-4. When you've done something wrong, does she [mother] often, sometimes, or never:
actually spank or slap you?
yell at you?
1 = OFTEN, 2 = SOMETIMES, 3 = NEVER

<u>Warm Parenting Measures</u>
All were asked of the child.

Wave 1

1. When you've been especially good, does your mother kiss you or hug you?

2. When you've been especially good, does you mother tell you that you've been good?
1 = YES, 2 = NO

Wave 2

1. When you've done something especially good, does your mother often, sometimes, never kiss you or hug you?
1 = OFTEN, 2 = SOMETIMES, 3 = NEVER

2. When you've done something especially good, does your mother often, sometimes, or never tell you that she's pleased?
1 = OFTEN, 2 = SOMETIMES, 3 = NEVER

Adolescent Self-efficacy
All were asked at Wave 3 of the target child.

1. Here are some statements about life today. Please tell me whether you strongly agree, agree, disagree, or, strongly disagree that:

When I make plans, I am almost certain that I can make them work.
1 = STRONGLY AGREE, 2 = AGREE, 3 = DISAGREE,
4= STRONGLY DISAGREE, 5 = DEPENDS

2-3. Here are a number of statements that young people sometimes make about themselves. Please tell me whether each statement is definitely true of you, somewhat true of you or not true of you.

I can do many things well.
1 = DEFINITELY TRUE, 2 = SOMEWHAT TRUE,
3 = NOT TRUE

I think I'm not good at anything at all
1 = DEFINITELY TRUE, 2 = SOMEWHAT TRUE,
3 = NOT TRUE

4. How satisfied are you with your ability to cope with difficulties?
1 = VERY SATISFIED, 2= SOMEWHAT SATISFIED,
3 = NOT TOO SATISFIED, 9 = NO ANSWER/DON'T KNOW

Adolescent Academic Success
All were asked at Wave 3 of the target child.

1. Have you gotten a high school diploma, a GED, or neither?

1 = DIPLOMA, 2 = GED, 3 = NEITHER, 0 = INAPPLICABLE MEANS DID NOT GO BEYOND GRADE 8

2. In your current/last year of high school, are/were you:

1 = ONE OF THE BEST STUDENTS IN YOUR CLASS, 2 = ABOVE THE MIDDLE, 3 = IN THE MIDDLE, 4 = BELOW THE MIDDLE, or 5 = NEAR THE BOTTOM OF THE CLASS, 8 = DON'T KNOW

Adolescent's Valuing Education:
Asked of target child at Wave 3.

1. And now think about your teen years. Are/Were the following true or false during those years?

I skipped school quite often.

1 = TRUE, 2 = FALSE

Significant Non-parent Present:
All asked of target child at Wave 3.

1. Who, if anyone, is there other than your father or stepfather whom you consider to be like a father to you?

2. Who, if anyone, is there other than your mother or stepmother whom you consider to be like a mother to you?

3-4. To what relatives, friends, or other people could you turn to: (Were instructed to circle all that apply, and choices included mother, father, spouse/partner, other relative, and friend, neighbor or other.)

Give you advice about schooling or a job

1 = CIRCLED, 2 = NOT CIRCLED, 3 = NO ONE

Listen with sympathy to your concerns and problems

1 = CIRCLED, 2 = NOT CIRCLED, 3 = NO ONE