

Grandmothers' Involvement among Children and Adolescents

Growing Up in Poverty

Laura D. Pittman

Northern Illinois University

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## **Abstract**

Recent policy decisions associated with welfare reform and the foster care system put grandparents in the position of serving as the safety net for their grandchildren when family problems arise. These policy changes are formalizing and promoting the informal role extended kin, especially grandmothers, have often played in low-income minority families. However, little is known about how varying types of grandmother involvement may influence children's functioning. This paper uses data from Welfare, Children, and Families: A Three-City Study, a longitudinal study sampling low-income minority youth from high-poverty neighborhoods, to explore how children and young adolescents function both initially and over time based on grandmothers' residential status and their level of caretaking responsibility. Cross-sectional analyses indicate that young children with coresiding grandmothers display more socioemotional problems than their peers. However, few differences were found in the cross-sectional analyses for adolescents. Furthermore, several differences in background and family characteristics were found between families with varying types of grandmother involvement. Longitudinal analyses found striking differences based on the type of grandmother involvement, both in young children and adolescents. Young children with a custodial grandmother lagged behind their peers in the development of reading skills over time. In addition, adolescents with a custodial grandmother displayed greater levels of externalizing problem behaviors over time as compared to their peers. Findings are discussed in terms of how children at risk may be identified based on the type of grandmother involvement. In addition, how the type of grandmother involvement may be influencing children's socioemotional and cognitive development and the corresponding policy implications are discussed.

## **Grandmothers' Involvement among Children and Adolescents Growing Up in Poverty**

Several recent policy changes have the effect of making grandparents the safety net for low-income children. By mandating that adolescent mothers live with their own mothers to receive cash assistance and by promoting the use of kinship care in the foster care system, the burden of addressing the needs of children whose parents are not able to care for them shifts away from the government and back to the family (Mullen, 1996; Pebley & Rudkin, 1999). Furthermore, as low-income mothers are transitioning off of the welfare rolls and into the workplace, many are turning to extended family to provide child care. Among low-income, minority families, extended kin is traditionally viewed as more integral to the family's functioning than in Caucasian families (Billingsley, 1968; Taylor & Roberts, 1995; Wilson, 1989). However, little empirical work has addressed how children respond to the involvement of grandparents in their daily lives. This paper addresses this question through exploring differences over time in children and adolescents' academic and socioemotional functioning based on grandmothers' residential status and level of caretaking responsibility.

*Background.* The number of children living with their grandparents is increasing. In 1997 approximately four million children (5.5% of all children) were living in grandparent-headed households, up 70% from 1980 (Bryson & Casper, 1999; Lugaila, 1998). Although this demographic change occurred across racial and ethnic groups, African American children and, to a lesser degree, Hispanic American children were more likely to be living in grandparent-headed households as compared to Caucasian children (Saluter and Lugaila, 1998). In about one-third of these households, the children are being raised by custodial grandparents, where neither biological parent is present. The other two-thirds of these are in multigenerational households,

where a biological parent is present and the grandparent may act as the primary caregiver or share the responsibility with the biological parent. Fuller-Thomson, Minkler, and Driver (1997) suggest these numbers are an underestimate of this phenomenon as about 11% of grandparents indicated in the National Survey of Families and Households that they have had primary responsibility for raising a grandchild for a period of at least six months. This trend is due in part to the growing number of grandparents who have taken over the role of primary parent when the mother is very young, incarcerated, or disabled because of drug abuse or mental illness (Burton, 1992, 1995; George & Dickerson, 1995; Jendrek, 1994; LaPoint, Pickett, & Harris, 1985; Minkler, Roe, & Robertson-Beckley, 1994). Even when grandmothers are not living with their grandchildren, they often serve as an important caregiver, taking some responsibility for raising their grandchildren (Chase-Lansdale, Gordon, Coley, Wakschlag, & Brooks-Gunn, 1999). Census data from the Survey of Income and Program Participation (SIPP) document that 23% of all preschool-age children and 17% of grade-school-age children have child care provided by their grandmothers (Smith, 2000). Taken together, grandmothers are increasingly relied upon to take on caregiving responsibility for their grandchildren. However, what we know about the influence of varying types of grandmothers' involvement on child well-being is limited.

*Custodial Grandparents.* The few studies that have addressed the well-being of children being raised solely by their grandparents have provided contradictory findings. In several small qualitative studies, children being raised by their grandparents have had significant health problems, including high rates of asthma, physical disabilities and hyperactivity (Dowdell, 1995; Minkler and Roe, 1993; Shore & Hayslip, 1994). However, these findings related to health are

not seen in large survey samples. Solomon and Marx (1995), using the 1988 National Child Health Supplement of the National Health Interview Survey, found no differences in health or behavior problems between children raised solely by grandparents and those living with two biological parents. In fact, children being raised by grandparents were doing better on these factors when compared to those living in single parent households or in stepfamilies. Studies examining children's academic functioning show more consistent findings. Children who are raised by grandparents appear to fare worse academically compared to those raised in both single- and two-parent households, being more likely to be held back a grade and less likely to complete high school (Aquilino, 1996; Solomon & Marx, 1995).

*Multigenerational Households.* Living in a multigenerational household has been thought to be beneficial to children, at least children with single mothers. In fact, Kellam, Ensminger, & Turner (1977) found that mother-grandmother led families were nearly as effective as mother-father led families in raising children, with children displaying better mental health and peer interactions. They suggested that the absence of the father was less important than the aloneness of the mother in relation to risk. Similarly, using a nationally representative sample, Barbarin and Soler (1993) found children who lived with multiple adults (mother-father, mother-grandmother, mother-other adult) consistently had lower levels of problem behaviors than children living in single-parent households. The effect of living in multigenerational households is more ambiguous among families with adolescent mothers. Some early studies showed evidence of better cognitive and socioemotional functioning in children of young single mothers when a grandmother was living in the household (Furstenberg, Brooks-Gunn, & Morgan, 1987; Leadbeater & Bishop, 1994; Pope et al., 1993). However, later studies have

found poorer cognitive and physical development in toddlers of adolescent mothers in multigenerational households (Black & Nitz, 1995; Unger & Cooley, 1992). Explanations that have been posited for these varying results among children of young mothers include possible differential effects of economic conditions (Hogan, Hao, & Parish, 1990; Wilson, 1987) as well as interpersonal factors within the family (Coley & Chase-Lansdale, 1998; Kalil, Spencer, Spieker, & Gilchrist, 1998).

*Nonresidential Grandparent Caregivers.* Virtually no research has examined how having a nonresidential grandparent involved in caregiving may influence child well-being. From the child care literature, we know that grandparents are the most frequently used informal care arrangement (Smith, 2000). However, how such care influences children's functioning is unknown. Correlational studies have consistently suggested a link between the quality of child care and children's development, which may be especially important among low-income children (see Barnett, 1995; National Research Council and Institute of Medicine, 2000; Yoshikawa, 1995). Thus, whether children experience child care by their grandmothers may be less important to their well-being than the quality of the care provided by grandmothers.

Thus, the literature suggests that grandmother involvement may be an important predictor of children's functioning, especially in low-income families. However, the literature to date has been limited in scope and in design. Two key issues have not been fully addressed: (1) what characteristics or processes associated with varying types of grandmother involvement lead to differences in child well-being; and (2) selection bias in how varying types of grandmother involvement come about.

*Possible Mediating Processes.* As suggested by a vast literature in psychology,

children's well-being is influenced by many factors including parenting practices and parental and family characteristics (e.g., Chase-Lansdale & Pittman, 2002). Just as they do in traditional families, these factors are likely to be important risk and protective factors among families with more involved grandmothers. Within traditional families, extensive research supports the widespread belief that parenting has an important influence on the developmental outcomes of children and adolescents (Collins et al., 2000; Maccoby, 2000). Parents who are warm and responsive, who provide firm and consistent limits, and who stimulate their children cognitively have children who have better socioemotional and cognitive development as compared to their peers (Bradley, 1995; Maccoby & Martin, 1983). Parental characteristics encompass a wide variety of attributes, including their age, education level, cognitive ability, and personality. Parents who have more positive traits are more likely to provide a more cognitively stimulating environment, to explain their punishments, and to be more responsive to their children's emotional needs, all of which are associated with better cognitive and socioemotional functioning in children (e.g., Collins et al., 2000). Parental mental and physical health including their level of parenting stress have been associated with children's functioning. Children who have a parent with mental health problems, whether they are diagnosed with a disorder or not, are at increased risk for mental health problems themselves, partly because of the known genetic link and partly due to parents using less effective parenting strategies (Downey & Coyne, 1990). In addition, parenting stress, that is how frustrated a parent is with their role of parent, is associated with less effective parenting and more negative outcomes in children (Abidin, 1990).

Family characteristics that have been linked to child functioning include family socioeconomic status, family structure, and family conflict. Children growing up in poverty are

at increased risk for worse functioning in both the cognitive and socioemotional domain (Duncan & Brooks-Gunn, 1997; McLoyd, 1998). Parents struggling to make ends meet have more stressors to cope with, higher levels of psychological distress, and tend to use less effective parenting strategies and provide less cognitively stimulating home environments (McLoyd, Jayaratne, Ceballo, & Borquez, 1994). Consequently, these children often do not do as well as their non-poor peers. The effects of family structure are interrelated with economic resources in their influence on children's functioning, as households with one parent, rather than two, have fewer parental resources, both economic and emotional. Primarily due to more stressors in their lives, poorer mental health and the absence of spousal or partner support, single mothers tend to have less positive interactions with their children and provide less firm and consistent discipline as compared to mothers in two-parent households. Thus, they have children who are doing more poorly (Avenevoli, Sessa, & Steinberg, 1999; McLanahan & Sandefur, 1994). In traditional two-parent families the marital relationship is often considered the cornerstone of good family functioning, and a positive marital relationship is associated with more positive parenting and better child outcomes (Cox & Paley, 2001; Davies & Cummings, 1994). Conversely, interparental conflict is considered a serious chronic adversity to child development and leads to more negative parent-child relationships and less consistent and effective discipline and monitoring of children. The quality of the mother-grandmother relationship may be similarly influential on parenting and child outcomes when the grandmother is an involved caregiver (King, Russell, & Elder, 1998).

There is limited knowledge about how these factors influence child outcomes when children are being cared for by grandparents. Among children being raised by custodial

grandparents (primarily grandmothers), several of these risk factors are more likely to be present than in more traditional grandparent households. Compared to grandparents who play a more traditional role, grandparents raising their grandchildren are less well-educated, often not having earned their high school diploma, less likely to be employed, and more likely to be single (Caputo, 2000; Fuller-Thomsen & Minkler, 2000; Solomon & Marx, 1995). Furthermore, households where grandparents are raising their grandchildren are more likely to be living in poverty both in comparison to parent-maintained households and to grandparent-headed households without grandchildren (Bryson & Casper, 1999; Fuller-Thomsen, et al., 1997). In addition, custodial grandparents have higher rates of depression compared to other traditional grandparents (Minkler & Roe, 1993; Dowdell, 1995). Only Solomon and Marx (1995) have considered how these differences may influence child outcomes. Their analyses suggest that grandparent age, gender, and marital status were significant predictors of child outcomes within custodial grandparent households, but grandparent education and economic condition surprisingly were not.

How coresidence of grandmothers influences these possible mediating factors has only been studied within families with young mothers. As with the results regarding children's functioning, the results have been mixed. Living with grandmothers seems to be associated with positive educational attainment or entering the labor market for young mothers (Gordon, 1999; Gordon, Chase-Lansdale, & Brooks-Gunn, 2002). However, young mothers who choose to live with their own mothers also seem to be experiencing greater economic hardship, which is one of the factors that seem to lead to this residential arrangement (Gordon, Chase-Lansdale, Matjasko, & Brooks-Gunn, 1997; Tienda & Angel, 1982). The findings are less clear in regards to

parenting. In some studies, young mothers who are living with their own mothers have been found to provide a more nurturing environment for their children as compared to those living on their own (Furstenberg, et al., 1987; Kellam, Ensminger, & Turner, 1977; Leadbeater & Bishop, 1994; Pope et al., 1993). Yet, coresidence of grandmothers also has been associated with lower maternal warmth and more problematic parenting in young mothers (Chase-Lansdale, Brooks-Gunn, & Zamsky, 1994; Spieker & Bensley, 1994). Some consistent findings suggest that the influence of coresidence of grandmothers on both maternal and children's functioning may be moderated by the quality of the grandmother-mother relationship. When there is less cohesion and more conflict between mother and grandmother, mothers appear to express more depressive symptomatology, use more negative parenting practices, and children display more externalizing behaviors (Kalil, et al., 1998; Pittman, Chase-Lansdale, & Brooks-Gunn, 2003; Wakschlag, Chase-Lansdale, & Brooks-Gunn, 1996). Thus, the existing literature on custodial grandparents and multigenerational households indicates the presence of several possible risk factors. Understanding how these characteristics may account for differences in children's functioning associated with the type of grandmothers' involvement will provide useful information to those interested in developing policies and interventions to promote child well-being.

*Selection Issues.* The design of all but one study considering the type of grandmother involvement has been cross-sectional with comparisons made among families with differing configurations (e.g., single mother households). This design may bias the estimates measuring the influence of the varying types of grandmother involvement on child well-being by not addressing selection into the type of grandmother care including the influence of any disruption that led to grandmother care. As acknowledged by some researchers, problems found in children

being cared for by grandparents may result from disturbances in their family of origin, and not from the actual caregiving by grandparents (Emick & Hayslip, 1999; Kennedy & Keeney, 1988). For example, the effect of a disruption like divorce can be associated both with children displaying more behavioral problems and having grandparents help care for children (Hetherington, 1989). Furthermore, other pre-existing differences between caregivers such as educational attainment or household income could influence the group differences found in child outcomes. Thus, most of the research to date can not determine whether differences between children with varying types of grandmother involvement are due to the effects of grandmother care or due to unmeasured differences between these children and their biological parents that preceded grandparent care.

*The Present Study.* To address the influence of selection bias on the estimates of child well-being, a set of analyses in this paper is longitudinal in design. In the prediction of child functioning at Time 2, child functioning at Time 1 is included as an independent variable in order to reduce the threat of omitted variable bias. Child functioning at Time 1 will be used to capture unmeasured characteristics that may be associated with both child functioning at Time 2 and varying types of grandmother involvement over time. Thus, the longitudinal analyses will be able to identify a more causal relationship between child functioning and the type of grandmother involvement the child has experienced since Time 1.

Furthermore, this research moves the field forward by comparing children's functioning over time based on the residential status and level of caregiving responsibilities of grandmothers in a random sample of children in low-income, urban neighborhoods. Although the sample is not nationally representative, the sampling design focuses on low-income, minority youth, including

both Hispanic and African-American children, who have been targeted by policy recommendations related to the involvement of grandmothers. Furthermore, the sample size in this study is large enough to have adequate numbers to consider various types of grandmother groups simultaneously including custodial grandparents and coresiding grandparents. In addition, because of the breadth and depth of the family process and child outcome measures collected in this study, models can more precisely examine how maternal and family characteristics may influence children's functioning at varying types of grandmother involvement. Specifically, the following research questions are addressed:

- 1) How are children's and adolescents' achievement and socioemotional outcomes associated with varying types of grandmother involvement? Also, how do background and family characteristics vary in families with different types of grandmother involvement?
- 2) How does the involvement of grandmothers influence children's and adolescents' functioning over time? Also, do other co-occurring background and family characteristics explain any differences found between children and adolescents with different types of grandmother involvement?

## Method

### *Sample*

The data are drawn from the first and second waves of the survey component of Welfare, Children, and Families: A Three-City Study.<sup>1</sup> This component is comprised of a household-

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<sup>1</sup> The other components include an ethnography and an embedded developmental study. A detailed description of the research design can be found in *Welfare, Children, and Families: A Three-City Study. Overview and Design Report*, available at [www.jhu.edu/~welfare](http://www.jhu.edu/~welfare).

based, stratified random-sample survey of 2,402 low-income children and their caregivers<sup>2</sup> in low-income, urban neighborhoods.<sup>3</sup> In over 90 percent of the cases, the caregiver was the biological mother. Children and their mothers were randomly selected from over 40,000 households screened (screening rate of 90 percent) and represent children in low-income families living in low-income neighborhoods in Boston, Chicago, and San Antonio. Only children who were aged 0 to 4 or 10 to 14 years were eligible for the study. Of families considered eligible (based on child's age, race/ethnicity, family income, parents' marital status, and receipt of Medicaid or Food Stamps, which was used as a proxy for welfare receipt) from the screening, 82.5 percent agreed to participate, resulting in an overall response rate of 74 percent.

### *Procedure*

Both waves of the survey component included mother interviews, adolescent interviews, and direct academic assessments of focal children. Mothers participated in a two-hour interview in their homes covering topics such as employment, income, family structure, and welfare participation, as well as mental health, parenting, and child well-being. Children age 10 or older participated in a separate interview lasting approximately a half hour in which they provided information about their emotional and behavioral functioning, schooling, and interactions with their parents. In addition, preschoolers (ages 2 to 4) and adolescents (ages 10 to 14) were administered individualized tests to assess their cognitive achievement. The interview was programmed to be administered using a Computer Assisted Personal Interview (CAPI), where responses were directly entered into a laptop computer during the interview. In addition, for

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<sup>2</sup>Children who were solely in the care of a father or other male relative were not interviewed because population estimates suggested that the numbers of such families would have been too small to provide reliable statistics.

<sup>3</sup>Ninety-three percent of the block groups selected for the sample had poverty rates of 20 percent or more.

potentially sensitive questions, such as those pertaining to domestic violence and illegal activities, an Automated Computer Assisted Survey Interview (ACASI) was employed where the respondents were given the laptop with a set of headphones and asked to enter their responses directly, rather than provide the answers to the interviewer. In approximately 12 percent of these families, the mother preferred being given the Spanish translation of the interview, which was prepared prior to fielding.

### *Measures*

One of the strengths of the Three-City Study is the in-depth measurement across multiple domains. In addition to reporting demographic information (e.g., education, race/ethnicity, education, marital status and income), the primary female caregiver<sup>4</sup> reported how much responsibility a grandmother took in the focal child's daily care (none, some, or complete responsibility). In addition, detailed information about income from each person in the household was collected. An income-to-needs ratio was created by comparing the household income including food stamps to federal poverty line for a family of the appropriate size.<sup>5</sup>

*Child Outcomes.* Two key dimensions of child development were assessed in the study: cognitive achievement and socioemotional functioning. The Letter-Word Identification and Applied Problems subtests from the Woodcock-Johnson Psycho-Educational Battery – Revised (WJ-R) were used to assess children's reading and quantitative skills, respectively, for all children age 2 years and older (Woodcock & Mather, 1989, 1990). Mothers reported on their children's socioemotional functioning (both externalizing and internalizing behaviors) using the

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<sup>4</sup> If the biological mother was in the home, she was interviewed as the primary female caregiver. Otherwise the female in the household who took the most responsibility for the focal child's care was interviewed. Custodial grandmothers would be included in this latter group.

<sup>5</sup> Unlike many calculations on income-to-needs standard, our calculation includes food stamps. Thus, our sample would be considered more impoverished if we did not include income from food stamps.

Child Behavior Checklist (CBCL; Achenbach, 1991, 1992). In addition, mothers also reported on their children's positive behaviors using six items from the Positive Behaviors Scale developed for use with the New Chance Study (Quint, Bos, & Polit, 1997). These items primarily address children's social competence (e.g., "[child] is usually in a good mood," "[child] is admired and well-liked by other children;" alpha wave 1 = .77; alpha wave 2 = .76).

During the adolescent interview, self-reports of their internalizing symptoms (including symptoms of depression, somatization, and anxiety) were collected using the shortened version of the Brief Symptom Inventory (BSI 18; Derogatis, 2000; alpha wave 1 = .92; alpha wave 2 = .89). To address skewness, a natural log of the mean of items on each scale is used in these analyses. Adolescents also indicated their participation in delinquent behaviors in the last year using items modified from the National Longitudinal Study of Youth (NLSY; Borus, Carpenter, Crowley & Daymont, 1982) and the Youth Deviance Scale (Gold, 1970; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Two subscales, Serious Delinquency and School Problems, were derived from factor analyses and are used in the current analyses (Serious Delinquency: alpha = .65 and .82 for Time 1 and Time 2 respectively; School Problems alpha = .61 and .63 for Time 1 and Time 2, respectively.). Scale scores were created by first standardizing all items to correct for highly skewed item-level data and then calculating the mean. The scale score was transformed by taking the natural log and used in these analyses.

*Family material hardship.* A composite measure of familial economic hardship was created that incorporated five indices related to income and financial security: financial strain, food insecurity, lack of medical coverage, housing problems, and neighborhood problems. The six-item Financial Strain Index (Coley & Chase-Lansdale, 2000) assessed whether caregivers

experienced difficulty paying bills and affording necessities (alpha wave 1 = .72, alpha wave 2 = .75). A reduced 3\_item version of the USDA food security measure was used to determine whether the caregiver, focal child, or any other household member had missed or reduced the size of meals due to financial hardship. Primary caregivers also reported whether they or the focal child were unable to receive medical care because they could not afford it. In addition, eight items were asked to assess the number of housing problems present such as a leaky roof, broken windows, or plumbing problems (alpha wave 1 = .66; alpha wave 2 = .67). Finally, caregivers responded to eleven questions regarding problematic characteristics of their neighborhoods, such as high unemployment, abandoned houses, and unsafe streets (adapted from the Denver Youth Study and Chicago Youth Achievement Study; Elliot, et al., 1996). The number of neighborhood problems was summed (alpha wave 1 = .91; alpha wave 2 = .91). A composite measure of familial material hardship was computed by standardizing each of these five component scores and calculating the mean (alpha wave 1 = .54; alpha wave 2 = .53), with higher scores indicating greater material hardship.

*Caregiver mental and physical health problems.* A composite of caregiver mental and physical health problems was created from four measures of psychological distress (parenting stress, depression, somatization, and anxiety), two measures of self-concept (positive self-concept and negative self-concept), and two measures of women's physical health (general health, disability indicator). The seven-item parenting stress scale, based on similar measures from the New Hope Study (MDRC, 1994) and the Panel Study of Income Dynamics (SRC, 1997), assessed caregivers feelings regarding their parenting experience (e.g., "Being a parent is harder than I thought it would be," "I put so much into parenting, I don't have time for myself;")

alpha wave 1 = .75; alpha wave 2 = .75). Caregivers were also administered a short-form of the Brief Symptom Inventory (BSI 18; Derogatis, 2000), a screener for psychiatric disorders. The BSI 18 contains three subscales: somatization (alpha wave 1 = .80; alpha wave 2 = .77), depression (alpha wave 1 = .85; alpha wave 2 = .87), and anxiety (alpha wave 1 = .84; alpha wave 2 = .84). Caregivers also completed the ten-item Rosenberg Self-Esteem Scale (Rosenberg, 1986), which provides measures of positive (alpha wave 1 = .65; alpha wave 2 = .68) and negative self-concept (alpha wave 1 = .72; alpha wave 2 = .76). To measure respondents' physical health, caregivers were asked to rate their health on a five-point scale of 1 (excellent) to 5 (very poor). Finally, respondents were asked three questions related to physical or mental disabilities that prevented them from working or participating in everyday activities. A dichotomous disability indicator was created, where caregivers' endorsing any one of the items was considered disabled. For the current analyses, a composite measure of caregivers' mental and physical health was computed by standardizing each component score and calculating the mean, with higher scores indicating more mental and physical health problems (alpha wave 1 = .77; alpha wave 2 = .78).

*Family process.* The final set of variables tap into central aspects of parenting and the quality of the home environment provided to the focal child. Several aspects of maternal parenting and family functioning were assessed in the interviews. Mothers reported on their parenting practices (e.g., firmness, permissiveness) using items from the Raising Children Checklist (Shumow, Vandell, and Posner 1998), the level of cognitive stimulation in the home using items from the Home Observation for Measurement of the Environment-Short Form (HOME\_SF; Center for Human Resource Research 1993, revised from the original HOME;

Caldwell and Bradley 1984) and the degree to which strength-promoting family routines are present in the home (items selected from the Family Routines Inventory; Jensen, James, Boyce, and Hartnett 1983). For the younger children, mothers also reported during the Mother EDS interview how frequently they did specific activities with their child as well as how often they used specific discipline practices (items selected from the Panel Study of Income Dynamics\_Child Supplement, 1997). Adolescents reported on their relationship with their mothers using items from The Inventory of Parent and Peer Attachment (IPPA; Armsden and Greenberg 1986, 1987), how much their mothers knew about their friends and whereabouts (items selected from those used by Lamborn, Mounts, Steinberg, and Dornbusch 1991), and their mothers' use of harsh discipline techniques (McLoyd, Jayaratne, Ceballo, and Borquez, 1994).

Based on factor analysis and theoretical reasoning, three composites were created by standardizing and taking the mean of specific items from the above scales. The three family process composites are Negative Parenting, Provision of Structure, and Engagement. Although the underlying construct of each parenting composite are similar across age groups, the specific items vary because different items were asked based on their child's age. Higher values on the Negative Parenting composite indicate more frequent use of harsh discipline (e.g., spanking) and more hostile mother-child relationship (8 items for younger children, 13 items for adolescents; alphas ranged between .68-.78 across age group and wave). Higher values on the Provision of Structure composite indicate a more consistent parenting approach with the inclusion of regular routines and clearer expectations in behavior (18 items for younger children, 17 items for adolescents; alphas ranged between .71-.75 across age group and wave). Higher values on the Engagement composite indicate a greater frequency of parental involvement in activities with the

youth as well as a more warm and positive mother-child relationship (13 items for younger children, 28 items for adolescents; alphas ranged between .60 -.78 across age, group, and wave).

## Results

To address the above research questions, children were divided into five groups based on the grandmothers' residential status and the degree to which she takes responsibility of the focal child's care. These groups were children: (1) living with custodial grandmothers, (2) in multigenerational households, (3) with non-coresiding, caregiving grandmothers, (4) with grandmothers who neither coreside nor share in caregiving responsibilities, and (5) without a grandmother identified by the caregiver. In addition, children were divided into two age groups: young children who were between the ages of two and five at Time 1 (referred to as children), and young adolescents who were between the ages of nine and fifteen at Time 1 (referred to as adolescents). The sample was split based on the child's age because it was believed that there may be differential effects of the type of grandmothers' involvement based on the child's developmental period. Furthermore, excluded from analyses were families in which neither the biological mother nor the grandmother was the primary caregiver (e.g., an aunt is the primary female caregiver).

Table 1 shows how common each of these types of grandmother involvement are by age group, first at Time 1, and then at Time 2. As suggested by these numbers, the type of grandmother involvement appears to be quite transitory with 45% of young children and 40% of young adolescents changing to a different type of grandmother involvement within 16 months. Although these transitions may be particularly interesting to exam, the cell size of transitions into and out of the groups associated with custodial and co-residing grandmothers were so small,

there was not enough statistical power to reliably measure changes in child outcome. Thus, the longitudinal analyses presented here focus only on children who have the same type of grandmother involvement at Time 1 and 2.

All analyses were weighted with probability weights that were inversely proportional to the likelihood of being selected into the sample. Probability weights allow us to generalize to our population of inference: children in the three cities in households with incomes less than 200 percent of the poverty line. Furthermore, to account for the complexity of the Three-City Study sampling design, analyses were run in STATA, a statistical program which produces unbiased parameter estimates, as well as correct variance estimates when using complex survey data.

*Descriptive Statistics.* Table 2 presents descriptive statistics on the children and families separately by age groups. As shown, the sample was about equal in the number of girls and boys. The average age of the focal child in the young children group was 3.55 years (range of 2-5) while the average age among the young adolescents was 12.50 years (range of 9 - 15). Children in both age groups were primarily Hispanic American (53-54%) and African American (40-43%). About one-third of the caregivers were married, and just over one third had neither a high school nor a vocational degree. In addition, both groups were, on average, living below the poverty line.

*Cross-sectional analysis for children.* On the top portion of Table 3, OLS regressions are presented to show whether there were any significant difference in child outcomes predicted by type of grandmother involvement. Post-hoc Wald analyses were performed to determine which subgroups were significantly different from each other (shown in the final column). In regards to achievement, few differences emerged. Children with no grandmother present displayed

significantly fewer quantitative skills than those with a non-caregiving grandmother. In the socioemotional domain, children who coresided with their grandmother consistently showed more problems. Mothers who coresided with the children's grandmother reported that their children displayed more internalizing and externalizing problem behaviors and fewer positive behaviors than children who did not live with their grandmothers.

OLS regressions were run predicting several demographic and process characteristics by the type of grandmother involvement (see lower portion of Table 3). Not surprisingly, caregivers who were custodial grandmothers were older than the mothers in the other groups. African-American grandmothers tended to more involved, with fewer grandmothers being either non-caregiving or not present as compared to caregiving or coresiding grandmothers. Furthermore, mothers who had a coresiding grandmother were more likely to be single, while custodial grandmothers were less likely to be cohabiting with a partner. In addition, custodial grandmothers had lower education compared to other caregivers, with fewer of them reporting having a vocational degree. No differences were found between groups in regards to economic status based on the income-to-needs ratio. However, material hardship was found to be differentially predicted by the type of grandmother involvement. Families who either had grandmothers who were coresiding or caregiving reported higher levels of material hardship. In addition, when grandmothers coresided, mothers reported experiencing greater levels of mental and physical health problems and they reported providing less structure for their children.

*Cross-sectional analysis for adolescents.* Similar to the analyses done with children, OLS regressions were run to examine whether there were any significant difference in adolescent outcomes as predicted by type of grandmother involvement (See Table 4). Post-hoc Wald

analyses (shown in the final column) found few differences in adolescent outcomes based on the type of grandmother involvement. The most consistent pattern was that adolescents without a grandmother present in their lives were displaying better functioning, both in terms of reading skills and externalizing problem behaviors. However, significant differences were only in comparison to some, and not all, of the other groups.

Additional OLS regressions were run to explore whether there were differences between grandmother groups on background and family characteristics (see lower portion of Table 4). Custodial grandmothers were different in many respects from the mothers in families with less involved grandmothers. Custodial grandmothers were older, more likely to be African American, more likely to not have a degree and less likely to either be married or cohabiting with a partner. Like with the younger children, no differences were found in regards to economic status. However, unlike in families with younger children, having a coresiding grandmother in adolescence was associated with experiencing less family material hardship than families without a grandmother in the home. Furthermore, households where there was a coresiding grandmother had the highest levels of maternal engagement reported between mother and child.

*Longitudinal analysis for children.* OLS regressions were run using the two waves of data to estimate the association of the type of grandmothers' involvement with changes in child outcomes. As mentioned earlier, only children whose type of grandmothers' involvement remained the same at Time 1 and Time 2 were included in these analyses. For each model, the child outcome from Time 1 being predicted at Time 2 was included in the equation. Thus, the coefficients reflect changes in the level of the specific child outcome over time. Furthermore, the inclusion of the Time 1 child outcome controls for unmeasured, time-invariant differences in

the children that were already present at Time 1.

As shown in Table 5, children who were living with custodial grandmothers were more likely to experience increasing reading deficits over time as compared to children with other types of grandmother involvement. In addition, children whose grandmother was not caregiving, displayed fewer socioemotional problems over time. Specifically, in comparison to children with caregiving grandmothers, children with non-caregiving grandmothers were displaying greater levels of positive behaviors, and, at a trend level, fewer internalizing and externalizing behaviors over time. In addition, they were experiencing fewer internalizing behaviors over time than children who were coresiding with their grandmothers.

As shown in Table 6, additional longitudinal models predicting Time 2 child outcomes were run adding in the Time 1 background and family characteristics. These models indicate whether background or family characteristics at Time 1 may explain any differences in child and adolescent outcomes found between grandmother groups. With the inclusion of these background and family characteristics, the differences in children's reading development between those with custodial grandmothers and the other groups was attenuated. This indicates that some of these other characteristics (e.g., educational attainment, age) that were different between custodial grandmothers and other caregivers are likely to explain why children were developing reading skills at a slower rate as compared to children in other families. However, the inclusion of these additional family characteristics also made previously non-significant comparisons in reading skills development significant. Children with a coresiding grandmother showed less development in reading skills as compared to children with non-caregiving grandmothers, and, at a trend level, caregiving grandmothers.

In terms of socioemotional functioning, the differences associated with internalizing and externalizing behaviors found in children with non-caregiving grandmothers also were attenuated in the models including the background and family characteristics (see Table 6). However, the positive changes associated with these children, in terms of positive behaviors, becomes more evident with the inclusion of these other characteristics. In addition, one significant difference emerged in these full models. Having a custodial grandmother was associated with greater levels of internalizing symptomatology over time in children as compared to children with a coresiding grandmother.

*Longitudinal analysis for adolescents.* Similar OLS regressions as those predicting child outcomes at Time 2 were run for the adolescents in the sample. In both the initial models with only the variables for the Time 1 outcome and the grandmother groups (see Table 7) as well as the full models including background and family characteristics (see Table 8), very few differences emerged in changes over time in adolescents' quantitative and reading skills. The one significant difference indicated that adolescents who had a caregiving grandmother were developing their reading skills at a lower rate than those whose grandmothers did not provide care or, at a trend level, who were coresiding. However, this difference was no longer significant when the background and family characteristics were included in the model.

In terms of socioemotional functioning, more differences emerged based on the type of grandmother involvement in the longitudinal models. In the base models without background and family characteristics, adolescents who did not have a grandmother present in their lives were doing better, displaying fewer internalizing and externalizing behaviors according to caregiver reports. However, adolescents who had a grandmother who coresided reported

experiencing fewer internalizing symptoms than adolescents from most other groups. These differences tended to remain in the full model, although the differences associated with the adolescent reports of internalizing symptoms dropped to a trend level ( $p < .10$ ).

The models including the background and family characteristics also had significant findings associated with adolescents with custodial grandmothers (see Table 8). In these full models, both caregivers and adolescents reported increased externalizing and delinquent behaviors over time when the adolescent was living with a custodial grandmother in comparison to most of their peers. This pattern was consistent across three different outcomes: caregiver report of externalizing behavior problems, adolescent reports of serious delinquency, and adolescent report of school problems.

## Discussion

Within this low-income sample, children's cognitive and socioemotional functioning do seem to be associated with the type of grandmother involvement in the family. Furthermore, grandmothers' involvement appears to have a differential impact on children depending on their development stage. Overall, children and adolescents with a grandmother in the home seem to have more problems than those with grandmothers with more typical roles (e.g., providing some or no care). How these problems are displayed vary by both the age of the child and the type of grandmother involvement.

Having a custodial grandparent appears to influence negatively the development of reading skills in young children over time. Supporting this is the cross-sectional finding that adolescents with a custodial grandmother had poorer reading skills. For these adolescents who have been raised by their grandmothers, the early years may have slowed the initial development

of their reading skills, and they have never been able to catch up with their peers. However, the longitudinal analyses with adolescents suggest that being raised by a grandmother is not influencing the current development of the adolescents' reading skills. This is not surprising given the importance of early literacy, where being read to and playing word games may set a foundation for literacy development. Given the custodial grandmothers' lower education levels, they may be comfortable with such activities or be unaware of their importance. It is notable that this difference only emerges with reading and not quantitative skills. The development of these early quantitative skills (e.g., counting, concept of size) may be more easily fostered by parents without a formal education.

Another concern with children being raised by custodial grandparents is that in adolescence they are displaying more acting out behaviors, after taking into account other co-occurring risk factors (e.g., single parent households, material hardship). However, the likely explanation is not that these grandparents are poor parents, but rather that adolescents are becoming more aware of their family situation and are having trouble accepting the absence of their parent. Being raised by a grandmother may make this transition to adolescence particularly difficult, especially if their parents are no longer involved because of abuse, drug involvement, or illegal activities. Thus, providing custodial grandparents extra support and helping these adolescents address these emotions may be useful in minimizing their acting out behaviors.

Among young children living in a multigenerational household (i.e., having a coresiding grandmother) is associated with worse socioemotional functioning. Young children with coresiding grandmothers display more internalizing and externalizing problem behaviors than their peers. This is consistent with previous research in this area (e.g., Pittman, Chase-Lansdale,

& Brooks-Gunn, 2003). However, it is likely that, rather than the presence of the grandmother in the home, it is the co-occurring factors associated with multigenerational households (e.g., maternal mental and physical health problems, family material hardship, levels of structure) which are influencing the children's current functioning. Furthermore, over time the problems associated with living in multigenerational households appear to lessen. Differences in externalizing problem behaviors are not found over time, although some differences remain in internalizing problem behaviors.

Unlike with young children, adolescents living in multigenerational households seem to be benefiting from the arrangement. Over time, they have lower levels of internalizing problem behaviors than most of their peers. This reduction in internalizing problems appears to be partially explained by lower levels of material hardship, better engagement with their mothers, and higher levels of structure in the household compared to their peers. The reason for grandmothers living in the home may differ based on the children's developmental stage. Grandmothers may be asked to move into the home to help out with caregiving when the children are small. However, as the grandmothers and children age, multigenerational households may be more likely to form because of the needs of the grandmother. The dynamics of these households may be very different and more positive for adolescents. Research is needed in this area, but this study indicates that these living situations may be beneficial to the adolescent grandchildren involved.

Children with either caregiving or noncaregiving grandmothers generally seem to be doing better than their peers, both cognitively and socioemotionally. Mothers of young children whose grandmothers serve in these more typical roles are displaying higher levels of positive

behaviors and fewer socioemotional problems. Over time, children with noncaregiving grandmothers seem to be doing especially well. However, there are some indications that over time young children with caregiving grandmothers may be displaying fewer positive behaviors and more externalizing behaviors. Although this may indicate grandmothers do not provide high quality childcare, it may also be explained by the behaviors of the children. Young children who over time are more disruptive may be asked to leave their childcare arrangement and, then, mothers may turn to the children's grandmothers for informal childcare as it becomes more difficult to find formal childcare.

Overall, these findings suggest that there is some risk associated with being in the situation where a grandmother is in a more active parenting role. Although some of this risk is likely to be attributed to other co-occurring background and family characteristics, grandmothers playing a more central parenting role appear to have some independent influence as well. The one exception is when adolescents live in multigenerational household which was found to be linked to positive socioemotional outcomes. Thus, this study provides useful information to individuals interested in providing intervention programs to low-income families. Young children and young adolescents with custodial grandmothers are likely to benefit from programs targeting literacy and reading skills development. In addition, intervention programs targeting socioemotional development would help address problems being displayed by young children in multigenerational households as well as young adolescents with custodial grandparents.

Furthermore, this study suggests that policy makers need to be considering the needs of the children when they encourage or require greater involvement of grandmothers in the lives of their grandchildren. Kinship care placements should consider the inclusion of early literacy

training to their grandmother caregivers to assist them in developing their grandchildren's reading skills which are at risk. In addition, welfare case workers should consider the appropriateness of mandating young mothers live with their own mothers to obtain welfare benefits. Young children in these situations may be harmed by such living arrangements. Given the circumstances and needs of these low-income families, these family configurations often are necessary. However, children and adolescents in these families would benefit from the provision of additional services to support the caregivers such as those described above as well assistance in addressing family material hardship, support in furthering maternal educational, and provision of services to help caregivers with mental and physical health problems.

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**Table 1. Sample Size by Type of Grandmother Involvement and Age Group**

<b>Grandmother Involvement</b>	<b>Time 1</b>		<b>Longitudinal</b>	
	<b>Children</b>	<b>Adolescents</b>	<b>Children</b>	<b>Adolescents</b>
1) Custodial	33 (4%)	64 (6%)	24 (4%)	50 (5%)
2) Co-residing	121 (16%)	70 (6%)	55 (9%)	37 (4%)
3) Caregiving	276 (37%)	266 (24%)	122 (19%)	115 (12%)
4) Not Caregiving	218 (29%)	436 (39%)	108 (17%)	236 (25%)
5) Not Present	106 (14%)	283 (25%)	41 (6%)	136 (14%)
Transition between Waves			281 (45%)	380 (40%)
Total	754	1119	631	954

**Table 2. Descriptive Statistics at Time 1 by Age Group**

<b>Background Characteristics at Time 1</b>	<b>Children</b>		<b>Adolescents</b>	
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b>Child Characteristics</b>				
Sex (0 = male, 1 = female)	0.51	0.50	0.47	0.50
Age	3.55	0.91	12.50	1.44
Race/Ethnicity				
White	0.03	0.16	0.04	0.20
African American	0.43	0.50	0.40	0.49
Hispanic American	0.53	0.50	0.54	0.50
Other	0.01	0.12	0.02	0.12
<b>Caregiver Characteristics</b>				
Age	29.33	9.25	37.88	7.64
Education Level				
High school diploma or GED	0.50	0.50	0.47	0.50
Vocational degree	0.14	0.35	0.15	0.36
No degree	0.36	0.48	0.39	0.49
Marital Status				
Married	0.33	0.47	0.34	0.47
Cohabiting	0.08	0.27	0.04	0.20
Single	0.59	0.49	0.62	0.49
Health Problems	-0.11	0.56	-0.04	0.60
<b>Family Characteristics</b>				
Income-to-needs ratio	0.72	0.53	0.74	0.57
Material Hardship	-0.06	0.55	0.02	0.67
Negative Parenting	0.02	0.59	0.01	0.46
Structure	0.06	0.40	-0.01	0.43
Engagement	-0.01	0.44	0.00	0.38

**Table 3. Child Outcomes, and Background and Family Characteristics at Time 1 by Type of Grandmother Involvement**

	Grandmother Involvement					F-ratio	Posthoc
	Custodial (1)	Co-residing (2)	Caregiving (3)	Non-caregiving (4)	Not present (5)		
<b>Child Outcomes</b>							
Quantitative Skills	95.72	90.54	94.49	94.67	89.13	1.52	4>5*
Reading Skills	99.87	101.85	98.75	98.65	97.67	0.34	
Internalizing	0.04	0.33	-0.01	-0.15	-0.13	1.66	2>4*,5*
Externalizing	-0.01	0.37	-0.09	-0.12	-0.19	1.82	2>3*, 4**, 5*
Positive Behaviors	3.95	3.84	4.20	4.29	3.92	3.49**	4>1*,2*,5**; 3>2,*5*
<b>Background &amp; Family Characteristics</b>							
Child's age (in months)	45.72	38.58	41.84	45.51	41.66	2.66*	2<1*, 4**
Child's sex (high=female)	1.49	1.51	1.52	1.47	1.47	0.10	
Mother's age (in years)	54.79	27.29	26.44	28.31	32.70	18.94**	1>2,***3,***4,***,5*** 5>2*,3**,4*; 4>3*
<b>Race</b>							
White	0.02	0.03	0.03	0.04	0.03	0.52	
African American	0.52	0.52	0.51	0.31	0.30	2.39*	3 > 4*, 5*; 2>4*
Hispanic	0.45	0.44	0.45	0.63	0.64	1.88	4>3*
Other	0.01	0.01	0.02	0.02	0.03	0.87	
<b>Education</b>							
High School degree	0.38	0.46	0.53	0.54	0.41	0.55	
Vocational degree	0.03	0.16	0.10	0.16	0.21	3.14*	1<2*,4**, 5*
No degree	0.58	0.38	0.38	0.30	0.38	0.60	
<b>Income-to-Needs</b>							
Income-to-Needs	0.52	0.69	0.75	0.77	0.68	0.54	
<b>Mother's marital status</b>							
Married	0.31	0.17	0.27	0.42	0.47	2.59*	2<4*, 5**
Cohabiting	0.00	0.01	0.12	0.09	0.03		1<3, **4**; 2<3, *4*
Single	0.68	0.81	0.60	0.48	0.49	3.62**	2>3*, 4***,5**
<b>Maternal Health Problems</b>							
Maternal Health Problems	-0.08	0.10	-0.17	-0.15	-0.15	1.52	2>3*, 4*
<b>Family Material Hardship</b>							
Family Material Hardship	-0.26	0.10	0.00	-0.20	-0.10	2.99*	2>1,*4*; 3>1,*4*
<b>Negative Parenting</b>							
Negative Parenting	0.10	0.07	0.03	0.05	-0.18	0.57	
<b>Provision of Structure</b>							
Provision of Structure	0.14	-0.06	0.09	0.12	-0.06	2.77*	2<1,*4*; 5<1,*4*
<b>Parental Engagement</b>							
Parental Engagement	0.16	0.00	-0.03	-0.04	-0.02	0.44	

Note. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 4. Adolescent Outcomes and Background and Family Characteristics at Time 1 by Type of Grandmother Involvement**

	Grandmother Involvement					F-ratio	Posthoc
	Custodial (1)	Co-residing (2)	Caregiving (3)	Non-caregiving (4)	Not present (5)		
<b>Child Outcomes</b>							
Quantitative Skills	92.51	97.55	100.08	99.64	97.31	0.91	
Reading Skills	98.06	102.66	100.88	100.73	105.45	1.20	1<5*
Internalizing	-0.25	-0.23	-0.06	-0.02	-0.16	1.00	
Externalizing	-0.03	-0.29	-0.05	-0.01	-0.33	2.89	5<3*,4**, 2<4*
Positive Behaviors	4.10	3.82	4.07	4.05	3.93	0.76	
BSI -Total	1.41	1.33	1.59	1.57	1.44	0.56	
Serious Delinquency	-0.04	-0.12	-0.14	-0.16	-0.23	0.95	
School Problems	-0.18	-0.23	-0.25	-0.13	-0.25	1.08	
<b>Background &amp; Family Characteristics</b>							
Child's age (in years)	12.11	12.79	12.44	12.51	12.57	1.42	1<2*
Child's sex (high=female)	1.53	1.42	1.54	1.50	1.56	0.39	
Mother's age	56.51	36.78	35.73	37.05	38.08	37.75***	1>2***,3***,4***,5***; 5>3*
<b>Race</b>							
White	0.05	0.10	0.02	0.06	0.03	1.13	
African American	0.80	0.43	0.40	0.38	0.33	8.68***	1>2, **3, ***4, ***5***
Hispanic	0.11	0.44	0.54	0.54	0.63	16.09***	1<2**, 3***, 4***,5***
Other	0.04	0.01	0.02	0.01	0.00	1.13	
<b>Education</b>							
High School degree	0.30	0.52	0.44	0.52	0.42	1.61	1<4*
Vocational degree	0.10	0.11	0.21	0.11	0.15	0.75	
No degree	0.59	0.37	0.34	0.36	0.42	1.59	1>3*,4*
Income-to-Needs	0.73	0.65	0.74	0.78	0.72	0.40	
<b>Mother's marital status</b>							
Married	0.11	0.30	0.32	0.34	0.39	.01**	1<3*,4***,5**
Cohabiting	0.00	0.03	0.02	0.06	0.05		1<4**,5**
Single	0.88	0.67	0.65	0.59	0.55	5.26***	1>3**,4***,5***
Maternal Health Problems	-0.11	-0.11	0.02	-0.01	-0.14	1.20	
Family Material Hardship	-0.10	-0.24	0.14	0.08	-0.15	3.74**	4>1*, 2**, 5**, 3>2*
Negative Parenting	-0.11	-0.09	-0.02	0.04	0.04	1.48	
Provision of Structure	0.05	0.13	-0.01	0.04	-0.10	1.88	5<2*,4*
Parental Engagement	-0.02	0.17	0.02	-0.01	-0.07	3.57**	2>3*,4**,5***

Note. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 5. OLS Regressions Predicting Child Outcomes at Time 2 by Type of Grandmother Involvement**

	Quantitative Skills	Reading Skills	Internalizing	Externalizing	Positive Behaviors
Wave 1 outcome	0.45***	0.45***	0.35***	0.32***	0.29**
Grandmother status (omitted = not present)					
1) Custodial	0.03	-0.11	0.02	0.14	0.11
2) Co-residing	0.05	0.04	0.18	0.06	0.01
3) Caregiving	0.03	0.10	0.17	0.26*	-0.01
4) Not Caregiving	0.11	0.14	0.00	0.06	0.27
posthocs		1<2**,3**,4**	2>4*	3>5*	4>3**
F-ratio	4.11	8.32	7.01	5.15	4.39
R <sup>2</sup>	0.22**	.24***	0.20***	0.15***	0.18***

Note. Standardized beta coefficients are presented. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 6. Full OLS Regressions Predicting Child Outcomes at Time 2**

	Quantitative Skills	Reading Skills	Internalizing	Externalizing	Positive Behaviors
Wave 1 outcome	0.28***	0.28**	0.38***	0.28***	0.21**
Grandmother status (omitted = not present)					
1) Custodial	0.06	-0.03	-0.17	0.08	0.15
2) Co-residing	-0.02	-0.11	0.08	-0.04	0.22
3) Caregiving	0.02	0.02	0.00	0.15	0.23
4) Not Caregiving	0.16	0.14	-0.13	0.01	0.54**
Child's age	-0.12	-0.10	0.21*	0.08	0.05
Child's sex (high=female)	0.16	0.25**	-0.02	-0.04	0.17*
Mother's age	0.00	-0.19	0.09	0.04	0.10
Race (omitted = Hispanic-American)					
White	0.12	-0.02	0.12	0.12*	0.02
African American	0.08	0.15	0.07	0.15	-0.11
Other	-0.05	0.02	0.02	-0.01	0.06
Education (omitted - no degree)					
High School degree	0.23*	0.12	0.00	-0.11	0.12
Vocational degree	0.18*	0.09	-0.03	-0.05	0.02
Income-to-Needs	-0.05	0.11	-0.13	0.00	0.18*
Mother's marital status (omitted = single)					
Married	0.12	0.02	-0.26**	-0.26**	-0.06
Cohabiting	0.12	-0.03	-0.02	-0.03	-0.02
Maternal Health Problems	-0.02	0.06	-0.01	0.05	-0.14*
Family Material Hardship	0.02	0.08	0.02	0.01	0.01
Negative Parenting	0.05	-0.01	0.09	0.10	-0.07
Provision of Structure	0.04	0.04	-0.06	-0.08	0.03
Parental Engagement	0.19*	0.10	0.02	0.01	0.09
posthocs		2<4*	1<2*		4>2*,3***,5**
F-ratio	4.20	6.83	5.05	5.42	5.20
R <sup>2</sup>	0.34***	0.39***	0.37***	0.33***	0.31***

Note. Standardized beta coefficients are presented. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 7. OLS Regressions Predicting Adolescent Outcomes at Time 2 by Type of Grandmother Involvement**

	Quantitative Skills	Reading Skills	Caregiver Report of			Adolescent Report of		
			Internal.	External.	Pos. Beh.	Internal.	Delinquent	School
Wave 1 outcome	0.61***	0.70***	0.57***	0.66***	0.37***	0.40***	0.47***	0.49***
Grandmother status (omitted = not present)								
1) Custodial	0.00	-0.01	0.04	0.09*	0.01	0.06	0.11	0.05
2) Co-residing	0.02	0.05	0.09	0.09	0.06	-0.09*	0.03	0.02
3) Caregiving	-0.07	-0.07	0.17*	0.12	0.01	0.02	-0.02	0.01
4) Not Caregiving	-0.05	0.06	0.15*	0.14*	0.06	-0.03	0.01	0.03
posthocs		3<4*	5<3*,4*	5<1*,4*		2<1*,4*,5*		
F-ratio	13.13	21.67	15.73	24.19	8.86	10.00	8.21	12.31
R <sup>2</sup>	0.37***	0.52***	0.36***	0.48***	0.14***	0.17***	0.24***	0.24***

Note. Standardized beta coefficients are presented. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Internal = Internalizing Problems; External. = Externalizing Problems; Pos. Beh. = Positive Behaviors;

Delinquent. = Serious Delinquent Behaviors; School = School Problems

**Table 8. Full OLS Regressions Predicting Adolescent Outcomes at Time 2**

	Quantitative Skills	Reading Skills	Caregiver Report of			Adolescent Report of		
			Internal.	External.	Pos. Beh.	Internal.	Delinquent	School
Wave 1 outcome	0.56***	0.63***	0.58***	0.65***	0.29**	0.37***	0.44***	0.40***
Grandmother status (omitted = not present)								
1) Custodial	0.02	-0.06	0.15*	0.17**	-0.01	0.08	0.21**	0.18*
2) Co-residing	0.04	0.04	0.09	0.09	0.05	-0.09	0.03	0.03
3) Caregiving	-0.02	-0.05	0.14*	0.07	0.05	0.04	-0.08	-0.01
4) Not Caregiving	-0.02	0.04	0.14*	0.12	0.09	-0.02	-0.01	0.06
Child's age	-0.08	-0.02	-0.07	0.01	0.08	0.05	0.00	0.10
Child's sex (high=female)	-0.01	0.15**	0.02	-0.02	0.08	0.18**	-0.13*	-0.04
Mother's age	0.01	0.08	-0.17*	-0.20**	0.06	0.05	-0.12	-0.11
Race (omitted = Hispanic-American)								
White	-0.02	0.02	0.05	0.09	0.03	-0.01	0.03	0.07
African American	-0.20*	-0.09*	0.01	0.05	-0.07	-0.08	0.08	-0.10
Other	0.03	0.09*	-0.02	-0.03	0.03	0.07	0.10	0.07
Education (omitted - no degree)								
High School degree	-0.05	0.12*	-0.05	-0.05	-0.05	0.11	0.02	0.11
Vocational degree	0.05	0.05	-0.06	-0.10*	-0.02	0.01	-0.08	0.07
Income-to-Needs	0.11*	-0.01	-0.05	-0.04	0.08	-0.01	-0.03	0.04
Mother's marital status (omitted = single)								
Married	0.07	0.00	-0.02	-0.16***	-0.01	0.12	-0.03	-0.06
Cohabiting	-0.04	0.00	0.04	0.03	-0.10	0.07	0.10	-0.02
Maternal Health Problems	-0.13*	-0.01	0.06	-0.09	-0.06	0.11*	0.10	0.05
Family Material Hardship	0.00	-0.05	-0.12*	0.03	-0.07	0.04	-0.01	0.07
Negative Parenting	-0.08	-0.05	0.01	-0.01	-0.01	0.01	0.03	0.07
Provision of Structure	-0.04	0.07	0.02	-0.08	-0.07	0.02	-0.11	-0.19*
Parental Engagement	0.03	0.04	-0.09	0.02	0.18*	-0.01	-0.01	0.00
posthocs			5<1*,3*,4*	1>3*,4*,5**			1>3**,4**,5*	1>3*,5*
F-ratio	10.17	14.25	15.94	9.69	5.26	7.72	6.03	6.26
R <sup>2</sup>	0.48***	0.58***	0.41***	0.54***	0.20***	0.27***	0.33***	0.33***

Note. Standardized beta coefficients are presented. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Internal = Internalizing Problems; External. = Externalizing Problems; Pos. Beh. = Positive Behaviors;

Delinquent. = Serious Delinquent Behaviors; School = School Problems