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The Relationship Between Social Capital and Educational Outcomes for Biological Children in  
Two-Parent Families: An Examination of “True” Family Structure

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### **Abstract**

Using data from the National Longitudinal Survey of Youth 1997, we examined several measures of social capital (parental monitoring, parent-child relationship quality, and parent-school involvement) as moderators of the relationship between family structure and several educational outcomes for 2,650 youth residing with both biological parents. Both sibling and parent relationships were utilized to examine a more nuanced measure of family structure, correctly identifying youth living with both biological parents in the context of a blended stepfamily (mutual children). Findings were that mutual children were less likely to complete any postsecondary degree and less likely to complete a bachelor's degree or higher than biological children in nuclear two-parent families. A higher quality parent-child relationship decreased the risk of high school dropout, and greater parent-school involvement decreased the likelihood of completing a bachelor's degree for those in nuclear two-parent families only. Limitations and implications for the measurement of family structure in future research are discussed.

**Keywords:** Family structure, educational attainment, social capital

## **The Relationship Between Social Capital and Educational Outcomes for Biological Children in Two-Parent Families: An Examination of “True” Family Structure**

Educational attainment is associated with indicators of well-being across the lifespan (e.g., Hofferth & Anderson, 2003; Mezuk, Eaton, Golden, & Ding, 2002; U.S. Census Bureau, 2010). Coming from a non-intact family decreases the likelihood of high school completion (Rumberger & Thomas, 2000) and expectations to attend college (Heard, 2007). Researchers point to differences in resources in one- and two-parent families as a reason for this (Anguiano, 2004); yet, stepfamilies are two-parent families, and controlling for household income being in a stepfamily is also associated with decreased college attendance (Tillman, 2008). This risk of lower educational attainment for stepchildren often goes unnoticed. Even more overlooked is the risk among mutual children within blended stepfamilies (two biological parents and half-siblings), because they are often misclassified as living in nuclear two-parent families (Gennetian, 2005). Research shows that they are at greater risk for lower educational attainment than are biological children without half-siblings (Tillman, 2008).

The current study had two primary aims. First, we examined whether adolescents living with both biological parents are at greater risk for poor educational outcomes in the context of a blended stepfamily compared to a traditional nuclear family. Then, we examined whether social capital (the social relationships through which parents' human capital benefits children; Coleman, 1988) moderated the relationship between our measure of family structure and children's educational outcomes. Specifically, we examined parental monitoring, parent-child relationship quality, and parent-school involvement as indicators of social capital known to influence educational attainment (e.g., Gordon & Cui, 2012; Manning & Lamb, 2003; Woolley & Grogan-Kaylor, 2006). Guided by family stress theory (Boss, 2002), we hypothesized that

mutual biological children in stepfamilies will have poorer educational outcomes than biological children in traditional nuclear families due to the increased stress in the early years of stepfamily formation. We examined the possibility that more social capital may override the increased risk associated with coming from a blended stepfamily, such that the increase in risk for poor educational outcomes is lower for mutual children in blended stepfamilies.

### **Theoretical Background**

The current study is guided by family stress theory, family systems theory, and the risk and resiliency framework. First, family stress theory (Boss, 2002) is used to explain why mutual children in stepfamilies may have poorer social capital and educational outcomes than biological children in nuclear two-parent families. According to this theory, stressors negatively affect family members' well-being when families are not able to sufficiently cope. It is widely accepted that stepfamilies often experience high levels of stress early in their development. During this time, family members are attempting to define their roles and rules, blend family experiences, and establish new relationships (Pasley & Garneau, 2012).

Additionally, when a new stepfamily is formed, members often have unrealistic expectations that exacerbate stressors when these expectations are not met (Ganong & Coleman, 1995). The increased stress during this period often impact aspects of family functioning, and these stepcouples may experience lower levels of parenting competency due to increases in family stress (Hoffman & Johnson, 1998). It is also during this time that mutual children often enter the family, as many mutual children are born within the first two years of a remarriage (Downs, 2004; Coleman & Ganong, 2000; Stewart, 2002). Heightened levels of stress and decreased parenting competencies may influence the nature of these early relationships. Given that research indicates experiencing early stress (particularly parenting stress) can negatively

impact cognitive functioning (Lupien, McEwen, Gunnar, & Heim, 2009), we hypothesized that stressors experienced by mutual children put them at risk for poorer educational outcomes.

Evidence also shows that family stress in stepfamilies may continue as children age. Research shows that stepchildren are at risk for delinquent and behavioral issues (Cherlin, 2008; Coleman, Ganong, & Fine, 2000), and adolescents report higher levels of family conflict in stepfamilies compared to adolescents in nuclear and single-parent families (Kurdek & Fine, 1993). Family systems theory suggests that what happens in one family subsystem affects other subsystem (Minuchin & Fishman, 1981). Thus, the conflict experienced in the stepchild-stepparent subsystem may spill over and negatively affect the biological mutual child, even if he/she is not directly involved. Thus, we hypothesize that mutual children will be at risk for the same negative outcomes experienced by stepchildren in the same family (Dupuis, 2010; Minuchin & Fishman, 1981) and at greater risk than biological children in a traditional nuclear family. Other research indicates that stepfamilies experience higher levels of interparental conflict and engage in more hostile parenting styles (Shelton, Walters, & Harold, 2008). It follows that the presence of increased conflict may also result in fewer parental monitoring behaviors, lower parent-child relationship quality, and less parent-school involvement for both mutual children and stepchildren in the family.

Lastly, we include the risk and resiliency framework (Rutter, 1987; 1996) to address possible interactions among social capital and educational attainment. Drawing from this framework, we focus on the associations among protective factors and positive outcomes for individuals who face significant risk factors. Although youth from non-traditional family structures are at greater risk for poor social capital (e.g. Fisher, Leve, O'Leary, & Leve, 2003; Hofferth & Anderson, 2003), we anticipate that many such children still experience high quality

parenting and parent-child relationships. Thus, we examined social capital (e.g., parental monitoring, parent-child relationship quality, and parent-school involvement) as indicators of resiliency within families (Haase, Heiney, Ruccione, & Stutzer, 1999). Although family structure can be a risk factor for poor educational attainment, we hypothesize that strong social capital can buffer the negative effects.

### **Family Structure and Educational Outcomes**

Diverse family types are increasingly common. Currently, estimates are that many children will spend at least a portion of their life in single-parent families, and as many as one half of all children will spend time in a stepfamily (Cherlin, 2010; Parker, 2011). Family structure has long been a focus of research on youth outcomes, and research consistently shows that children growing up in stepfamilies or single-parent families have, on average, poorer academic achievement than children in nuclear families (Anguiano, 2004; Rumberger & Thomas, 2000). However, this research tends to define family structure by the adult relationships and the relationships between the focal child and each adult in the house. These broad definitions do not account for the sibling relationships within the household and limit our understanding of true variations in outcomes by family structure. In these broad definitions, certain family structures are not identified, resulting in misclassification of children, particularly of “mutual children.” Mutual children are living with both of their biological parents, but they also have one or more half-sibling(s). A mutual child in a stepfamily is typically categorized as living in a nuclear family, whereas his or her half-sibling is classified as living in a stepfamily (see as examples, Gennetian, 2005; Ginther & Pollak, 2004; Halpern-Meehin & Tach, 2008; Strow & Strow, 2008).

When broad measures of family structure are used, evidence indicates that coming from a non-intact family decreases the likelihood of high school completion (Rumberger & Thomas, 2000) and college attendance (Heard, 2007). Resource theory is often used to explain this, suggesting that differences in resources in one- and two-parent families accounts for the increased risk associated with living in single-parent families (Anguiano, 2004). However, Tillman (2008) showed that living in a stepfamily is also associated with decreased educational attainment, controlling for household income; thus, one- and two-parent designations do not account for her finding. We argue that the experiences of children in stepfamilies is overlooked because they are in two-parent households, and some research shows that that are at similar risk (Jeynes, 2006) or greater risk for poor educational outcomes as those from single-parent families (Ham, 2004; Heard, 2007).

Even more overlooked are the experiences of mutual children (Downs, 2004; Stewart, 2002). The few studies of these children show that they, too, are at more risk for poor outcomes than are biological children in two-parent families where no stepchildren reside (e.g., Tillman, 2008). Given the additional potential risks for stepchildren and mutual children, the current study examined more nuanced groups of two-parent families to identify the unique risks faced by these children. Unique to this study, we used four different measures of educational outcomes (i.e., high school completion, postsecondary enrollment, completing any postsecondary degree, and completing a bachelor's degree or higher) to determine whether differences by family structure vary by point in the educational trajectory.

### **The Role of Social Capital**

Educational outcomes are also influenced by social capital (Gordon & Cui, 2012; Melby, Fang, Wickrama, Conger, & Conger, 2008). Social capital refers to the social relationships in

children's lives which, in this case, facilitate access to the benefits of parents' human capital (e.g., their education, knowledge, and skills) (Coleman, 1988). Parental monitoring, parent-child relationship quality, and parent-school involvement as aspects of social capital have consistently been associated with educational outcomes (e.g., Manning & Lamb, 2003; Woolley & Grogan-Kaylor, 2006).

Social capital differs by family structure. For example, parents in intact families engage in more monitoring, are more engaged with children, and have higher quality parent-child relationships than do those in stepfather families (Dunn, Davies, O'Conner, & Sturgess, 2000; Fisher, Leve, O'Leary, & Leve, 2003; Hofferth & Anderson, 2003). Some suggest that social capital may mediate the relationship between family structure and educational outcomes; however, differences in parenting do not explain why children in non-intact two-parent families experience lower educational attainment (Astone & McLanahan, 1991). Instead, we hypothesize that social capital moderates the association between family structure and educational outcomes. When social capital is strong, the association between family structure and educational outcomes will be weaker. Thus, mutual children with strong social capital will be at less risk for poor outcomes than those with weaker social capital.

### **Covariates Influencing Educational Outcomes**

Contextual factors are important to consider when examining educational outcomes at all levels: the individual, family, and school. Lower overall academic achievement (Battin-Pearson, Newcomb, Abbott, Hill, Catalano, & Hawkins, 2000), frequent school changes (Swanson & Schneider, 1999), delinquent behavior (Hickman, Bartholomew, Mathwig, & Heinrich, 2008), and younger age at sexual initiation (Spriggs & Halpern, 2008) are associated with increased risk for poor educational outcomes. Males are more likely to dropout of high school (Heckman &



LaFontaine, 2007), as are Blacks and Hispanics (U.S. Census Bureau, 2010) and those with mild to moderate learning disabilities (Rojewski, 1999). Parents' education is positively associated (Janosz, Leblanc, Boulerice, & Tremblay, 1997) and the number of children in the family is negatively associated with attainment (Booth & Kee, 2009). Finally, attending public school is associated with greater risk for high school dropout (Rumberger & Thomas, 2000).

## Methods

### Sample

NLSY97 data were used and included responses from 2,650 participants (12- 14 years old) in Round 1 who lived with both biological parents. Information came from Rounds 1-13, which capture school enrollment and completion status for respondents until ages 24 -30 years. Households in this study were randomly selected, so some included multiple youth respondents from the same household. Those with moderate to severe mental disabilities were excluded ( $n = 5$ ), because they tend to have poorer educational outcomes (only 30% go on to complete any schooling or job training after high school; Carson, Frank, & Sitlington, 1992) compared to 70% in the general population (Bureau of Labor Statistics, 2011). Also excluded were those who reported being homeschooled in grades K-12 ( $n = 62$ ).

In the final sample (see Table 1), 46.9% were female, average age at Round 1 was 13.98 years ( $SD = .82$ ), 59% were White, followed by Hispanic (23.1%), Black (14.3%), and *Other* (3.6%), including Asian/Pacific Islander, American Indian/Eskimo, or mixed race. Roughly a third were from families reporting an annual household income of \$30,000-\$60,000. Average educational attainment for mothers was 12.8 years ( $SD = 3.2$ ) and for fathers was 12.9 years ( $SD = 3.1$ ). Of the two-parent families studied, most lived in nuclear families ( $n = 2,549$ ), and 101 lived in a blended stepfamily.

## Measures

Independent and control variables were measured when youth were 12-14 years old (Round 1).

**Family structure.** We used a more nuanced measure of family structure constructed from information about the participant's relationship to his/her resident parents and to siblings in the home at least half of the time. . Two categories resulted: (0) *biological children in nuclear two-parent families* (biological parents and only biological siblings), and (1) *mutual children in blended stepfamilies* (both biological parents and at least one half-sibling). Unlike most studies of family structure, this measure allows for the correct classification of mutual children born into a stepfamily with half-siblings as blended families rather than their misclassification into two-parent nuclear families.

**Social capital.** We used three measures of social capital: parental monitoring, parent-child relationship quality, and parent-school involvement. *Parental monitoring* was assessed with youth reports on four items adapted from the extant literature (Hetherington, Cox, & Cox, 1982; Maccoby & Mnookin, 1992). Sample items are: "How much does he/she know about your close friends, that is, who they are?" "How much does he/she know about your close friends' parents, that is, who they are?" Responses ranged from *knows nothing* (0) to *knows everything* (4), and items for resident step/mother and resident step/father were combined to create an overall parental monitoring scale ranging from 0 to 32 with higher scores indicating more parental monitoring ( $\alpha = .79$ ).

*Parent-child relationship quality* was assessed with youth reports on two sets of items (adapted from the IOWA Youth and Family Project (IYFP); Conger, Elder, Lorenz, & Simons, 1994). Three questions asked about their relationship with each resident parent/stepparent.

Examples are “I think highly of him/her,” and “I really enjoy spending time with him/her,” with responses ranging from *strongly disagree* (0) to *strongly agree* (4). Also, five items asked about perceptions of parental support from each resident parent/stepparent. Examples of items are, “How often does s/he help you do things that are important to you?” “How often does s/he praise you for doing well?” Responses ranged from *never* (0) to *always* (4) and were summed for all eight items (possible summed score ranged from 0 to 32 for each resident parent); higher scores indicate a more positive relationship. Resident step/mothers’ and step/fathers’ scores were combined with possible scores for overall parent-child relationship quality ranging from 0 to 64 ( $\alpha = .84$ ).

*Parent-school involvement* was measured using resident step/parents’ reports on two items about how often he/she or his/her spouse attended parent-teacher organization (PTO) meetings and one of the resident parents volunteered to help in the child’s classroom in the past three years. Responses were *often* (1), *sometimes* (2), and *never* (3). Items were reverse coded and summed to create an overall score, with higher scores indicating more involvement ( $\alpha = .54$ ).

**Educational outcomes.** Dummy variables were created from all rounds to indicate whether students had *ever dropped out of high school* (1 = yes, 0 = no), earned a *high school diploma /GED* (1 = yes, 0 = no), *entered post-secondary schooling* (1 = yes, 0 = no), *completed any post-secondary schooling* (1 = yes, 0 = no), *completed a 2-year degree* (1 = yes, 0 = no), and *completed a 4-year degree* (1 = yes, 0 = no).

**Control variables.** A dummy variable was created *grade retention*, or whether participants had ever repeated a grade, from parents’ reports at each data point through the end of high school. *Delinquency* was assessed using a 10-item measure adapted from the National Youth Survey (NYS). Participants answered *yes* (1) or *no* (0) to whether they had engaged in

selling drugs, theft, and damaging property. A sum was created ranging from 0 to 10 with higher scores indicating greater delinquency. Early sexual initiation, defined as intercourse at age 15 or younger (Spriggs & Halpern, 2008), was from participant reports of age at first sex and coded as *early sexual initiation* (1) or *later sexual initiation* (0). The presence of a learning disability was based on parent reports of whether youth suffered from a learning disability or attention disorder which limited school work or performance and categorized as *no learning disability or has a learning disability but is not limited* (0) and *has a learning disability* (1). *Total school changes* was a count of parents' retrospective reports of the number of times the youth changed schools since the beginning and yearly reports of school changes through each wave. *Total number of siblings* was based on reports of those under 18 living in the household at Round 1. *Mother's education* and *father's education* were from parent reports of highest grade completed at baseline; responses ranged from first grade (1) to eighth year of college or more (20). *Household income* was reported as gross household income for the most recent year in number of dollars at baseline. *School sector* was from participant reports and indicated whether they attended a public (0) or private (1) school during Round 1. Finally, gender (female = 0, male = 1) was included as a control with race/ethnicity designated as *White* (non-Hispanic) (0) and *African American, Hispanic, and other* (1).

### **Analytic Strategy**

Missing data were handled using multiple imputation (MI). When variables have up to 30% missing data and when determined to be missing at random (MAR) or missing completely at random (MCAR), MI can be used confidently without increasing Type I error (Croiseau, Genin, & Cordell, 2007). In the current study, the majority missing data were less than 5%.

The hypotheses were tested using multilevel logistic regressions with a random intercept (Rabe-Hasketh & Skrondal, 2008) to account for the presence of siblings from the same family in the sample. Interaction terms were included in the analysis to test the hypothesis about the moderating effect of social capital on the relationship between family structure and educational attainment.

## Results

### Descriptive Results

Trends in educational outcomes across all participants and by family structure appear in Table 1. Overall, approximately 17% of youth had dropped out of high school; however, 90% eventually returned and completed a high school education. Roughly two-thirds of the sample enrolled in post-secondary school for at least one semester, and 38% eventually earned at least a 2-year degree. Slightly higher than reports from U.S. Census data (2010), 31% of participants earned at least a bachelors' degree.

Differences between groups on several demographic characteristics and educational outcomes were examined. Gender did not differ significantly by group. Children from nuclear two-parent families were more likely to be White (59.7%) compared to mutual children in blended stepfamilies (40.6%),  $\chi^2(5, 2,645) = 21.09, p < .00$ . Household income was also lower for those in blended stepfamilies,  $F(1, 2,649) = 4.15, p < .05$ , and those from nuclear two-parent families had fathers' with more years of education,  $F(1, 2,649) = 10.17, p < .00$ . Finally, compared to those in nuclear two-parent families, mutual children in blended stepfamilies had lower rates of post-secondary enrollment [ $\chi^2(2, 2,648) = 4.89, p < .05$ ], completion of any post-secondary degree [ $\chi^2(2, 2,648) = 16.23, p < .00$ ], and completion of a bachelor's degree or higher [ $\chi^2(2, 2,648) = 14.78, p < .00$ ].

## Multilevel Regression Results

**Family structure and social capital.** Results were that mutual children in stepfamilies were 54% ( $p < .05$ ) less likely to complete any post-secondary degree and 60% ( $p < .05$ ) less likely to complete at least a bachelor's degree than were biological children in intact families (see Table 2). Having a higher quality parent-child relationship was associated with greater likelihood of completing any postsecondary degree ( $OR = 1.05$ ;  $p < .05$ ), yet this was the only significant finding for the influence of social capital across all educational outcomes examined. Two aspects of social capital moderated the relationship between living in a blended stepfamily and the likelihood of educational attainment. Specifically, reporting a higher quality parent-child relationship decreased the odds of dropout from high school by 5% ( $p < .05$ ) for those in nuclear two-parent families; no significant effect was found for mutual children in blended stepfamilies. Also, for those in nuclear two-parent families, more parent-school involvement decreased the likelihood of completing a bachelor's degree ( $OR = .96$ ;  $p < .01$ ), but no significant effect was found for mutual children in stepfamilies ( $OR = 1.09$ ;  $p = 6.15$ ).

Importantly, the number of family structure transitions following the first wave of data collection was a significant predictor of each educational outcome examined, and more transitions were associated with increased likelihood of dropout ( $OR = 1.54$ ;  $p < .01$ ) and decreased likelihood of high school completion ( $OR = .72$ ;  $p < .05$ ), postsecondary enrollment ( $OR = .80$ ;  $p < .10$ ), completing any postsecondary degree ( $OR = .72$ ;  $p < .05$ ), and completing at least a bachelor's degree ( $OR = .75$ ;  $p < .10$ ).

**Demographic predictors.** Adolescent gender, race, parental income, and parental education were significant predictors of educational outcomes, yet findings varied based on the outcome examined. Females were 58% more likely to enter postsecondary school than males ( $p$

< .01), 77% more likely to complete any postsecondary degree ( $p < .01$ ), and 84% more likely to complete a bachelor's degree or higher ( $p < .01$ ). Non-white adolescents were 32% more likely to enter postsecondary school ( $p < .05$ ), yet 25% less likely to complete any degree ( $p < .05$ ) or a bachelor's degree or higher ( $p < .05$ ). Higher parental income was associated with increased likelihood of entering postsecondary school (OR = 1.06;  $p < .05$ ), completing any degree (OR = 1.04;  $p < .05$ ), and completing a bachelor's degree or higher (OR = 1.04;  $p < .05$ ), but it was not associated with high school dropout or completion. Finally both mothers' and fathers' education were significant predictors of all outcomes, with higher levels of parental education associated with a decrease in likelihood of high school dropout (mothers' OR = .88;  $p < .01$ ; fathers' OR = .90;  $p < .01$ ) and increased likelihood of high school completion (mothers' OR = .115;  $p < .01$ ; fathers' OR = 1.12;  $p < .01$ ), entering postsecondary school (mothers' OR = 1.12;  $p < .01$ ; fathers' OR = 1.15;  $p < .01$ ), completing any degree (mothers' OR = 1.15;  $p < .01$ ; fathers' OR = 1.16;  $p < .01$ ), and completing a bachelor's degree or higher (mothers' OR = 1.22;  $p < .01$ ; fathers' OR = 1.16;  $p < .01$ ).

**Additional predictors.** Similar to previous research, several well-known correlates of educational outcomes were significant predictors in the current study (see Table 2 for odds ratios and significance levels). Overall, history of retention, greater delinquency, earlier first sexual experience, and having a learning disability were associated with increased likelihood of high school dropout, and decreased likelihood of high school completion, postsecondary enrollment, and postsecondary degree completion. Compared to attending a public high school, those who attending private schools were more likely to enter postsecondary school, complete any degree, and complete at least a bachelor's degree. Experience more school changes increased the risk of

high school dropout, and decreased the likelihood of postsecondary enrollment and degree completion.

### **Discussion**

Educational outcomes are important for future success and well-being across the lifespan, and the literature consistently notes the strong associations of both family structure and social capital with such outcomes. Beyond the common comparisons of youth living with one parent, two parents, and one parent and one stepparent, recent findings show within group difference for those living with both parents, and those with half-siblings are at greater risk for poor outcomes (e.g., Gennetian, 2005; Halpern-Meekin & Tach, 2008).

Findings from our study further highlight the importance of nuanced measures of family structure. Mutual children in blended stepfamilies, often unrecognized as being at any risk for poorer outcomes (Strow & Strow, 2008), were less likely to complete a bachelor's degree than those in nuclear families. Although mutual children in stepfamilies were no less likely to complete high school or enroll in post-secondary education, evidence shows that completion of higher degrees is most influential to securing future employment and increasing lifetime earnings (U.S. Census Bureau, 2010). Thus, although they reside with both parents, something about living in a blended family impacts the long-term educational success for mutual children. Family stress theory (Boss, 2002) suggests that mutual children are brought into families already at risk for greater stress and conflict (Kurdek & Fine, 1993; Shelton, Walters, & Harold, 2008) due to their complicated stepfamily relationships (see Pasley & Garneau, 2012). This potential added stress from family complexity may have long-term implications for the future success of mutual children. However, by definition mutual children represent higher-order births in their families, as they are born into families where children already reside. Findings show that later born



children attain less education than first and earlier born children (Black, Devereux, & Salvanes, 2005; Kantarevic & Mechoulan, 2006). The greater risk of poorer education outcomes associated with being a mutual child may also be related to being later-born child.

Importantly, the longitudinal nature of these data allowed for a prospective examination of the influence of family structure stability through middle to late adolescence on later educational outcomes. Although youth in this sample reported living with both biological parents during the initial round of data collection, some participants experienced subsequent transitions in family structure prior to leaving their parents' household, and those who experienced greater instability in family structure were at risk for poorer educational outcomes. Previous research also suggests that instability is a better family structure risk indicator than exact family structure measured at any one point in time (Cavanagh, Schiller, & Riegle-Crumb, 2006). Because family structure transitions were only measured from baseline until participants moved out of their parents' homes, our findings show that the risk associated with experiencing family structure instability during adolescence is strongest for the most proximal outcomes, with risk for dropout being most strongly influenced. A weaker association with subsequent outcomes, such as likelihood of completing a high school level education, suggests that some adolescents may dropout of high school due to the initial stress associated with changes in family structure, yet many also adapt and eventually return to complete their education.

Social capital during early adolescence had little influence on the educational outcomes assessed here. The items used to measure social capital may not be adequate indicators, although they are typical of those used in other studies (e.g., Gordon & Cui, 2012). Also, the lack of effects on long-term outcomes suggests that any influence of social capital in early adolescence is not enduring. Perhaps measuring social capital later in adolescence and young adulthood with

items appropriate for capturing the nature of parenting emerging adults would better assess this relationship.

Findings did not support our hypothesis that social capital would buffer the increased risk experienced by mutual children in stepfamilies for poor educational outcomes. Instead, we found that social capital was both protective and risk factor for those only in traditional nuclear families, such that children in nuclear families were even less likely to dropout of high school when they had higher quality relationships with their parents. Mutual children in blended stepfamilies did not experience the same benefit. However, later in their educational trajectory, greater parent-school involvement actually decreased the likelihood of completing a bachelor's degree or higher for the same children in nuclear families. This pattern of findings suggests that greater social capital measured by parent-child relationship quality during adolescence may improve outcomes when youth are living at home. However, greater parent-school involvement during adolescence may decrease feelings of competency and responsibility for one's own education, leaving students unprepared for the challenges of meeting educational requirements in a less structured environment such as college.

### **Limitations**

This study had several limitations. Due to limitations in the NLSY97 dataset, the measure of parent-school involvement included only two items emphasizing involvement in the school setting or during school hours. This may bias results due to socio-economic and racial/ethnic factors. For example, Black parents are less likely than White parents to volunteer in their children's classroom; yet, they are no less likely to attend school events (Zellman & Waterman, 1998). Further, dual-income families with full-time working parents or those who struggle with issues of transportation may be more involved in their children's schooling outside

of classroom participation and attending PTA meetings. Finally, the reliability of this measure was low, decreasing overall confidence and suggesting that alternative measures of parent-school involvement be used in future studies. However, findings show that reliability estimates for parent-school involvement measures in large national datasets, including items such as volunteering in the classroom, are stronger with a greater number of items (Perna & Titus, 2005; Stewart, 2007), and such indicators of school involvement were significant predictors of educational outcomes. Restrictions of available items in the current data required that only these two items be used.

In addition, limitations are noted with the measurement of social capital. Items assessing parental monitoring and parent-child relationship quality may not have assessed the domains of social capital most important to adolescents' future educational success. It may be that overall parental engagement, accessibility, or time spent with adolescents is more important. Because we examined social capital during early adolescence only, the kind of social capital important to later outcomes, such as college attendance and completion, may vary for late adolescents and emerging adults. Measures of social capital assessed closer to the time of the educational transitions examined may also be more influential predictors of those events. Previous research suggests that it is the cumulative influence of social capital that matters, and social capital experienced during early childhood is most important for outcomes in adolescence and emerging adulthood (Alexander et al., 2001; Jimerson et al., 2000). However, no data were available to assess this. Finally, we were unable to determine the direction of causality between social capital and educational outcomes. Thus, it is unclear whether greater parent-school involvement or a higher quality parent-child relationship is the cause of or a response to educational outcomes.

The static measurement of family structure was also a notable limitation. Retrospective reports of family structure were available for many participants in these data, but these reports were not used due to high levels of inconsistency. Previous research suggests that family structure at one point, family structure instability overtime, and the timing of structural transitions together are all important (Cavanagh et al., 2006; Sun & Li, 2009). It is possible that mutual children in these blended stepfamilies represents a population at higher risk for poor educational outcomes, particularly as stepmothers come into this family type with no prior parenting experience and are often expected to take on an active parenting role (Coleman, Troilo, & Jamison, 2008).

Finally, although several hypotheses were supported based on findings at a significance level of  $p < .05$ , the magnitude of the effect size for most of these differences were small. Thus, significant differences found here do not necessarily imply substantive difference. Future examination of these hypotheses using other samples may result in finding more substantive differences.

### **Implications for Future Research**

Researchers have begun to examine family structure more critically, accounting for complexities of family structure which include various sibling combinations. This study was not the first to point out the need to consider the unique experiences of mutual children living in blended stepfamilies; however, it provided further support for using more nuanced measures of family structure in future research. Rather than focusing on one aspect of structural diversity at the expense of many others. For example, we did not account for complexity that may exist outside of the adolescent's primary residence, such as the presence of non-resident half-siblings. Nor did we distinguish between married and cohabiting families. Importantly, family

researchers are encouraged to continue to measure the complexities in family structure and capture the “true” experiences of study participants. Several large, nationally representative, and longitudinal studies have improved measures of family structure using household rosters and more detailed interviews. Such methods of data collection must be continually improved and become a standard for future investigations.

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Table 1. *Demographic and Educational Outcomes by Family Structure*

Variables	Full Sample ( <i>N</i> = 2,650)		Nuclear Two- Parent ( <i>n</i> = 2,549)		Blended Stepfamily ( <i>n</i> = 101)		<i>X</i> <sup>2</sup>	<i>df</i>	<i>p</i>
	<i>N/M</i>	%/ <i>SD</i>	<i>N/M</i>	%/ <i>SD</i>	<i>N/M</i>	%/ <i>SD</i>			
Gender									
Male	1,406	53.1	1,361	53.4	45	44.5			
Female	1,244	46.9	1,188	46.6	56	55.4	3.05	1	.081
Race									
White	1,563	59.0	1,522	59.7	41	40.6			
Black	378	14.3	352	13.8	26	25.7			
Hispanic	613	23.1	581	22.7	32	31.7			
Other	96	3.6	92	3.6	2	2.0	21.09	5	.001
Number of siblings									
0	438	16.5	416	16.3	22	21.8			
1	1,156	43.6	1,126	44.2	30	29.7			
2	678	25.6	648	25.4	30	29.7			
3	246	9.3	233	9.1	13	12.9			
4 +	132	5.0	126	5.0	6	6.0	0.78	1	.375
Household income in dollars			60,038		47,145		4.15	1	.042
Mother's education	12.8	3.2	12.8	3.2	11.8	3.2	3.51	1	.061
Father's education	12.9	3.1	12.9	3.5	11.5	3.2	10.17	1	.001
Educational outcomes									
High school dropout	458	17.3	432	16.9	26	25.7	5.28	2	.071
Complete high school/GED	2,401	90.6	2,341	90.8	87	86.1	3.04	2	.081
Enroll in post-secondary schooling	1,741	65.7	1,685	66.1	56	55.4	4.89	2	.027
Complete any post-secondary degree	1,000	37.7	981	38.5	19	18.8	16.23	2	.000
Complete at least a bachelor's degree	825	31.1	811	31.8	14	13.9	14.78	2	.000

*Note:* The percentages are for within the family structure types. Percentage of "Enroll in any school following high school dropout" is out of the category total for "Dropout prior to high school completion"

Table 2. *Random-Intercept Logistic and Linear Regressions for Educational Outcomes – Biological Children Only (N = 2,650)*

	High School Dropout			Complete High School/GED			Enter Post-secondary School			Complete Any Post-secondary Degree			Complete BA or Higher		
	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>
Fixed-effects															
Female	-.15	.17	.86	-.02	.18	.98	.46	.12	1.58**	.57	.13	1.77**	.61	.14	1.84**
Age	.05	.10	1.05	.15	.11	1.17	-.06	.07	.93	.17	.07	1.19*	.23	.08	1.26**
Non-White	-.11	.18	.90	.16	.20	1.18	.28	.13	1.32*	-.29	.13	.75*	-.29	.14	.75*
# of siblings	.18	.07	1.20*	-.08	.07	.92	-.07	.05	.93	.01	.05	1.01	.00	.06	1.00
Income	-.05	.03	.95	.01	.03	1.01	.06	.02	1.06*	.04	.02	1.04*	.04	.02	1.04*
Mother's educ.	-.12	.04	.88**	.14	.04	1.15**	.11	.03	1.12**	.14	.03	1.15**	.20	.04	1.22**
Father's educ.	-.11	.04	.90**	.11	.04	1.12**	.13	.03	1.15**	.15	.03	1.16**	.15	.03	1.16**
Retention	1.58	.24	4.87**	-1.18	.27	.30**	-1.25	.19	.29**	-1.25	.24	.29**	-1.58	.31	.20**
Delinquency	.21	.06	1.23**	-.16	.06	.85**	-.11	.04	.89*	-.14	.05	.87**	-.20	.06	.82**
Early first sex	1.32	.20	3.76**	-.68	.19	.51**	-.66	.14	.52**	-.85	.16	.43**	-.82	.18	.44**
Learning disable	.70	.30	2.00*	-.37	.31	.68	-1.01	.24	.37**	-1.31	.31	.27**	-1.34	.35	.26**
Structure transitions	.43	.16	1.54**	-.32	.15	.72*	-.22	.12	.80†	-.33	.15	.72*	-.29	.17	.75†
School changes	.58	.09	1.78**	-.07	.07	.93	-.17	.06	.85**	-.30	.07	.74**	-.28	.07	.76**
Private school	.09	.30	1.10	.66	.43	1.94	.45	.21	1.57*	.56	.19	1.75**	.68	.20	1.96**
Blended family	.22	.39	1.25	-.16	.39	.85	-.02	.30	.98	-.78	.36	.46*	-.91	.43	.40*
Social capital															
Monitoring	-.02	.03	.98	.00	.03	1.00	.00	.02	1.00	-.02	.03	.98	-.01	.03	1.00
PC relationship	-.02	.02	.98	.00	.02	1.00	.02	.02	1.02	.04	.02	1.05*	.03	.02	1.03
PS involvement	.04	.05	1.04	-.01	.05	.99	-.03	.03	.97	-.01	.03	.98	.00	.04	1.00
Interactions															
Blend*Monitor	.09	.14	1.10	.01	.14	1.01	-.02	.11	.98	-.11	.14	.89	-.017	.16	.84
Blend*Relate	.24	.12	1.27*	-.11	.11	.89	.03	.08	1.03	.01	.10	1.01	.02	.11	1.02
Blend*Involve	.17	.20	1.18	-.11	.21	.90	-.06	.15	.94	.15	.18	1.16	.43	.21	1.53*
Constant	.09	.14		-1.34	1.74		-1.64	1.18		-7.28	1.39		-9.18	1.60	
Random effects															
$\sigma_{u0}$	1.47	.33		.94	.50		1.09	.28		1.16	.28		1.24	.31	

\*\*  $p < .01$ ; \*  $p < .05$ ; †  $p < .10$

Table 2. *Random-Intercept Logistic and Linear Regressions for Educational Outcomes – Biological Children Only (N = 2,650 ) continued*

	High School Dropout			Complete High School/GED			Enter Post-secondary School			Complete Any Post-secondary Degree			Complete BA or Higher		
	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>
ICC ( $\rho$ )	.39	.11		.21	.18		.27	.10		.29	.10		.32	.11	
Model <i>F</i> -test			4.68**			3.71**			5.89**			5.93**			5.04**

\*\*  $p < .01$ ; \* $p < .05$ ; †  $p < .10$