

ABSTRACT

Title of Document: TRANSMITTING ADVANTAGE:
MATERNAL EDUCATION DIFFERENCES
IN PARENTAL INVESTMENT ACTIVITIES

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Though the stark advantages of children growing up in college-educated families are well documented (e.g. higher levels of school achievement, higher likelihood of completing high school, higher college admission rates), scholars are just beginning to understand how the everyday activities of parents and children are involved in this reproduction of inequality. This study links parental time investments in children to their verbal achievement using data from the 1997 and 2002 waves of the nationally representative Panel Study of Income Dynamics Child Development Supplement.

Consistent with existing theoretical frameworks, children of college-educated mothers are read to more often, watch less television, participate more in structured activities, and have mothers who are more involved in their schooling when compared with children of less educated mothers. These investments are also linked to children's verbal aptitude, and the linkages are strongest when children are young.

Among preschool-aged children, reading is positively associated, while children's television viewing with parents is negatively associated with children's verbal achievement. By the time children reach school age, however, reading is negatively associated with verbal achievement. At this age, better-educated parents seem more likely than less-educated parents to provide remedial help to their children who may be having difficulty with reading. Also among school-aged children, parental investment in children's schooling and structured activities are positively associated with children's verbal scores.

At the same time, there are important ways in which college-educated and less educated mothers do not diverge as much as previous research might suggest. Most notably, once family structure and race are held constant, educational variation in time spent with extended family and visiting others, mothers' daily expressions of warmth and affection, and awareness of children's whereabouts are generally negligible.

Finally, individual parental investment measures only marginally explain the positive relationship between maternal education and children's verbal achievement, though they do play a significant role in helping to explain how and why children of college-educated mothers are more likely to have high-achieving children. Other factors, like high levels of income and mothers' verbal ability, seem more advantageous to these children than do the specific parenting activities of college-educated mothers.

TRANSMITTING ADVANTAGE: MATERNAL EDUCATION DIFFERENCES IN
PARENTAL INVESTMENT ACTIVITIES

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Chapter 1. Introduction and Statement of the Problem

In November 2004, Sara McLanahan's presidential address to the Population Association of America expressed alarm about the widening social-class disparities in children's resources (McLanahan 2004). She contended that children of the most highly educated women were receiving far greater parental resources than children of less-educated women and this was resulting in "diverging destinies" for their children. Her argument focused largely on demographic factors: children with well-educated mothers are advantaged in that their mothers are older (and hence have greater resources and maturity), more likely to be working at well-paying jobs, and more likely to be in stable marital unions where they have access to time with fathers. In contrast, less-educated mothers more often work at low-paying jobs and are part of unstable cohabiting unions where support from the children's biological fathers is minimal.

McLanahan's concern echoed earlier sentiments expressed by scholars in the 1990s (Cherlin 1996; Haveman, Sandefur, Wolfe, and Voyer 2004; Hernandez 1993) and is consistent with a long line of arguments since the 1950s contending that the resources in middle and upper class families advantage their children in a variety of ways. This literature generally focuses on one of two relationships: the relationship between parental education and children's outcomes *or* the relationship between parental education and parenting practices/resources. McLanahan's (2004) argument contended that these two relationships are part of a larger process: better-educated parents are able to bestow greater resources on their children in the form of time and money than less-educated parents, and it is the way in which they bestow these

resources that explains why children of better-educated parents tend to have more salutary outcomes than children of less-educated parents. In other words, better-educated mothers parent in a way that is distinctly different from less-educated mothers and it is this variation in parenting as well as their greater ability to pass on financial and socioemotional resources to their children that translates into more positive outcomes for their children when compared with less-educated women and children.

Statement of the problem

The central questions to be addressed in this dissertation are: how is maternal education associated with investments in children, and how do these investments mediate the relationship between maternal education and child verbal achievement? This dissertation contributes to the literature on maternal education, parenting behavior, and child development in several ways. First, it offers a new perspective on the association between maternal education and parenting behavior by taking a holistic look at parental investments in children to develop a more expansive understanding of social class disparities in childrearing. Though a great deal of research has documented differences by maternal education in parents' involvement with children as well as in activities that promote their children's development (attending PTA meetings, enrolling children in lessons, etc.), most of this work focuses on only a few indicators like time spent reading to children, or time spent with children in play activities. As Annette Lareau (2002) notes:

One problem with previous studies is that they are narrowly focused. Researchers' look at the influence of parental education on parent involvement in schooling *or* children's time spent watching television *or* at

time spent visiting relatives. Only a few studies examine more than one dynamic in the home (747-748).

Our picture of what happens in the homes of children with highly educated mothers relative to children with less educated mothers is incomplete when the focus is only on one dimension of the parent-child relationship. Therefore, in this dissertation, I examine an array of parental investments including parents' overall time spent with children as well as parental time with children in specific activities, including reading, playing, helping with homework, eating meals together and engaging in household conversations. Additionally, parental warmth and affection for children as well as parental investment in children's schooling, like attending PTA meetings and volunteering for the school, are assessed.

It is critical to note that *children's* time use is also conceptualized as a type of parental investment in this study. The way parents organize, plan and encourage (or do not encourage) their children to be involved in various structured leisure activities, particularly when children are young, is all a reflection of how parents structure their children's lives. Children's time use is a key conceptualization Lareau (2003) developed and expanded with her ethnographic account of social class and parenting strategies in her landmark book, *Unequal Childhoods*. Lareau (2003) extended previous work by conceiving of parental investment not only as the quality of parent-child interactions, but also how children spend their time when they are not with parents. That is, parents invest in their children both through their own time with their children *and* the way they schedule their children's non-parental time in various

activities that parents believe will enhance their children's cognitive growth, social skills, academic success, and general well-being.

Other studies, more limited in their examinations of parental behaviors, also tend to focus on one age group rather than children in various stages of development—these studies look at only a “slice” of childhood rather than the whole picture. Hence, what we lack is a comprehensive understanding of how these parental investment strategies shift over childhood. Children's developmental needs vary greatly by age, so parents interact differently with their 2 year-old children than with their 12-year old children, though the value-orientation of the parent might be stable over time. Would an examination of very young children yield the same important social class differences as studies of children in middle childhood? Or are the gaps in parental behavior particularly pronounced in the period of middle childhood? Given that the way parents invest in children varies as children move through childhood, this dissertation examines how an array of parental investments vary by maternal education *within* three developmentally distinct categories of childhood—the preschool years, middle childhood (ages 6 to 12), and adolescence (ages 13 to 18).

A further contribution of this dissertation is the richness of the data used to assess parental investment. Much of the work assessing what parents do with and for their children examines stylized questions. In other words, researchers simply ask parents how much time they spend with their children in various activities like reading and watching television. Estimates using this kind of methodology tend to have a social desirability bias, in that parents are more likely to overestimate their

time in favorable activities (reading) and underestimate their time in less socially desirable ones (TV viewing). Further, estimating how much time is spent with a child in the context of a week or even a day may be difficult because childcare may occur in a series of brief or lengthy interactions throughout the day. The data assessed in this dissertation come from two waves of the nationally representative Child Development Supplement of the Panel Study of Income Dynamics (PSID-CDS) collected in 1997 and 2002. The parent-child time use data are gathered using time diary methodology, which yield estimates that are widely considered the highest quality and most valid estimates of time use. Further, these diaries are attached to the PSID, which includes extensive socioeconomic information about parents and children.

Finally, this dissertation assesses the extent to which these parental investments are associated with children's verbal abilities. Existing theories of parental investment strategies suggest that what parents do matters for their children's development and subsequent advantages. Studies that assess direct parent-child interaction, however, often fall short of specifying exactly how these interactions are associated with developmental outcomes for children. This is a critical component of this dissertation, because so much of the work on maternal education and parental investment assumes that what parents do for children has implications for their children's development, yet this is often not explicitly tested. How concerned should we be about the parenting disparities by social class emphasized by scholars in volumes of literature dating back to the 1950s? To what extent are these parental

investments linked to children's achievement? Moreover, how strong are these linkages?

This dissertation considers the extent to which an array of parental investments made early in children's lives might mediate the relationship between maternal education and children's verbal achievement. First, the analysis considers the extent to which investments are linked to child outcomes in the cross-section among children in the three stages of childhood. Age appropriate investments are considered for each group of children. Among preschool-age children, the focus is on activities like reading and playing with parents, whereas the focus is on parental investment in schooling and children's time in extracurricular activities among school-aged children. These types of investments tend to "start" in early childhood and middle childhood respectively, and thus the analysis captures how early investments in children at two stages of childhood are linked to their verbal abilities. Second, the analysis considers an array of other family background factors beyond maternal investment behaviors that might "explain away" the relationship between maternal education and children's verbal scores. These are the other resources positively linked to maternal education that McLanahan (2004) touched upon in her address, including family income/resources, family structure, maternal age/maturity, and maternal verbal ability.

It is important to note that while this dissertation is examining the process by which parenting behaviors might mediate the relationship between maternal education and child verbal outcomes; it is not staking a claim on *causality*. Isolating exactly how educational attainment—or even parental investment—influences

children is complex (if not impossible) and beyond the scope of this dissertation. As Duncan and Magnuson (2003) note, "The strong correlations between parental education levels, parenting, and child development reflect an uncertain combination of genetic factors, concrete skills acquired by parents in school, and personality traits that lead parents to acquire more schooling and to rear children who are healthier and more successful" (Duncan and Magnuson 2003:85).

An underlying assumption of this dissertation is that parental behavior plays a role in shaping children's experiences and outcomes, but it is not the sole determinant. As, Cowan and Cowan (2002) note, this has been a guiding assumption of most traditional social science work on parents and children: "Children are what they are because parents do what they do" (75). However, although many social science models may reduce parent-child relationships to this level of simplicity, the reality is probably not so simple. Indeed, family systems theorists argue that parents do not determine child outcomes, but rather the causality runs both ways. Parents influence children and children's behavior, in turn, influences how their parents treat them (see Crouter & Booth (2003) for a discussion). Further, children are influenced by countless actors outside the home: teachers, school administrators, coaches, neighbors, and peers. The purpose of this dissertation is not to suggest that parents are the only agents who invest in children, but rather to describe how parents invest in their children, how this differs by maternal education, and how these investments in children are associated with children's verbal achievement.

Chapter 2. Theoretical Framework and Literature Review

Many studies in the sociological and education literature show that parental education is a significant and consistent predictor of their children's achievement and educational attainment (Haveman and Wolfe 1995; Haveman and Wolfe 1994; Davis-Kean and Sexton 2005; Davis-Kean 2005; Smith, Brooks-Gunn, and Klebanov 1997; Duncan, Yeung, Brooks-Gunn, and Smith 1998). Low parental education is associated with low levels of school achievement in reading and math and IQ in early and middle childhood (DeGarmo, Forgatch, and Martinez 1999; Bradley and Corwyn 2002). Further, the parental education gap in achievement is large in the early years of schooling and persists throughout high school (Entwisle and Alexander 1990; Entwisle and Alexander 1996), as high school students with college-educated parents are five times as likely to be in the highest math sequence than students with less than college educated parents (Kelly 2004).

Organization of the literature

Given that the focus of this dissertation is on how parental investment behaviors vary by maternal education, I first discuss the link. Then I describe how parental investments mediate the relationship between maternal education and verbal achievement. In light of the fact that parental investments are not the only proposed mechanisms through which maternal education may influence children's verbal achievement, the section on parental investment is followed by a consideration of the way in which other family resources such as income, maternal age maturity, family

structure, and maternal ability are associated with maternal education and children's verbal ability. The chapter concludes with a description of other background factors associated with either maternal education or children's verbal ability that are not the major theoretical focus of this dissertation but nonetheless warrant attention.

Understanding the positive link between parental education and children's achievement

Although the positive relationship between parental education and children's achievement is strong and consistent, the mechanisms through which better-educated parents produce academically successful children remain elusive (Davis-Kean and Sexton 2005; Davis-Kean 2005; Hoff 2003). What is it about parental education that results in these positive outcomes for children? There are two types of explanations: causal and selective (Black, Devereux, and Salvanes 2003).

The causation explanation is that the process of attaining education fundamentally affects the way people behave, and ultimately, parent (Oreopoulos, Page, and Stevens 2003). As individuals move through college, which is a substantial time investment for those who are college graduates, they presumably learn a set of skills and ideas that help them navigate the workplace more successfully than those who do not attend college. Parents may learn a set of skills or acquire an ideology that makes them better able than less educated parents to coach their children toward academic success and positive decision-making (Chevalier 2004). In other words, education may expose parents to more progressive child-rearing theories and social pressure to conform to the parenting values of the educated community (Wright and

Wright 1976). Better-educated parents, perhaps because of their own high levels of educational attainment, may also place a higher value on education than parents with less education (Hofferth 2006b).

Similarly, education may have an indirect relationship with child outcomes in that education gives parents greater opportunities to earn high wages and provide children with the requisite material goods (e.g. purchasing books, computers, preschool, tutors, fees and equipment for extracurricular activities) necessary for academic success. People with more education command higher wages than those with less education, obtain more employment benefits, and enter more prestigious occupations (Haveman and Wolfe 1994). In addition to commanding higher wages, higher levels of educational attainment also open the door to jobs with more promising opportunities for advancement (Kane and Rouse 1995; Sewell, Hauser, and Wolf 1980). Completing more years of education also protects young adults from experiencing unemployment in adulthood (Caspi, Wright, Moffit, and Silva 1998). In short, attaining high levels of education increases parents' ability to provide their children with important material resources positively associated with their (children's) academic success.

Additionally, as Wright and Wright (1976) note: "The highly educated may also enjoy a range of presumably 'enlightening' social experiences that may affect the attributes which they value in their children: compared with less educated, they read more widely, travel more frequently, are more active in civic and social organizations and so on" (537). These "causal" assumptions are the basis of initiatives around the world to promote free education, like the World Bank's initiative to promote maternal

education in light of evidence showing more educated mothers in both First and Third World countries have healthier children (Black et al. 2003; Currie and Moretti 2003).

In contrast to the causal explanation, the selection argument holds that parents who are able to achieve high levels of education pass on this innate ability to succeed to their children, and hence there is nothing about the process of acquiring education that affects parenting per se. Parental education may just be a marker for an innate ability to achieve or other unobservable characteristics (both biologically based and non-biologically based), and this is what ultimately links parental educational education to positive child outcomes (Black et al. 2003; Oreopoulos et al. 2003). The idea is that education is merely a proxy for other characteristics/behaviors generally associated with better-educated individuals. For example, highly educated people tend to marry and have children later in life than those with less education. As older parents, they may therefore, but not necessarily, have more wisdom and maturity to bring to child-rearing. Additionally, educational attainment is positively associated with family stability. Children from families with highly educated parents are more likely to be married when they have children and therefore, their children are more likely to have two parents in the home (McLanahan and Sandefur 1994). It is well known that having two parents in the home is strongly and positively associated with an array of positive child outcomes, and hence the positive “effect” of parental education on children may actually be operating through family structure.

Educational attainment may also be associated with genetic endowment. Those who are naturally gifted intellectually may be the most likely to attend and succeed in higher education, though this is a complicated claim to evaluate given that

the United States is not a pure meritocracy nor is it possible to isolate those characteristics that are purely biological and those that are more environmentally-influenced. Still genetics and biology undoubtedly play a role in shaping human behavior including perhaps how someone acquires education, how they parent, and how a child reacts to parental instruction.

The “truth” behind the positive association between parents’ and children’s education is probably a combination of both causal and genetic selection, which would be incredibly complex, if not impossible, to completely disentangle (Hoff, Laursen, and Tardiff 2002). Most scholars acknowledge this and, limited by the complexity of human biology and behavior, choose to focus on identifying some of the causal or selective processes that might underlie the relationship between parental education and children’s developmental outcomes. Scholars who come from the causal perspective seek to identify *some* of the causal processes underlying the parent-child education link by identifying specific parental behaviors associated with parents’ educational attainment that might promote their children’s scholastic success. This is partly done because behavioral measures are more readily available than genetic markers. Further, behavioral differences might be more amenable to policy interventions than genetic differences.

Sociologists, economists, and developmental psychologists coming from this perspective have indicated a variety of parenting behaviors and circumstances that might explain the positive relationship between parental education and children’s achievement. At the core of many of the sociological and economic theories, is the idea that parents bestow a set of values and skills on their children that help them to

maintain their position in the social strata in adulthood. Therefore some sociologists who study the family analyze the variation in childrearing strategies, concentrating their attention on the time parents spend, the types of activities parents do with their children and how these time investments are correlated with child outcomes, like aggressive behavior. Other sociologists and scholars who study the educational system focus on parent's involvement with their children's schools and the particular scholastic activities that parents promote among their children. Still other social scientists examine how the economic circumstances in which children grow up shape their development. Finally, some geneticists, sociobiologists, and economists tend to focus on parsing out the ways in which education might be "heritable." They emphasize the importance of parents' passing on various genetic traits, like intelligence, to their children that predispose children to perform well in school.

Perhaps the most well-known sociological theory that focuses on how academic advantage is reproduced from one generation to the next is Bourdieu's work, particularly *La Reproduction* (1977). The role of education figures prominently in most of his theoretical works, as he claims the educational process entails a social conditioning that extends beyond purely academic matters. Individuals do not just acquire knowledge in the educational system, but rather are exposed to and acquire "cultural capital," or a general understanding of how to successfully navigate the educational system with ease. Essentially, it is "knowing how to play the game." Highly educated individuals not only acquire knowledge through their studies but they learn and understand how to interact with teachers and authority figures effectively, the "proper" way of conducting themselves in academic and professional

settings, and how to formulate and express their ideas and opinions. They also come to expect a high-status or highly paid job as well as a certain level and type of adult attention. It is these subtle understandings, behaviors and expectations that may at first blush seem “invisible,” but are critical in the process of social reproduction.

Children of highly educated parents have the benefit of learning this behavior from their parents early on and thus are groomed for academic success before they even enter the educational system. As such, children of less-educated parents are at a disadvantage because their parents do not have this cultural capital to pass on to their children. Children of highly educated parents are therefore advantaged in that they easily conform to the expectations of those in the educational system (e.g. teachers, administrators, coaches, etc.), whereas children of less-educated parents may have more difficulty acclimating to the culture of academia. In particular, Bourdieu and Passeron (1977) argue that the relative ease with which children of better-educated parents navigate their education is not innate. It is the result of much work on the part of the parents to teach their children to exhibit the proper manners, formulate and express ideas in a certain way, as well as hold expectations about their education and future academic success that can help them reproduce their parents' class position.

A related perspective is James Coleman’s (1988) pioneering work on the role of social capital in the family. In this framework, Coleman (1988) articulates how human capital may have implications for parenting, and ultimately, children’s outcomes. He focuses on three components of a family’s background: financial capital, human capital, and social capital. Financial capital represents the physical resources that can aid in children’s achievement such as books, computers, and a

quiet room in the family home for studying. A family's financial capital is generally proxied as family income and/or wealth. Human capital reflects the "cognitive environment" in which a child is raised and is typically measured by parents' educational attainment. Social capital is related to both human and financial capital, but is analytically distinct. To illustrate the role of social capital in children's family lives, Coleman (1988) gives the example of John Stuart Mills' father. His father taught him Latin and Greek at a very young age and then encouraged him to critically evaluate his (father's) manuscripts later in childhood. Coleman notes that Mills' father was no more highly educated than other men of the time and that the unique contribution to John Stuart Mills' development was the "time and effort spent by the father with the child on intellectual matters (S110)."

Though a parent's human capital strongly affects a child's intellectual development, its effects may be limited if parents are not a major part of children's lives or if parents use their human capital primarily at work rather than in the home. In other words, "if the human capital possessed by parents is not complemented by social capital embodied in family relations, it is irrelevant to the child's educational growth that the parent has a great deal, or a small amount, of human capital (S110)." Therefore, the concepts of human and social capital are closely intertwined. The ways in which a parent's human capital has implications for children's development is highly conditional on the level of parent's social capital, or "adult attention" to children (S112). Coleman (1988) is careful to note that social capital outside the family also has value to children, particularly the family's social location within the larger community structure of relationships. Indeed, this is the conceptualization of

social capital that is more popular in mainstream sociology circles, but the focus of this dissertation is on the production of social capital *within the family*.

While Coleman (1988) offered a general framework for understanding how parental education, parenting, and child development are linked, his work falls short of specifying the specific parenting behaviors that might differ by parental education. Nearly 50 years ago, however, Miller and Swanson (1958), observed:

At least since 1946, there has been evidence that mothers in different social classes do not rear their youngsters in the same way, and that techniques of child care peculiar to particular social classes come into use as soon as a baby is born. (120)

Their work emphasized how middle class parents were more likely to breastfeed their children, began bathroom training earlier, set a stricter schedule for feedings, and were less likely to use corporal punishment.

Recent ethnographic work by Annette Lareau (2003) contributed to this literature further by specifying how parents of 10-year old children translate some of their beliefs into practice. Her qualitative work on parenting describes not only the resources parents devote to their children, but also the cognitive environment parents cultivate for their children. This includes the way parents organize, plan and encourage or do not encourage their children to be involved in various structured activities as well as the family's use of language and reading. Middle class families, she argued, engaged in a parenting strategy called "concerted cultivation" where parents enroll their children to and from extra-curricular activities, lessons, and organized sports practices. Their schedule of organized activities and extensive use of verbal faculties are key aspects of the middle class childrearing strategy. Perhaps in light of parents' own successes interacting with and confronting authority figures,

they also encourage their children to successfully navigate interactions in bureaucratic institutions and enact change on their behalf. They teach children to negotiate with adults on equal footing and as a result, children develop a sense of entitlement—they learn to expect the adult world to cater to their needs.

In contrast, working class families place more emphasis on rule making and rule following. Lareau (2003) finds working class parents do not groom their children to interact with bureaucratic organizations as effectively as middle class parents do. In working class families, children do not “rule the roost,” instead, they are expected to obey their parents’ orders and yield to adult authority. Children in working class families are granted large amounts of unstructured leisure time where they build social and familial ties in the community. Lareau suggests that the parenting disparities she observes in working and middle class families explain how middle class children gain advantages in the adult world that help keep them in the middle class and/or rise to the upper class—though this was not explicitly tested in her study.

Parental investment: Which activities vary by maternal education?

What kinds of *specific* activities do better-educated parents do to shape their children's present and future well-being? Studies of parenting, and specifically parenting practices, cover a wide variety of topics including not only direct parent-child interactions, but also the ways in which parents organize children’s lives and create connections to the world outside the home (Hoff, Laursen, Tardiff 2002; Lareau 2002). In their comprehensive review of the relationship between parental

education and parenting, Hoff, Laursen, and Tardiff (2002) note that “there is little consensus on how best to conceptualize parenting practices (238).” My review of the vast, multi-disciplinary literature on parenting practices (an area of research that is distinct from parenting beliefs and parenting styles) suggests that there are a few core domains in which research tends to cluster, and moreover, where the most variation by parental education tends to be observed.

Perhaps the largest and most basic category includes parents’ direct interaction with children. This extends from overall time spent with children to a segregation of time into specific activities with children that are believed to enhance a child’s cognitive development (e.g. reading to children, teaching children) as well as rituals that help cultivate family bonding (e.g. eating dinner together, time with extended family). Literature in this area tends to be dominated by the work of family sociologists and developmental psychologists. Developmental psychologists in particular hone in on the verbal interaction of parents and children and the *nature* of the interaction between parents and children. Parent-child interactions are analyzed not only in the context of how much parents and children talk, but also how parents elicit conversations with children and the extent to which they offer warmth and affection in such interactions.

Parents rear their children not only through direct interactions, but also through the ways in which they encourage and manage their children’s involvement in activities outside the home. Assessing the extent to which parents enroll and encourage their children’s involvement in various organized and structured activities constitutes another domain of parenting. This is an area that primarily attracts the

interest of educational sociologists as well as developmental psychologists who specifically focus on children's participation in extracurricular activities and community programs.

Parental investment in children's organized and structured activities is related to another aspect of childrearing that happens both inside and outside the home—parental investment in children's schooling. The various behaviors that parents employ to promote their child's educational success is a major area of scholarly investigation. To some extent, this is the most expansive area of research because many activities, including reading and talking with children as well as involvement in extracurricular activities, can be (and often are) conceptualized as activities that promote children's success in educational endeavors. However, there is another cluster of studies that focus specifically on parents' involvement with teachers and school personnel, as well as other direct interventions related to the child's scholastic activities.

Parent-child interaction

Overall time with children

Most of the empirical studies on parents' time with children using high quality *parent* time diaries analyze mothers' and fathers' time separately because mothers are usually the primary care-givers for their children, whereas fathers generally focus on breadwinning (Townsend 2002). Several of these studies have found more highly educated mothers spent more time in direct child care activities than less educated mothers (Hill and Stafford 1985; Zick and Bryant 1996; Bianchi et al. 2004).

Recently, however, as social scientists and policy analysts pay more attention to father's involvement with their children, assessments of father's education and time with children have emerged. Findings from these studies are mixed and seem to be highly dependent on the age of children. Two studies reported that education was not associated with father's physical care of preschool-age children (Aldous, Mulligan, and Bjarnason 1998), whereas studies that examined the relationship between paternal education and time with school-age children found either no association (Barnett and Baruch 1987; Ishii-Kuntz and Coltrane 1992; Pleck 1981; Zick and Bryant 1996) or a slight positive one (Aldous et al. 1998; Marsiglio 1991; Hofferth and Anderson 2003; Yeung et al. 2001; Fisher, McCulloch, and Gershuny 1999).

In two-parent families, paternal time and maternal time are closely correlated: The more time mothers invest in child care, the more time fathers spent with their children (Aldous et al. 1998; Bianchi, Robinson, and Milkie 2006). From the child's perspective, children spent about 4.5 more hours per week with their fathers in families with college-educated mothers compared with families where mothers do not have a college degree (Sandberg and Hofferth 2001). Thus, children may get a "boost" of parental time by residing in a highly educated two-parent family.

It is important to keep in mind that time spent with family members varies significantly by children's age. For example, Larson et al.'s (1996) examination of school-aged children found that older children, aged 16-17, spent about 14 percent of their waking hours with their family compared to 33 percent for children aged 10-11.

Even though time with family decreases with age the amount of time talking with family members does not decline (Larson et al. 1996).

Knowing the whereabouts and activities of children is an important way in which parents invest in children, even when parents are not directly interacting with or supervising their children. Parents may know a child's whereabouts by spending time with them, or they may do so by monitoring the child's activities (Crouter, MacDermid, McHale, and Perry-Jenkins 1990). The former is obviously much easier to assess directly, and therefore fewer studies examine parental monitoring by parental education when compared with studies on direct parent-child interactions (Hoff, Laresen, Tardiff 2002).

Lareau (2003) describes how middle class parents are heavily involved in their children's lives, closely monitoring their children's activities, while working class parents are generally less attentive to their children's time expenditures. Working class parents encourage their children to have more autonomy in unstructured leisure pursuits and stress the value of extended kin ties beyond the nuclear family bonds that middle class families emphasize. Hence, Lareau's (2003) work suggests parent-child time may be lower in working class and poor families, but time with extended family may be greater.

Research in developmental psychology suggests that parental monitoring is an important intrafamilial process linked to child development, particularly among school-age children (see Maccoby and Martin (1983) for a comprehensive review). Specifically, higher levels of parental monitoring are associated with better school functioning (Brown et al. 1993; Dornbusch, Ritter, Leiderman, Roberts & Fraleigh

1987; Jacobson and Crockett 2000), particularly among boys (Crouter, MacDermid, McHale, and Perry-Jenkins 1990). Boys, perhaps because of their relative biological immaturity and/or differential socialization, may require more structure and guidance from adults to achieve the standard set by girls their age (Crouter, MacDermid, McHale, and Perry-Jenkins 1990).

Language use

Though many scholars are interested in parents' overall time spent with children, most studies focus on parents' time spent in specific activities with children, as some activities are more closely linked to developmental outcomes than others. The range of parental childrearing activities that stimulate children's development and academic performance extend far beyond parents' basic caretaking activities. In other words, it is not simply how much time parents spend time with children, but what they do together.

Paramount among such parent-child interactions is parental talk—providing children with labels for objects, responding contingently to children's speech, and engaging children in conversation. This is a key component of Lareau's (2003) conceptualization of middle class parents' "concerted cultivation." Middle class parents spend a great deal of time and effort talking with their children, asking their children questions, and directly interacting with their children. Working class parents, on the other hand, are not as focused on engaging in frequent conversations with their children and are generally less attentive to their children's verbal faculties.

Support for Lareau's (2003) argument can be found in the work of developmental psychologists and educational sociologists who find parental (particularly maternal) education influences the way parents interact with and teach

their children. First, well-educated parents are more likely to cultivate a stimulating home environment with more reading materials and greater encouragement of skill-building and cultural activities than less-educated parents (White 1982; Mayer 1997; Bradley and Corwyn 2002; DeGarmo, Forgatch, and Martinez 1999). Well-educated parents are also more likely to read to their children (Bianchi and Robinson 1997; Hofferth 2006b; Sandberg and Hofferth 2001) and engage their children in conversations, conversations which tend to be more complex and elicit their children's feedback (Hoff-Ginsberg 1991; Shonkoff and Phillips 2000) than less-educated parents. Well-educated mothers are more likely to use inquiry (e.g. asking children questions) and praise as teaching strategies compared with less-educated mothers who use more directives (e.g. commanding the child to pursue a given course of action), modeling (e.g. the child observes the mother rather than participating in the learning activity directly) and negative physical control (e.g. physical punishment) (Laosa 1980).

Reading, television viewing, and playing

A handful of time diary studies of children's time use have shown children with more highly educated parents spend more time in reading activities and less time watching television than children with parents who are not highly educated (Bianchi and Robinson 1997; Hofferth and Sandberg 2001a; Timmer, Eccles, Jacquelynne, and O'Brien 1985). These studies generally focus on children's time in these activities and do not assess whether a parent is engaged in these activities with the children. In fact, much of the research examining parents' time with children in specific activities like reading is ascertained through "stylized" estimates where parents are directly asked how much time they spend reading to their children rather than from parent

time diaries. These estimates show that maternal education is positively correlated with reading to children (Dye and Johnson 2006; Federal Interagency Forum on Child and Family Statistics 1997; Hofferth 2006b).

Recent work by Hofferth (2006b) uses children's time diaries from the 1997 Child Development Supplement to examine children's time spent reading with parents, pointing out that estimates obtained from stylized questionnaires are misleading because of the social and cultural desirability biases connected to questions about reading. This is particularly problematic in studies examining the relationship between maternal education and parent's time spent reading to children because, as Hofferth (2006b) notes, even though most parents are aware that they should read to children, "more educated parents are probably the most aware of the benefits of and social pressures to read to children (302)." She finds that better-educated parents are more likely to exaggerate the extent to which they read to children when estimates from their self-reports are compared with estimates obtained from time diaries. It is important to reiterate that both types of estimates consistently show better-educated parents read more often to their children than less-educated parents. However, the difference is not as large when the focus is on time diary estimates, which tend to be more valid than stylized questions (Robinson 1985).

Another area of time use that is subject to social desirability bias and also varies by maternal education is watching television. Children's television viewing is a nebulous topic that on the one hand elicits high levels of concern from social observers, but on the other hand is a pervasive activity in American homes (Brown et al. 1990). As Lareau (2003) noted in her study, middle class parents tended to have

more negative opinions about television viewing than working class and poor parents, but television viewing was pervasive across all family types she observed. Time diary analyses of children under age 13 indicate that children of better-educated parents watch less television than children of parents with less education, but both groups of children spend large amounts of time in front of the TV (about 12 hours a week on average) and nearly all children (90%) spend at least some of their time watching television (Bianchi and Robinson 1997; Hofferth and Sandberg 2001a).

Livingstone (2007) points out that there is a contradiction in the two popular images of television viewing in the family context. The first is the romanticized image of television viewing is a family activity where all members of the family convene happily in front of the television to relax together and discuss their favorite program (Spigel 1992). Working class parents in particular may see the television as a way to keep their children at home and out of neighborhood trouble. Indeed, Larson, Kubey, and Colletti (1989) showed a positive correlation between television viewing and time spent with family—although there was a stronger positive association between children’s time spent reading and time with family. The quality of the parent-child interactions associated with television viewing, however, is questionable.

As Himmelweit, Oppenheim, and Vince (1958:25) noted four decades ago:

Television does keep members of the family at home more. But it is doubtful whether it binds the family together more than in this physical sense, except while the children are young. As they grow older, their viewing becomes more silent and personal. Also, as children grow into adolescence, the increased time spent with the family may set up strains, since it runs counter to their need to make contacts outside (25).

The second, more pervasive image of television is that of “a solitary child alone in front of the set, square-eyed and trance-like, while real life goes on elsewhere

(Livingstone 2007:1).” Increasingly, as more and more diverse channels make their way into television programming, and the number of televisions in the average American home remains high (3.4), family television viewing as a shared family experience seems to be more of an idealistic notion than a reality (Brown et al. 1990; Livingstone 2007). Moreover, the developmental effects of television remain unclear. Research does not seem to indicate there is a strong link between television viewing and achievement, but large quantities of time spent watching television arguably takes time away from other activities that might be positively linked to cognitive development (Hofferth and Sandberg 2001a; Larson and Verma 1999).

Television viewing and reading are the parent-child activities most consistently associated with variation by maternal education. Lareau’s (2003) research suggests, however, that better-educated parents may also be more willing to engage in play activities with children as compared with less-educated parents who may be more apt to encourage children to play on their own or with other neighborhood children. Though there is no clear empirical evidence that maternal education is linked to the time mothers spend in play activities with children, better-educated *fathers* spend more time playing with, reading to, or going on outings with young children when compared with their less educated counterparts (Cooney, Pedersen, Indelicato, and Palkovitz 1993). Fathers with higher levels of education also stimulate, respond to, and provide more care to their 9-month-old infants than less educated fathers (Volling and Belsky 1991).

Eating meals together

As one might expect, the bulk of the literature on family meals focuses on the dietary and health aspects of such parent-child interactions. Yet, there is a smaller

body of literature that focuses on eating meals together as a time to build family rituals that might be important for child development (Fulkerson, Story, Mellin, Leffert, Neumark-Sztainer, French 2006). For example, Fulkerson et al. (2006) suggest eating meals with family members can be viewed as a “time for togetherness and socialization within the family” (338). Hofferth and Sandberg (2001a) argue that children’s time spent in meals at home reflects “a more stable, organized family life,” noting also that research directly assessing children’s time spent in family meals is limited (297). Their study (2001a), however, revealed little association between parental education and children’s time spent eating meals (note that the measure did not examine children’s meals with parents), so it is unclear the extent to which the harried households with more highly educated parents might cultivate this activity more or less often than the more extended-family focused households with less educated parents.

Further, a few studies examining children and adolescents’ frequency of family meals suggest that these activities may be associated with outcomes for children beyond their physical health. Eisenberg et al. (2004), analyzing school-based survey questionnaires, found inverse relationships between the frequency of family meals and grade point averages. Additionally, Hofferth and Sandberg’s (2001a) assessment of the time that children under age 13 spent eating meals using children’s time diaries in the PSID-CDS indicated that eating meals was positively and significantly associated with letter-word scores in 1997. This analysis, however, did not directly assess the time children spent eating meals with their parents.

Parental warmth and affection

A final aspect of parent-child interaction that is of interest to scholars examining the relation between parental education and parental investment is the context of parent-child interactions. The extent to which parents show their children warmth and share their affection for their children are key components of providing socioemotional support for children, which developmental psychologists emphasize as important for "helping children cope with basic anxieties, fears, and feelings of emotional insecurity" (Bradley and Corwyn 2004:11). Parents provision of socioemotional support plays an important role in children's development by minimizing stress—encouraging their children to see how situations are manageable and continuing to validate their children's worth.

Though these parental efforts may seem difficult to quantify, a commonly used series of questions asking how often parents display various types of affection and socioemotional support to children are often used to assess parental warmth and affection. A recent Child Trends (2002) report analyzing such measures indicated parents report very high levels of showing physical affection to children and a majority of parents reported telling their children they were loved on a daily basis, though these outward displays of warmth decline moderately as children age (Bradley, Corwyn, Burchinal, McAdoo, and Garcia Coll 2001). Few studies have investigated how levels of socioemotional support vary by parental education and family structure, though the report from Child Trends suggests mothers who have very low levels of education (i.e. those who do not have a high school degree) may be slightly less affectionate than other mothers. No discernable variation was observed

by fathers' educational attainment, though fathers generally tend to show less warmth and affection to children than mothers.

Maternal education, parent-child interactions and child achievement

A handful of studies have explored the explanatory power of these various parenting practices and time investments for understanding the socioeconomic status-achievement link. For example, the greater vocabulary breadth and sentence complexity of mothers' speech patterns with their children fully accounted for the positive relationship between parental education (and occupational prestige) and early vocabulary development among a sample of two-year-olds (Hoff 2003). Children who experience longer and more complex verbal interactions with their parents may therefore be able to build their vocabularies at faster rates than other children. Using cross-sectional data, Davis-Kean (2005) found that the positive association between reading and parental education helped to explain children's academic achievement, while playing with children and parental warmth were not clear mediating variables. These findings suggest parents' time in an array of stimulating activities beyond basic childcare are key to promoting children's cognitive development. Growing up in a cognitively stimulating environment may have both indirect and direct associations with achievement as the greater learning opportunities may serve as a base for continued learning and may surround children with peers and adults who are supportive of learning and committed to maximizing the children's cognitive development (Saegert and Winkel G. H. 1990).

Parental investment in children's scholastic activities

In addition to time spent with children, parents' investments in their children's schooling is another bundle of parental investments that are positively associated with both parental education as well as higher levels of achievement (Astone and McLanahan 1991). There are several ways in which parents can be and are involved with their children's schooling including attending school activities, participating in Parent-Teacher Associations, and meeting with teachers and administrators. Studies typically focus on one of these activities as a measure of parental investment in schooling (Grolnick and Slowiaczek 1994), and some forms of investment are analyzed more extensively than others.

Social scientists examining parental investment at all levels of schooling (elementary, middle, and high) have consistently found better educated parents tend to be more actively involved in their children's school than less educated parents (Lareau 2003; Fehrmann, Keith, and Reimers 1987; Lareau 1987). Specifically, better educated parents are more likely to have contact with teachers, be involved with school (e.g. attend events) and be involved with children's scholastic activities at home (e.g. help with homework and reading assignments) (Kohl, Lengua, and McMahon 2000).

Children's structured and organized activities

In addition to investing in children's schooling, middle class parents are also more likely than working class and poor parents to enroll their school-aged children in extracurricular activities, such as team sports, music lessons, and community organizations (Lareau 1987; Lareau 2003). Data from the Survey of Income and Program Participation (SIPP) child well-being topical module collected in 2003 indicate a majority of all children participate in at least one club, sport, or lesson. Gaps by parental education in activity participation are pervasive across the three types of extracurricular activities, and persist for both children in middle childhood (those aged 6-11) as well as adolescents (those aged 12-17) (Dye and Johnson 2006).

Children's time diaries across the 1981-1997 period suggested that when the focus was on sports activities in particular, maternal education was positively associated with children's sports participation when children were under age 13 (Hofferth and Sandberg 2001b). More recent time diary evidence, from the 2002-2003 PSID-CDS, suggests that maternal education is positively related to the number of structured activities children (aged 9 to 12) do (Hofferth, Kinney, and Dunn 2006). Children's time diary evidence also suggests that although involvement in these activities increases as children aged through middle childhood, the amount of structured time still only accounted for 22% of their discretionary time (Hofferth and Sandberg 2001a), and participation may not be as excessive as other studies might suggest (Hofferth, Kinney, and Dunn 2006).

Studies also indicate that participation in extracurricular activities promotes educational attainment, including reduced propensities to dropout of high school, high

achievement, and high rates of postsecondary school attainment. Although most analyses of extracurricular activities are conducted with adolescents, studies suggest the positive associations between participation in organized activities and academic outcomes are similar for younger children and adolescents (see Mahoney et al., 2005, for a review). Further, involvement in extracurricular activities may have benefits that extend beyond childhood and adolescence—more dated studies document positive relationships between extracurricular involvement and adult income and occupation, even after controlling for other socioeconomic indicators and ability (Landers and Landers 1978; Otto 1976; Otto 1975).

Mahoney, Larson, Eccles, and Lord (2005) argue that participation in extracurricular activities has several features that promote positive development among children: physical and psychological safety; appropriate structure; supportive relationships; opportunities for belonging, positive social norms; support for efficacy and mattering; opportunity for skill building; and integration of family, school, and community efforts. Involvement in organized activities may influence scholastic outcomes by promoting school attendance, encouraging high aspirations for the future, reducing delinquent and criminal behavior, keeping children from developing drug and alcohol problems, and staving off antisocial behavior. Lareau (2003) argues that children's involvement in extracurricular activities and parent's active encouragement of those activities, teaches children how to interact with authority figures and helps them to develop the kind of social skills necessary for succeeding in white-collar occupations. Their participation in these activities prepares them for entering the work world and effectively navigating bureaucracies. As Adler and

Adler (1994) note, children's organized activities during the after school time period tend to "encourage professionalization and specialization, opposing children's unorganized tendencies toward recreation and generalism" (324). Children's playtime has therefore become an opportunity for adults to socialize children with adult work values. Further, because extracurricular activities may promote children's academic socialization and development, those who do not participate may be at a disadvantage in other scholastic venues (Adler and Adler 1994).

Family income/resources

Income helps give children basic necessities like food, clothing, and housing. In addition, financial assets allow families to move into neighborhoods with more affluent school systems, to purchase expensive technologies like personal computers that may assist in children's learning, to save money for college, and to pay for tutoring, books, and extracurricular activities that may accelerate and enhance children's learning opportunities (Bradley and Corwyn 2004; Haveman and Wolfe 1994). Income may influence children's development not only by ensuring their physical well-being and safety, but also by allowing families to equip their homes with the tools to construct a cognitively stimulating home environment.

Studies exploring family income and the home environment like Smith et al. (1997) find that home characteristics (e.g. a rich learning environment and warmth of mother-child interactions) can explain up to half of the relationship between children's economic conditions and cognitive development. In addition to the quality of the home environment, low-income families face economic pressures that may lead

to family conflict over finances (Conger, Conger, and Elder 1997; Conger et al. 1993; Conger et al. 1992). Economic stress may have indirect and direct effects on adolescent achievement, particularly boys. Children may feel the stress and it may, in turn, negatively affect their achievement. Or, the stress may induce harsher parenting, causing children to perform worse in school. In short, there are several pathways—both direct and indirect—through which family income may influence children’s cognitive development.

Recent review articles, books and edited volumes have documented the strong link between family economic conditions and children’s developmental outcomes in adolescence/early adulthood (Haveman and Wolfe 1995; McLoyd 1998; Korenman, Miller, and Sjaastad 1995; Mayer 1997; Duncan and Brooks-Gunn 1999; Duncan, Yeung, Brooks-Gunn, and Smith 1998). These studies find, almost without exception, that family income variables are positively associated with child achievement-related outcomes like educational attainment and early-adult labor market success (Haveman and Wolfe 1995; Duncan et al. 1998). Children in families with incomes below the poverty line score lower on standardized tests compared to children living in families with incomes 1.5 to 2.0 times the poverty line (Smith, Brooks-Gunn, and Klebanov 1997). The associations are consistent across a variety of measures of cognitive ability (including full-scale IQ measures and reading achievement tests).

Even though the positive relationship between family income and children’s achievement is consistent across studies, the size of the effects vary a great deal by child’s age. Poverty in early and middle childhood tends to have much larger

associations with ability and achievement than economic conditions in adolescence. Indeed, the large effects of economic conditions on achievement are found almost universally in studies where income is measured in childhood (ages 0 to 10), particularly early childhood (ages 0 to 5), and rarely when income is measured during adolescence (ages 11 to 15) (Duncan et al. 1998).

Although the associations between income and achievement are well-documented, Susan Mayer (Mayer 1997), in her book *What Money Can't Buy*, makes the provocative argument that researchers have historically overestimated the “true effects” of income on children’s life chances. She argues that although money is important because it can buy food and medical care, once children have their basic material needs met (often through the help of government and social services in poor families), the “extra” things that children need to succeed do not require much extra money (e.g. books and educational family outings). A financially stable home may facilitate warmer parental practices, but some of the things parents do to create an intellectually stimulating environment for their children may not require substantial amounts money.

Family structure

Family structure is also a variable of interest in this analysis because of its prevalence and because it is so closely associated with both parental education and other independent variables (e.g. race, income). About a quarter of children live in single-parent families, and about half will spend some years of their childhood living in a single-parent family (Fields 1996; Bumpass and Raley 1995; McLanahan and

Sandefur 1994). However, we know that family structure is not “randomly assigned” to children—some children are more “at risk” of living in a single-parent home than others. Children from families with highly educated parents are far more likely to have two parents in the home (McLanahan and Sandefur 1994) and Black children are much more likely to live with a single parent (54 percent) compared with White (19 percent) and Hispanic (28 percent) children (Fields 1996). A wealth of studies in the social demographic literature have documented that children in single-parent families fare worse on a number of social indicators than those in two-parent families regardless of the parents' race or educational background, parents' marital status at the birth of the child, and/or parental remarriage (McLanahan and Sandefur 1994). With respect to children's educational outcomes in particular, it is well established that children who grow up in two-parent families are likely to complete high school as children who grow up in single-parent families (Astone and McLanahan 1991; Blau and Duncan 1967; Mare 1980; McLanahan and Sandefur 1994). Further, mothers in two-parent families have higher expectations for their children's educational achievement than mothers in single-parent families (Entwisle and Alexander 1996).

It is not clear, however, how family structure is associated with parenting strategies. Lareau's (2003) analysis yielded no firm conclusions about family structure given that all the middle class families in her study were two-parent families, all the poor families involved nonresidential fathers and working families were a mix of two-parent and single-parent families. More specifically, it was not clear if concerted cultivation was a strategy exclusive to two-parent middle class

families or if single-parent middle class families engaged in it too. Further, her study raised the question of whether working class, two-parent families might engage in some form of concerted cultivation, given that her study involved few such parents.

Maternal age/maturity

Recent research on the link between parental age and parental investment in children suggests that parental age may be a more powerful predictor of resource allocation to children than previously thought. Even though parental age is a standard control variable in most analyses of parental investment, Powell, Steelman, and Carini (2006) argue that parental age may be as strongly linked to parental investment as family structure, race and gender. Generally speaking, most scholarly attention on the topic of parental (and particularly maternal) age has focused on whether or not parents (and particularly mothers) are adolescents when they have children. Evidence from studies of adolescent mothers suggests women who have children at very young ages do not create the same intellectually stimulating environment for their children as older mothers (Garcia-Coll, Hoffman, and Oh 1987; Luster and Rhodes 1989). However, a major issue with these findings is that age is confounded with other variables, which are also generally related to the quality of care mothers provide children—educational attainment, marital status, socioeconomic status, and number of children. More recent work on parental age suggests the simple dichotomy of whether a parent is an adolescent or not blurs the important relationship between parental age and parental investment among non-adolescent parents (Powell, Steelman, Carini 2006). Older parents may generally be more mature, have

accumulated more income, and be more likely to be in stable unions (McLanahan 2004). Studies examining the relationship between parental age and investment in children with careful controls for income, educational attainment and family structure suggest that as parents age they contribute more social and financial resources to their children (Mare and Tzeng 1989, Powell, Steelman, Carr 2006). As a result, parental age is a factor influencing parental investment that should be considered as seriously as other variables like gender, race and family structure that have historically received more empirical attention from social scientists.

Other factors associated with parental investment

Child's age

The vast majority of studies that have looked at variation in parental investment by parental education focus on point in time estimates of children in a specific age group, or children in a specific stage of development. For example, Lareau's (2003) analysis focused squarely on children in middle childhood (ages 9 through 10). As a result, we do not have a firm understanding of how the parental investment strategies of highly educated and less-educated families vary as children age through adolescence, yet we know that as children move from childhood to adolescence they go through a myriad of developmental changes.

Because children have very different needs when they are young and more dependent compared to when they are older and more self-sufficient, parents are involved with their children in different ways depending on the age of child (Waldfogel 2006). For example, parents with younger children spend more time

reading and playing with their children than when they have older children (Davis-Kean and Sexton 2005). Older children can presumably read on their own and may be more likely to seek interaction with peers as opposed to parents.

Developmental psychologists suggest that around age 6, children begin to demonstrate skills (e.g. problem-solving) and behavior (e.g. forming social relationships) that differ dramatically from their early childhood (Kowaleski-Jones and Duncan 1999). Specifically, children between the ages of 5 to 7 develop an ability to comprehend and manage abstract ideas and objects. The period between 6 to 9 is marked by the development of more complex reasoning skills, and by ages 10 to 12, children demonstrate the ability to reason by testing alternative hypotheses to physical and social problems (Collins 1984). In short, children learn the basic skills to help them navigate adult life during this period of middle childhood (Erikson 1963).

The bulk of studies on parents and children tend to focus on children under age 13, perhaps because adolescents are more self-sufficient and are less available to spend time with parents. Middle adolescence in particular is a time when parental controls loosen and, perhaps more importantly, access to automobiles opens up opportunities for mobility. In most families, junior high-age adolescents are not allowed to go out on their own at night, but by high school parents tend to give their children more freedom. Parents report 14 to be the age at which it is acceptable for adolescents to begin going to boy-girl parties at night and 16 to be the appropriate age for the start of dating (Feldman and Quatman 1988). Further, the amount of time spent away from home increases as children enter high school (Larson et al. 1996).

In sum, by the time children are aged 13 and over, they are generally more self-sufficient than younger children, are granted more autonomy over their time by their parents, and spend large amounts of time socializing with their peers (Larson and Richards 1994).

Adolescence is a period when children do not require as much direct care from their parents as younger children, but nevertheless still require parental care, supervision, and intervention. Parent-child interactions at this age may be somewhat less frequent than younger children given the busy schedules of adolescents, but such interactions may still be critical to their well-being and development. As the saying goes, “Small children, small problems. Big children, big problems.”

Child's sex

Sex differences in scholastic achievement are well known. Girls generally score higher on reading, while boys score higher on math. Although the sex gap in achievement is not dramatic, boys seem to have considerably more variation in their scores as they age through middle childhood, while girls score more consistently over time. At the same time, girls tend to be more vulnerable to “shocks” in their expected achievement trajectories, meaning when they perform poorly, they have a difficult time getting back on track (Kowaleski-Jones and Duncan 1999) (p. 941).

The gender differences in achievement may be linked to an emergent body of literature indicating that parents may make differential investments in their children depending on whether they have sons or daughters (see Lundberg, 2005, or Raley and

Bianchi, 2005, for a review). Most research on parents' overall time with children indicates there are few sex of child differences in mothers' investments in daughters or sons (Crouter, McHale, and Bartko 1993), though fathers may be slightly more likely to engage in play and one-on-one activities with older sons (Aldous et al. 1998; Brody and Steelman 1985; Marsiglio 1991; Siegal 1987; Yeung et al. 2001). Additionally, Lytton and Romney's (1991) meta-analysis of 172 studies indicated parents engaged in few sex-differentiated parenting behaviors and interactions, though much of the research was focused on very young children, despite the expectation that sex differentiated parenting might emerge more strongly as children aged, particularly in adolescence. A later meta-analysis by Leaper, Anderson, and Sanders (1998) focused primarily on studies of language, however, found greater evidence of differential treatment of sons and daughters. Most notably, mothers tended to be more verbal and use more supportive speech with girls than boys, which could have implications for their cognitive development and subsequent achievement. Leaper and Smith (1998) argue that this may be due to biologically based maturational differences whereby sons elicit less verbal interaction than daughters. Parents' sex-differentiated responses may then reinforce and accentuate those sex differences.

Race

Racial differences in scholastic achievement receive a great deal of attention in the stratification and sociology of education literature, particularly since the 1966 publication of *Equality of Educational Opportunity* by James Coleman and co-

authors. Perhaps most notable is the persistent Black-White gap in educational outcomes: Black children are less likely to complete high school, more likely to repeat a grade and generally score lower on cognitive tests than White children (Brooks-Gunn and Klebanov 1996; Haveman, Wolfe, and Spaulding 1991; Mare 1980), and a substantial portion of these differentials have been explained by family and school socioeconomic characteristics.

The high level of scholastic achievement, particularly math achievement, attained by Asian-American students relative to “other” ethnic minority students (and even ethnic majority students in some areas), however, has not been adequately explained by such measures (Schneider, Hieshima, Lee, and Plank 1994). Though this study does not have an adequate representation of Asian-Americans to assess how they differ from White children, the findings for Asian-Americans suggest that the parental values and behaviors that are associated with academic success in White students (e.g. parental discussions about school performance), may not promote the same kind of academic success among children of other ethnicities. In other words, the parental investments associated with academic success may vary systematically between White children and children of other ethnicities (Fejgin 1995).

Birth weight

A longstanding link between birth weight and cognitive development has been documented in biomedical research (Shenkin, Starr, Pattie, Rush, Whalley, Deary 2001; Richards, Hardy, Kuh, Wadsworth 2001; Sorensen, Sabroe, Olsen, Rothman, Gillman, Fischer 1997; Matte, Bresnahan, Begg, Susser 2001). This positive

association persists across the whole spectrum of birth weight, rather than being confined to an extreme group and is not explained by confounding social factors, including parental education. Even studies analyzing longitudinal data with careful controls for the child's socioeconomic background and environment show a persistent and independent link between birth weight and child outcomes, though the association between socioeconomic factors and child outcomes is larger (Jefferis, Power and Hertzman 2002).

Number of children in the home

The negative relationship between number of siblings and academic achievement is longstanding in the literature (Blake 1989; Blake 1981; Downey 2001; Downey 1995; Steelman and Powell 1989), and has been documented in a wide array of datasets both in the U.S. and in Western Europe (Steelman, Powell, Werum, and Carter 2002). In addition, the relationship is consistently strong. For example, in Blake's (1989) analysis of factors associated with years of education completed, the associations for sibship size surpassed other familial variables including paternal socioeconomic index and family structure (however, it was not greater than the association with parental education). Steelman and Powell (1989) reported similar findings regarding the relative influence of sibship size on the likelihood of high school graduation and college attendance. Even the landmark studies examining the relationship between paternal occupational status and educational attainment found that the overall association of sibling size on educational attainment was larger than that of paternal occupational status (Blau and Duncan 1967; Featherman and Hauser

1978). Moreover, the relationship between size of sibship and academic advancement is persistent across various measures of educational outcomes including standardized exams, grades in schools, and educational attainment (Steelman et al. 2002).

Researchers explain the negative relationship between number of siblings and educational outcomes with the resource dilution hypothesis. The theory assumes that families devote valuable (and limited) resources to children, and each additional child dilutes resource allocation. This has a negative effect on the child's educational success. The few studies that have explicitly tested the ways in which children in larger families face "diluted" (or fewer per child) resources found children with more siblings are less likely to participate in activities such as dance lessons, less likely to travel, read less often, and watch larger amounts of television (Blake 1989; Mercy and Steelman 1982). Similarly, parents' time with children, investments in educational materials (e.g., books, newspapers, a study place), involvement with the schools, and financial assistance for college attendance also are negatively linked to the size of sibling group (Blake 1989; Downey 1995; Steelman and Powell 1989; Teachman 1987). According to Steelman, Powell, Werum and Carr (2002) "the effect of sibship size on parental contributions is stronger than the effect of youth's previous academic record, maternal education, paternal education, and sex. Indeed, the only variable that consistently has a stronger effect is family income/wealth" (252).

Maternal employment

Maternal employment is arguably one of the most rigorously researched domains of the child development and gender, work, family areas of study. Probably the most common research question guiding this vast area of research is the extent to which maternal employment has negative consequences for children (particularly young children). Overall, this vast area of literature has generated largely inconclusive results—no clear consensus of universal harm or benefit for children from maternal employment has emerged (Brooks-Gunn, Han, and Waldfogel 2002). Though the evidence is by no means conclusive, *if* children suffer harm from their mothers' employment, it seems to be when mothers work long hours when children are very young and negative effects are more often found for sons than daughters. Similarly, if there is any benefit to maternal employment it seems to be concentrated among low-income and single-mother families, which increases the material well-being of the family (Desai, Chase-Lansdale, and Michael 1989), though children with mothers who have high occupational complexity may also receive some positive benefits (e.g. high verbal fluency) (Parcel and Menaghan 1990).

Perhaps part of the reason scholars have had difficulty documenting negative effects on children of maternal employment is that employed mothers strive to make sure their children get what they need both in terms of time and money (Bianchi 2000). Time with children may be privileged over other activities in the busy lives of mothers, even employed mothers. Though employed mothers spend less time with their children than nonemployed mothers, the difference is small relative to the gap in time devoted to paid work because mothers spend less time in other pursuits (e.g.

sleep, leisure, and housework) and nonemployed mothers do not spend large amounts of time in direct childcare pursuits (Bianchi 2000; Bianchi, Wight, and Raley 2005; Gauthier, Smeeding, and Furstenberg 2004; Nock and Kingston 1988). Particularly when children are young, the ratio of employed mothers' to nonemployed mothers' time with children is high (Bianchi et al. 2005; Zick and Bryant 1996). Sandberg and Hofferth (2001) estimated that children 12 and under spent 86% as much time with an employed as a non-employed mother (27 vs. 31 hours per week) in 1997. Maternal employment is coded as a dichotomous variable in this analysis: about 69% of young children had an employed mother in 1997, 75% of children aged 6-12 had an employed mother in 1997, and 83% of children aged 13 to 17 in 2002 had an employed mother.

Given that paternal employment has generally been normative behavior for families across most of the century, studies on paternal employment are far less extensive than those on maternal employment. In addition, research on paternal employment tends to focus on the opposite question: to what extent is paternal *underemployment* detrimental to family life? For example, Parcel and Menaghan (1994) find that young children tend to have more behavior problems when their fathers work less than fulltime than when they work fulltime hours.

Summary

In sum, literature over the past several decades has documented and continues to document a strong positive link between maternal education and children's academic success. The ways in which better-educated mothers seem to help their

children gain academic advantages relative to less-educated mothers and their children may be both selective and causal. On the one hand, there may be something about the experience of higher education and acquiring “cultural capital” that has profound implications for the way in which better-educated mothers parent. On the other, education may simply be a “marker” for an innate ability to succeed or other characteristics indirectly associated with attaining high levels of education: having a degree/professional skills that enable parents to command high-status, high-paying jobs that result in material well-being for their families, delaying marriage and children to the extent that when better-educated women have children they are more mature both in their ability to parent and enter more stable unions.

Previous literature suggests the areas where the most dramatic variation in parental investment by maternal education should be observed is in children’s time spent reading with parents, talking with parents, watching television with parents, participation in structured activities, time spent with extended family and visiting, as well as parents’ investment in children’s schooling. In particular, reading, participating in structured activities and parental investment in children’s schooling should be positively associated with parental education while time spent watching television and visiting with relatives should be negatively associated with parental education.

Parental warmth and affection for children may also vary as a function of parental education, given that research suggests more highly educated parents are more verbal and may therefore express their love and affection more often. Still, these differences may be more difficult to ascertain in empirical research than more

objective parental inputs. Further, parental warmth and affection should not vary by parental education as dramatically as other types of investment, however, given that all parents presumably have high levels of love and affection for their children.

Several of the parent-child interactions, which are the focus of this dissertation, are emphasized by developmental psychologists as being important for the development of young children's motor and cognitive skills. Most notably, reading with children, talking with children, and children's participation in structured activities are thought to have implications for children's development. The associations between television and children's abilities, in contrast, are ambiguous. Media use is of great interest to scholars who study children, however, because it consumes so much of children's time and, as such, may be acting as a substitute for activities more important for children's cognitive development. Consistent with Coleman's (1988) theory about how parents' production of social capital, assessed by parents' time with children in this study, is the mechanism through which parental education has positive implications for children's outcomes, I expect these investment activities to play a strong role in mediating the positive relationship between maternal education and children's academic achievement. I also expect factors like family resources, family structure, maternal age, and maternal ability to play a role in explaining why better-educated mothers have high-achieving children. Keeping in mind that I cannot lay claim to whether these parental behaviors/resources actually "cause" the outcomes in children, the goal of this analysis is to provide evidence that supports various perspectives, not prove them conclusively. In the next chapter, I

describe the data and methods employed in this dissertation that help to provide evidence to support these claims.

Chapter 3: Study Design: Data, Measures, and Analysis Plan

Data

The purpose of this dissertation is to expand what we know about variations in parental investment by parental education as well as how parental investment is associated with child outcomes. The data that allow this investigation come from the 1997 and 2002 Panel Study of Income Dynamics, Child Development Supplement (PSID-CDS), a representative sample of 2,394 child households containing 3,563 children. The objective of the PSID-CDS was to collect comprehensive and nationally representative information about children and their families that would aid researchers examining the social and economic differences that are associated with child development. With this goal, the PSID-CDS collected (1) the cognitive, behavioral, and health assessments of the target child obtained from the mother, a second parent or parent-figure, teacher or child care provider and the child; (2) child time diaries; (3) teacher-reported time use in school programs; (4) survey measures of other home, school, and neighborhood resources devoted to the child.

Data were originally collected on up to two randomly selected 0- to 12-year-old children of PSID respondents, both from the primary caregivers and from the children themselves. The first wave of the study was conducted between March 1997 and December 1997 with a break in June through August, so only the school year is covered. The overall response rate for 1997 is estimated at 88 percent of those in the PSID. Poststratification weights based on the 1997 Current Population Survey were used to make the data nationally representative.

In 2002, the second wave of data collection began, where 2,006 families were successfully re-interviewed. A total of 2,907 child interviews took place. The children were aged 5-18. Two factors were responsible for the reduction in the sample. First, 292 children were reclassified from the 1997 sample and deemed ineligible for inclusion in the 2002 sample. Eligibility criteria for the 2002-2003 sample was based on (a) the child having “sample” status (i.e. respondents who belong to the original 1968 family for the core PSID sample or are related by blood or adoption to the PSID sample member) and (b) the family of the targeted CDS child having active status in the PSID panel’s 2001 main interview. Therefore, the 292 ineligible children came from families with non-sample children and families that left the PSID study prior to the 2001 PSID interview. Second, 364 of the eligible children did not participate in the 2002 interview process. The overall the response rate for 2002 is 91%.

There are three components of the 1997 and 2002 PSID-CDS that make it ideal for studying variation in parental investment—the information on family income, survey data on parenting practices and children’s activity participation, and children’s time diaries. First, and perhaps most obviously, the PSID is one of the premier datasets for analyzing income, as surveying family income is one of its principle purposes. The PSID, which extends back to 1968, is a longitudinal, nationally representative sample of U.S. individuals and their families. Therefore, the children in the 1997 and 2002 CDS can be traced back to the families in the PSID. The PSID is one of the richest datasets for assessing individual and family income and earnings.

The second component that makes the CDS an attractive data set for this dissertation is its survey data on parents. Each child's primary caregiver was asked an array of questions about their parenting in 1997 and 2002. These questions ranged from estimates of how often parents engage in certain activities with their children to how much parents encourage and value their children's participation in specific activities.

The third component of the PSID-CDS that makes it particularly rich in detail for examining parental investment is its collection of children's time diaries for each child. The diaries provide detailed accounts of how children spend time in various activities on both a randomly selected weekend day and weekday. The diaries, which were administered to either the parent or the parent and child, assessed the child's activities beginning at midnight of the previous day as well as the individuals (e.g. family members, friends, etc) who were present in the various activities with the children. The report of "with whom" data adds a rich level of detail to the measures of children's time use, namely the examination of children's time spent with parents.

Participation in many activities, like time with family, and television viewing, often occurs in short segments throughout the day that may be difficult to recall and calculate precisely in response to a survey question. Time diary data are collected in a way that guides respondents through their day starting with the question "What were you doing yesterday at midnight?" The interviewer follows the respondent through the day until the entire day's activities are recounted. This structure of data collection helps the respondent accurately report activities and forces the respondent

to adhere to a 24-hour constraint so that children cannot report implausible amounts of time use.

While the focus of most studies using time diary data, as well as this one, is on primary activities, “with whom” data add an important dimension to our conceptualization of parenting. The “with whom” data in this diary collection make a distinction between children’s active participation in activities with parents and time in which the parent is present but not actively engaged with the child. The added value of the “with whom” time is that it is possible to isolate the time children spend alone with their parents with and without their siblings present. Most studies of parents examine parent time diaries and cannot disaggregate time spent with individual children. In such studies, it is therefore impossible to isolate exactly how much time a parent is spending with each child.

A note on measuring parental investment

Given the theoretical importance of parent’s time with children as well as children’s time spent in various enrichment activities, a basic focus of this dissertation is on the quality and quantity of time use. The most basic, and easy, way to measure parents’ investments in children is to simply ask them. This strategy may in fact be the most efficient and valid measure for some types of investments. For example, there is probably no better way to assess how much an income parents have than to ask the parents. Following a parent around in an observational study or asking the parent’s banker are unlikely to yield better results (more likely worse) and would be far too expensive (and would probably never gain human subjects research

approval). In addition, this is a query that is somewhat straightforward for a parent to assess. The parent can refer to pay checks, savings accounts and so on to come up with an approximate number. Social desirability may color some reporting as well as concern over the privacy of financial matters, however, there are few better alternatives for garnering this kind of information.

Simply asking parents what they do for children on stylized survey questionnaires has therefore been the *modus operandi* for most survey research on parental investment in sociology. And, as stated above, this is probably the best way to gain much of the information needed from parents for matters such as how much money is spent on schooling and how often parents attend PTA meetings. These are probably figures parents can easily conjure up (e.g. perhaps the parent knows there are always two PTA meetings a semester, which would make an “easy” answer of four a school year).

At the same time, there may be some investments for which simple questions on survey questionnaires are inadequate. For example, Annette Lareau’s attempt to document and compare the home environments and the nuanced interactions of family members in middle and working class families would have been impossible to do had she not interviewed and observed the families. Ethnography is an ideal method for capturing the variation in home “cultures” that these families cultivate. Still, this methodology does not sufficiently capture certain quantitative measures that are of interest to child developmentalists and family demographers. Observation is an inefficient and costly way to ascertain how much time parents spend with children, how often parents participate in select activities related to their children (such as

attending PTA meetings), and most importantly, how pervasive observed differences in middle and working class families are in the population at large.

To gather information on the amount of time individuals spend in routine activities, such as childcare (in the case of parents) and going to school (in the case of children), time diary methodology is an effective alternative to direct observation. Though there are different versions of time diaries (yesterday, tomorrow, last week), the most common is the yesterday format. With this survey instrument, respondents selected to participate in the study (usually at random) and are interviewed on a random day and asked to describe their previous day's activities. The randomness of the interview is important so that respondents do not pre-plan their activities in socially desirable ways. The idea is to catch respondents in their normal routines. Respondents are interviewed in ways that maximize their recollection of the previous days activities. They are first given a time referent, which is usually midnight of the previous day, and asked what they were doing at that time. Interviewers also prompt respondents about where they were at the time they engaged in the activity (e.g. at home, work, school) and whom they were with (e.g. parent, sibling, friend).

After recording the type of activity, its length, and the particulars about location and the other people present, the interviewer asks the respondent what he/she did next and so on until the full 24 hours of the day is recorded. Thus, the respondent reports the events of his/her day in sequential order, which eases recall. Another factor that eases recall is that the recall period is usually only one day (as opposed to a month or calendar year as many direct survey questions target).

Perhaps one of the most appealing features of the time diary is that respondents are not cued to describe their involvement in particular activities selected by the interviewer. Respondents are only aware that researchers are interested in the respondents' time use. That is not to say that time diaries are free of social desirability bias. Historically, time diaries do not measure sexual activity or deviant behaviors very well (Robinson and Godbey 1999). At the same time, if a respondent tries to "fudge" their involvement in various activities, like under-reporting the amount of time they watch television, they must make up that time in another activity because the time diary adheres to the 24-hour day. This involves a lot of mental acrobatics that makes misreporting more difficult than other survey approaches like traditional "stylized" questionnaires that ask people to report how much time they spent watching television in the previous week.

One dual strength and weakness of the diary is that it captures routine behavior extremely well. This is appealing when the focus of a study is on such activities as watching television or spending time with parents, as this is an activity that generally occurs on a daily basis. Spending time with parents generally occurs in disjointed segments throughout the day that a respondent might have difficulty recalling accurately if simply asked to report how much time they spent with a parent in a day. When they are "walked" through their day, they may remember their various interactions with parents more accurately and clearly. The drawback of the diary is when the focus of the study is on regular, but more infrequent behavior, such as how often a child attends a club that meets only once a month. The time diary is not the best measurement for this behavior because it does not occur often enough to

“catch” in one- or two-day diaries. Stylized survey questions asking respondents to report how often they attend National Honor Society meetings would be a more efficient and appropriate methodology.

Most research that has compared time diary methodology with stylized survey questions has examined time in paid work or housework (Bianchi, Robinson, Milkie 2006, Robinson and Godbey 1999). Studies repeatedly show the merits of using time diaries over direct survey questions, particularly when the behaviors of interest generally occur on a daily basis. Indeed, it is the most cost-effective, efficient, reliable and valid methodology currently available to measure time use (Robinson and Godbey 1999).

Sample

Given that the interest of this study is in *parental* investments, the 42 children whose primary caregivers were either a legal guardian (32 children) or another adult (10 children) in 1997 are omitted from all analyses. In addition, this analysis focuses on primary caregivers who are household heads or "wives" given that important background data for these parents necessary for this study is consistently identified for this group in each wave of the PSID. This eliminates another 143 children whose parents were not household heads or "wives." This restriction may introduce a slight positive selection-bias given that children from more disadvantaged backgrounds might be more likely to live in complex household structures. Estimations of variation in parental investment by parental education may therefore be slightly more conservative given that the omitted children are likely to be those with the least resources and have parents with lower levels of education.

Second, the sample is also restricted to those children who completed both a weekend and weekday diary. About 82% of children aged 0 to 5 completed both a weekday and weekend diary, and 82% of children aged 6 to 12 completed both diaries in 1997, and 82% of adolescents completed both diary days in 2002 (see Appendix Table 3.2). To examine the extent to which completion of the diary was associated with certain demographic characteristics, I employed logistic regression. The findings from this analysis suggested children of single-mothers were less likely to complete the time diary in 1997 as well as 2002 than children in two-parent families with a biological father (see Appendix Table 3.3).

Finally, missing data on some of the survey questionnaire measures of parental investment and some of the child outcomes variables, which is the result of nonresponse and age restrictions (e.g. some children were too young to complete some of the child assessments) reduced the sample sizes for some measures. The final analytic sample for this study is 2,325 children aged 0 to 12 in 1997 and 786 children aged 13 to 17 in 2002 whose primary caregivers were parents that were household heads or wives and who completed both a weekend and weekday diary.

Variables

Dependent variables

The following bundles of parental investment are the focal areas of interest in this dissertation: children's overall time with family, children's time in selected activities with and without parents, children's participation in organized and structured activities, parents' investment in children's schooling, and parental warmth

and affection. Table 3.1 describes the children's time diary measures used to assess children's time in activities with parents (these are constructed by identifying a parent in the "with whom" code in diary). The activities assessed include children's time spent reading (with and without parents); playing games with parents; watching television (with and without parents); taking lessons; engaging in organizational activities like girl scouts and after school clubs; attending meets and practices for team and individual sports that the child/parent clearly identified as being 'organized;' and doing active sports like tennis or golf that were not necessarily supervised or organized by an adult, but may have been so depending on how explicit the parent/child was about the organized nature of the activity when describing the activity to the interviewer. Overall measures of children's waking time spent with mothers, fathers, extended relatives, siblings, and alone (no one in the "with whom" code) are also assessed. These measures include all the time spent with family members (or alone) regardless of the type of activity. Activities with parents are the primary focus of this dissertation given that the focus is on direct parental time investments, however what parents do involves more than what they do with their children. Parents can orchestrate households so that their children are involved in multiple activities, limit the amount of time their children spend in front of the television, and encourage their children to spend time reading on their own as their children age. These activities may be more or less controlled by parents even if parents are not actively involved in the activities.

[Table 3.1 about here]

Time diary measures were constructed by summing up all of the time children spend in the focal activity over both the weekend and weekday diaries. Weekday estimates were multiplied by 5, and weekend estimates were multiplied by 2. These two calculations were then added together to create a synthetic week of time use. The metric was also converted to hours per week. The analytical sample was also checked for diaries where only one activity is reported over the two-day period (i.e. visiting) and no such diaries were found.

As mentioned earlier, the construction of a synthetic week is appropriate for routine behaviors like television viewing that typically happen on a daily basis. Similarly, activities like reading with parents are activities that likely happen on a nightly or semi-nightly basis, and therefore multiplying those daily estimates to make a weekly estimate seems logical. Estimates of activities that may happen only once or twice a week, however, like participation in some organized sports and clubs, however, are likely to be grossly overestimated when a daily estimate is multiplied by 5 or 7 into a weekly figure. Although participating in some organized sports, like playing on the school's football team, do happen on a daily basis for a short period of time, taking lessons and attending youth group meetings generally do not. Individual estimates are likely to be inflated (or deflated if one is catching a soccer player on a day with no soccer practice or meet), but the idea is that the overall averages may still be insightful. The assumption with time diary methodology is that one will randomly catch enough participants and nonparticipants on diary days to get some idea of what the overall level of participation in the activity is. That said, it is important to reiterate that the strength of time diary methodology is in capturing routine behavior rather

than less frequent behavior and weekly estimates of activities that are generally infrequent should be interpreted with caution.

Table 3.2 shows the survey questionnaire measures used to assess several of the measures of parental investment in children's schooling. These include: meeting with teachers, meeting with principals, attending PTA meetings, volunteering at the school, and attending school functions (these are operationalized into yes/no indicator variables where "1" indicates doing the activity at least once in the school year). The survey also assesses parental supervision of children, the frequency with which the family eats dinner together, and how often parents talk to their children about their children's interests. Finally, parental warmth is assessed by parental reports of physical affection to child: saying "I love you" and telling the child he/she is appreciated *every day* for the past month.

[Table 3.2 about here]

The children's outcome variable of interest is children's letter-word and subtests of the Woodcock-Johnson Revised Test of Basic Achievement, a test that measures vocabulary skills (Woodcock & Mather, 1989). The letter-word identification portion of the exam measures the ability of children aged 3 and over to identify and respond to letters and words. The standardized scores obtained from these assessments are used in the analysis. Scores are standardized by child's age at a mean of 100 and standard deviation of 15. Table 3.3 shows that at all points in time, and at all ages, the verbal scores of children with parents who had some college education were higher than children with less-educated parents.

[Table 3.3 about here]

Independent variables

All of the independent variables are shown in Table 3.4. The primary independent variable in this study is *maternal educational attainment*. Maternal education is assessed in years in 1997 and 2001, which I use to construct four indicator variables: mother does not have a high school diploma, mother has only a high school degree, mother attained some college, and mother has a college degree.

[Table 3.4 about here]

As shown in Table 3.4, 22-25% of mothers with children ages 0-12 had completed college in 1997 and 24% with children aged 13-17 had attained college in 2002. Roughly 30% of children in both the 1997 and 2002 samples had mothers who had attained some college and about the same percentage had attained only a high school degree. Fifteen percent of children aged 0 to 5 and 18% of children aged 6 to 12 had mothers with less than a high school degree in 1997. Similarly, in 2002, 15% of children aged 13 to 17 had mothers who had not completed high school. Exactly 101 mothers were missing on educational attainment in 1997. Therefore, these values were imputed using primary caregiver's age, sex, earnings, employment, and number of children in the family unit. This amounted to about 4% of the sample of young children and 3% of the sample of children aged 6 to 12.

All analyses are shown by *age of child* because the focus of this dissertation is how parental investment strategies by parental education change or remain stable as children age through adolescence. Child's age is operationalized as the number of years old at the time of the 1997 and 2002 interviews.

Mother and family characteristics

Family income is assessed in 1997 and 2001 (the reference years being 1996 and 2000 respectively) and is adjusted to 2000 dollars using the 1982-1984 Consumer Price Index from the Bureau of Labor Statistics. It is reported in \$10,000s for ease of interpretation in the regression models. To reduce the influence of two outlier families reporting income of over a million dollars in 2001, income is top coded to the 99 percentile in both 1997 and 2001. This high level of income is about \$600,000 greater than the next richest family. Results from selected key analyses comparing samples including the families who were top-coded and those where the millionaire families were omitted from the analyses showed no significant differences, so these families were retained in the sample. Average income in 1997 was \$60,430 and increased by about \$11,200 between 1997 and 2002/03 on average. There were 198 families with income missing in 1997 and no families missing on income in 2001. It did not seem appropriate to recode missing family income in 1997 to the 2001 levels given that there seemed to be a great deal of variation in income over the 4-year period—the mean change in income was \$11, 200 with a standard deviation of \$43,300. Therefore, the 198 missing incomes in 1997 were imputed using several household variables in 1997: age of head, sex of head, number of children in the household, work hours of the head, and work hours of the wife (if present).

Finally, income was coded into four categories based on income quartiles for both years so that the income categories were (roughly) equally distributed across respondents as well as theoretically meaningful. Those in the top quartile of family income had \$75,000 or more, median income was about \$50,000, and the bottom

quartile was around \$30,000. Therefore, the four categories constructed were: \$75,000 or more, \$50,000 to \$74,999, \$30,000 to \$49,999, and less than \$30,000. The lowest category, less than \$30,000, is the omitted category in the regression analyses so that those with more income can be compared with the most economically disadvantaged respondents.

Analyses were also run using the income relative to needs standard, as well as an interval measure of income to see if these findings differed dramatically from the 4-category specification. They did not, so the categorical specification is shown throughout because 1) it made comparisons between high-, middle- and low-income families more straightforward and 2) it is not conflated with family size—the income-to-needs ratio is connected to family size and therefore may interfere with discerning the unique effects of family size and income in multivariate analyses (Yeung, Linver, Brooks-Gunn 2002).

To ascertain the associations with *maternal age*, four categorical variables assessing the mother's age are included in the model: whether the parent was between the ages of 17 and 24, ages 25 to 29, ages 30 to 34, ages 35 to 39, and ages 40 to 44, and ages 45 to 49. As expected, the age of parents varies systematically by age of the child. Parents between the ages of 17 and 24 make up 16% of the sample when children are aged 0-5 in 1997, but only a handful of the sample when children are older. The majority of the sample (57%) is between the ages of 25 and 34 when children are very young, a figure that declines to 36% among children aged 6 to 12 and to 12% among children who are adolescents in 2002. About 26% of young children had parents aged 35 to 44 compared with 56% of children aged 6 to 12 in

1997 and 58% of adolescents in 2002. Very few children under age 12 in 1997 had parents over age 45, but about 30% of children aged 13 to 17 in 2002 had parents aged 45 or older (see Table 3.4).

Mother's verbal ability is her passage comprehension score comparable to the children's verbal measures. The scores are standardized at a mean of 100 and standard deviation of 15. Tables 3.5 and 3.6 show that at all points in time, and at all ages, the maternal education is positively associated with mothers' verbal scores.

Given that resources are spread more sparsely among individual children when there are more children in the household who need these resources, I include an indicator for the *number of children* in the household in all multivariate analyses. Number of children in the family unit is assessed with an interval variable in both 1997 and 2002. The average number of children in the family is around 2 (see Table 3.4).

Because *family structure* is associated with both the primary independent variable (parental education) and the dependent variables, fully and properly accounting for family structure, and how it changes over time, is a challenge. Coding stepfamilies was particularly challenging because families where the stepparent was a mother tended to look markedly different from families where the stepparent was a father, though step-mother families were such a small number that no firm conclusions can be drawn (see Hofferth 2006a for a discussion on step-mother families in the CDS). This may be due to the fact that the conditions under which stepmothers tend to come into families (e.g. the death of the biological mother) may

be quite different from how stepfathers generally come into families (e.g. following the divorce of the biological parents).

For this analysis, family structure was conceptualized and tested with several different measures including some variations that combined family structure with parental employment (e.g. dual-earner families compared to employed single-mother families, etc.). The most robust specification that also captured the theoretical interests of this dissertation was to code family structure into the following three categories: (1) two-parent families where the biological father is present, (2) families where the biological mother is married to stepfather, and (3) single-mother families. The two-parent family with a biological father was predominantly made of up two-parent families where the biological mother and father were both present, only about 8 families in 2002 and 12 in 1997 were stepmother families. The most common family type was the two-parent family with a biological father and mother or stepmother, though it was more common among families with young children than families with older children. The second most common family type was the single-mother family type, with which about 16% of preschool-aged children resided in 1997, 23% of children aged 6-12 in 1997, and 24% of adolescents in 2002.

Maternal employment is tested in the models shown in this dissertation with a dichotomous variable, although measures testing the joint effects of family structure and parental employment were tested in preliminary models and the role of paternal employment was found to be negligible (also the small number of cases with nonemployed fathers prohibited a rigorous test of how paternal employment is associated with parental investment and child outcomes).

Controls – child characteristics

Sex of the child is included as an indicator variable where 1=female in all analyses. As expected, the sample is split relatively evenly between the sexes (see Table 3.4).

The literature on children's academic outcomes tends to center on differences between three racial and ethnic groups: Whites, Blacks, and Asian American. Unfortunately, there are too few Asian-American children (only 32), and hence they cannot be examined separately. I focus on *whites*, *blacks*, and a more general “*other*” category in my analysis using indicator variables (ascertaining the child's race/ethnicity) as well as test for differences between other minority groups such as Hispanics. Race is assessed from the child's perspective, although in 8 cases it is not reported. These eight cases are recoded to the reported race of the household head (three are white, four are black, and one is Hispanic). The majority of the sample is white (around 70%, See Table 3.4).

Birth weight is measured in pounds and included as a continuous measure in all multivariate models.

Some of children's activities vary by *season of the diary*. Even though the PSID-CDS is carried out primarily over the school year, there may still be variations in activities over the course of the survey. For example, there may be more opportunities for sports and outdoor activities in the fall and spring compared with winter. With the holidays in December, there may be fewer scholastic time pursuits and more opportunities for children and parents to spend time together in family activities. Further, and most importantly, there are significant shifts in the

administering of the survey between 1997 and 2002 even though both were carried out exclusively over the school year. The 1997 study was conducted primarily between March and June with a break for summer and then resuming in September and November in 1997. In contrast, the 2002-03 survey was conducted primarily between November 2002 and March 2003.

Season is classified into four categories: fall, winter, spring, and summer. In 1997, there were 11 diaries where season was missing who were recoded to the modal category, spring. In 2002, 33 diaries missing a season classification were recoded to the modal category, winter. The majority of the surveys in 1997 took place during the spring and fall seasons whereas the majority of the diaries in 2002-03 happened during the fall and winter months (see Appendix Table 3.4). This was somewhat problematic given that 100 of the 2002-2003 diaries were conducted at the end of December when children are out of school and spending most of their time visiting with family for the holidays. Consistent with Hofferth and Curtin's (2006) analysis of changes in children's time between 1997 and 2002 using these data, the 100 diaries that fell between the dates of December 21, 2002 and January 5, 2003 are dropped from the 2002 analysis of adolescents given that this is a time when children are likely out of school for the holidays (note analysis of the 2002 time diary data is only shown in chapter 6). Holiday visiting and traveling make this an unusual period for looking at children's time use, and, given that no diaries were collected between the comparable period in 1997, it becomes a time that is inconsistent with the 1997 data collection. The resulting analytical sample was also checked for diaries where only

one activity is reported over the two-day period (i.e. visiting) and no such diaries were found.

Hofferth and Curtin (2006) caution strongly that the seasonal differences have implications for the observed variation in the 1997 and 2002-03 diary activity participation. As might be expected sports and outdoor activity participation is higher in the 1997 collection when spring and fall were the central seasons surveyed. When Hofferth and Curtin (2006) reweighted the 2002-03 data so that it reflected the same monthly distribution as the 1997 data (albeit with very small sample sizes for the heavily weighted spring months), differences in sports and outdoor activities between the two data collections tended to narrow, but only for children aged 9 to 12. Seasonally adjusted results for children aged 6 to 8 did not increase to 1997 levels as dramatically. In sum, caution needs to be exercised when interpreting changes in sports and outdoor activity participation over the 1997-2002 period. At the same time, the focus of this study is *not* on change in children's activities between 1997 and 2002—the focus is on within group differences (by parental education) at a point in time.

Analysis plan

The logic behind the organization of the analytic chapters is to document variation in parental investment by parental education across three developmentally distinct periods of childhood: when children are preschool-aged (0 to 5), when children are in middle childhood (aged 6 to 12) and when children are adolescents (aged 13 to 17). Each period of childhood corresponds to a separate analytic chapter: The first analysis chapter (chapter 4) documents parents' pattern of investments

among preschool-aged children in 1997, the second analysis chapter (chapter 5) examines parents' pattern of investments in children who are aged 6 to 12 in 1997, and the third analysis chapter (chapter 6) describes investments in adolescents in 2002 (the only year for which data on adolescents is available).

Conducting analyses separately by age of child is necessary because children have different needs as they age (Waldfogel 2006), and, as documented in the literature review, parent-child interactions vary accordingly. Preschool children tend to require a lot of supervision and require more parental time than older children whereas school-age children may require more academic attention. With this in mind, different measures are analyzed for younger than older children. Children under age 6 are not yet enrolled in school fulltime and thus measures that focus on direct investments in children's schooling cannot be examined. Similarly, older children generally do not spend time reading with their parents, and spend less time with their parents overall, so the focus is more on children's participation in organized activities, parental investment in children's scholastic activities, and parental warmth.

Results of each chapter are organized around several bundles of parental investment that previous research indicates is important for child development. The first set of activities, children's time spent with parents, includes children's overall time with parents as well as time in those activities that previous research has linked to children's cognitive development. Educational sociologists tend to emphasize the second set of activities, parental investment in children's schooling and children's organized and structured activities, as those that help children learn a variety of skills

to successfully navigate the academic and (ultimately) the professional world. Third, parental reports of daily affection as well as daily interactions such as talking with children about their interests, eating meals as a family, and time spent with extended kin are analyzed. Developmental psychologists and family sociologists alike emphasize these family routines because they provide children with a sense of structure and predictability in children's lives.

Each chapter has a similar layout. The first part of the each chapter measures overall investments in children in order to orient the reader to the types of activities young and older children do with their parents. Parent-child activities are the primary focus of each chapter, though what parents do for their children in terms of children's activity participation extends beyond what parents do with their children directly, so children's time in organized activities, watching television, and reading on their own are also examined in an effort to gain a richer understanding of how parents' mold their children's environment. The assumption is that highly educated parents may be enrolling their children in more organized activities, instituting more rules about watching television, and requiring more reading time relative to parents who are less educated. As such, the chapter then moves to a description of how children's activities (both with and apart from parents) vary by parental education. The need to be mindful of demographic differences between families where mothers are highly educated and those where mothers are less educated motivates the calculation of adjusted estimates of parental investment for the each group of mothers. Children with mothers who are highly educated are more likely to be white (than black or Hispanic), have mothers who are older, have much higher incomes, have fewer

children with which to share resources in the home, reside in a two-parent family, and have mothers who scored higher on the Woodcock-Johnson Revised Test of Basic Achievement than children with less-educated mothers (see Table 3.5).

[Table 3.5 about here]

Adjusted estimates are obtained through OLS and logistic regression models for most time use measures, and logistic regressions for all survey measures (all have 1/0 responses). For most time use measures, three analyses are shown: (1) results from logistic regressions predicting whether or not the child spent any time in the activity on the diary days, (2) results from OLS regression models predicting children's hours per week in activities across only those children who participated in the activity on the diary day(s), and (3) results from OLS regression models predicting children's hours per week in various activities across all children.

There is a great deal of debate over which kind of regression models are most appropriate when analyzing continuous time use measures across the entire sample of respondents (the second type of analyses described above). Many time use measures tend to be censored, because a large proportion of respondents do not engage in particular activities on the diary day(s). As a result, the assumption that the errors are normally distributed is often violated, making the use of OLS models questionable. Time diary analysts have historically relied on tobit regression models, which allow for left-censoring of data, as an alternative to OLS. The use of tobit models to analyze time diary data, however, has come under fire recently, particularly by economists. Critics of tobit models argue that although tobit regression allows for left-censoring of data, it requires a very specific left-censored distribution that is not

often met by time use data. Also, time use data may not meet the assumptions about the underlying latent variable construct in tobit regression models. In other words, not all time use data has the same left-censored distribution—some measures are more heavily left censored than others, and the tobit models are not appropriate for all left-censored data.

Putting the tobit vs. OLS debate aside, tobit models tend to produce estimates that are similar to OLS. I run both models to assess the robustness of the findings, but report tobit results only in appendices. In most cases, results are similar, but tobit models tend to produce larger effect sizes than the OLS measures. I choose to report OLS results in the main tables for ease of interpretation (hours/week), and because the results are somewhat more conservative (smaller coefficients), so as to not overstate my findings and conclusions.

Given that up to two children per family are included in the sample, the assumption that all observations are independent is also violated in all regression analyses. Though the violation of this assumption does not invalidate estimates when statistical tests are performed, it does result in biased error terms. Therefore, all multivariate analyses are conducted in SAS version 9.1 using programming commands that adjust the variance of estimates with cluster sampling. The child's family unit is identified as the sampling cluster.

All analyses are also weighted using weights available on the Child Development Supplement files in 1997 and 2002. The 2002 weights are products of the CDS-I weights (1997) and adjustments for attrition bias in the family type and demographic composition of the CDS panel data (Gouskova 2004). The original 1997

CDS-I weights are the product of three factors: 1) a family selection weight, which is the inverse of the family's probability of selection; 2) a post-stratification factor that adjusts the sample family totals to the 1997 CPS estimated totals for forty-eight demographic/geographic cells; and 3) a within family selection weight, which is the inverse of the probability of selection of the child from the set of children age 0-12 in the family (for a more detailed description of the 1997 CDS weights construction see <http://psidonline.isr.umich.edu/CDS/weightsdoc.html>).

The attrition adjustment factor for the 2002 CDS-II weights used in this analysis was constructed by modeling the probability that a sample person was successfully re-interviewed in the CDS-II using a linear logistic model. Primary caregiver/child observations were censored to reduce the influence of extreme weights on the variances of sample estimates of population statistics. One percent of weights at the top and bottom of the distribution were assigned values of the 99th and 1st percentiles respectively (Gouskova 2004). Though the weights do some adjusting for attrition, I also ran all analyses of parental investment in Chapters 4 and 5 on the total 1997 samples (including all respondents who did not make it to the 2002 sample) as well as the analytic sample, which restricts the sample to children who completed the 2002 interview. Results were nearly identical (results available upon request).

After identifying the types of investments in children that are linked to parental education, the final step of the chapter is to explore the extent to which those parental investments are associated with children's letter-word identification scores from the Woodcock-Johnson Revised Test of Basic Achievement. The goal of this

portion of the analysis is to shed light on how those parental investments that vary systematically by the educational attainment of the parent might have implications for a child's verbal development.

To analyze the associations between parental investment and child outcomes, I use ordinary least squares regression where the child's verbal score is the dependent variable, and parental education and parental investments are the primary independent variables of interest. The first regression model simply reflects the unadjusted association between children's verbal scores in 1997 and parental education. Model 2 introduces the various parental investment indicators (in separate models) to ascertain the extent to which parental investment may account for the relationship between parental education and children's outcomes at the cross-section—1997 for Chapters 4 and 5 (children aged 0-12), and 2002 for Chapter 6 (children aged 13-17). Models 3 through 6 introduce other factors that might explain the relationship between maternal education beyond parental investment: family resources, family structure, maternal age (maturity), and mother's reading score. The final model (7) includes an array of family background variables, which are also linked to children's verbal abilities. These variables are listed in the top panel of Appendix Table 3.1.

Summary

The first section of each analytic chapter describes the overall levels of parental investments in children to orient the reader to the types of activities parents do with children at various ages. The second part of the chapter delves into the heart of this study by documenting differences in parental investment by maternal

education. These differences are shown at the multivariate level (controlling for other family characteristics that may be related to parental investment). The final step of each analytic chapter is to examine the extent to which those parental investments that showed variation by maternal education are linked to children's verbal achievement. This part of the analysis helps to show how the parental investments that are distinctly different in families where mothers are college-educated and those where parents have less than a high school education might "matter" for a child's verbal development as well as measure the extent to which various parental investment behaviors and resources explain the positive association between maternal education and children's verbal scores.

Chapter 4. Variation in Parental Investment by Maternal Education Among Families with Preschool-Aged Children

In what ways do the “destinies” of children with highly educated and less-educated mothers start to “diverge” when children are very young? McLanahan’s (2004) argument about “diverging destinies”—that children born to the most highly educated mothers are enjoying resources (e.g. parents’ time) that far exceed those of children born to the least-educated women implies that these resources start to diverge as early as birth. Yet, the complexities of parental investment are not given much attention in her argument. The ways in which parental investments diverge by maternal education over childhood are unclear.

One wonders if the parental resources available to children, particularly their time with parents, are markedly different by maternal education when children are very young. The preschool years are a time when motor skills are still maturing and cognitive aptitude is not well developed, and hence parents’ time with children may not be as divergent by maternal education as when the focus is on children in middle childhood. At the same time, this may also be the stage of childhood with considerable variations in parental investment because these are the “formative” years and better-educated mothers may be more aware of the things they need to do with their children in order to ensure their children’s healthy development relative to less educated mothers (Hofferth and Curtin 2006). When children are very young, any divergence in investment, however small, may have significant consequences for brain development.

This is the first of three chapters that explores the extent to which parental resources invested in children diverge by maternal education and how the variations in these parental investments have implications for children’s verbal development. Specifically, this chapter addresses how patterns of parental investment vary by maternal education among families with preschool-aged children (those under age 5). It addresses the following questions:

- To what extent do the things that parents do for and with their children diverge by maternal education in the early years of childhood when children require the most attention and supervision? How early do well-educated mothers start their efforts toward “concerted cultivation”?
- Which kinds of investments show the greatest divergence by maternal education—parents’ overall time spent with children? Parents’ time with children in enrichment activities like reading, parental displays of warmth and affection, or family routines that parents cultivate, like eating meals together?
- Further, how are the activities that parents do for and with their children in the preschool years associated with cognitive development? Of those investments that vary by maternal education, which ones are the most closely linked to children’s cognitive development?

Overall investments in young children

Preschool-aged children’s overall time with parents and participation in enrichment activities with parents is shown in Table 4.1. All the figures in this table are ascertained from the children’s time diaries. As one might expect, young children

spend large amounts of time with their parents, especially their mothers. They spend about 32 hours per week with their mothers, and about half of that amount of time with fathers—16 hours per week.

[Table 4.1 about here]

The second half of Table 4.1 focuses on specific activities that parents do with their children—activities that may provide some sort of stimulation to children’s cognitive development including reading and playing. Most parents (76%) spend some time playing with their children on a diary days, whereas about half of parents read to their children (45%), and a little over half of parents (55%) watch television with their children. What is startling about the figures in this part of the table is the high level of television viewing with parents, particularly in comparison to reading. Young children spend about 3.4 hours a week watching television with their parents, 6.7 hours watching television without a parent present and are read to a little over an hour (1.1) a week. When the universe is restricted to those who watched any television with their parent on their diary day, the figures ratcheted up to nearly an hour per day (6.2 hours per week). It is somewhat surprising that such young children spend so much time in front of the television—presumably very young children cannot understand much. Though there are videos specifically designed to be interactive tools for young children and their parents (e.g. baby Einstein), the diaries do not assess the content of the television programming.

Although young children seem to watch a lot of television, parent-child play activities trump television viewing by a two-to-one margin. Children spend about 7.4 hours playing with parents, which is more than double the three and a half hours spent

watching television with parents. Add to this figure the 13.5 hours per week that children spend playing when not with parents, and playing time consumes about 20 hours of young children's weeks.

Table 4.2 shows an array of measures tapping parental warmth and routine family interactions. The two stylized survey questionnaire measures regarding parental affection for children indicate that parents report very high levels of communicating their love and appreciation for their children when children are very young—about 72 percent of parents report they tell their child that the child is appreciated every day and almost all parents (94%) report saying “I love you” to their children on a daily basis.

[Table 4.2 about here]

The series of questions assessing parents' daily discussions about their children's interests, propensity to eat dinner with their children, and knowledge of their children's whereabouts are assessed in the bottom panel of Table 4.2. These questions are coupled with children's diary accounts of their time spent having conversations in the household with their parents, eating meals with parents, time spent visiting others, and time spent alone. These get at the routine nature of parent-child interactions and parents' attempts to cultivate daily communication with their children. Arguably, some of these tasks may be more difficult when children are very young because their verbal abilities are limited, and also eating dinner together at a table may be impractical for families with infants.

Parents' reports for all these measures are surprisingly high, however, despite the young ages of the children. Over 73% talk with their child about the child's

interests daily, and 64% eat dinner together as a family several times a week. The diary estimates assess slightly different dimensions of parents' use of language with children and parent-child meals. The "household conversations" measure assesses time in the diary when conversations with parents are the only activity reported. As such, it undoubtedly underestimates the overall time parents' spent talking with children since much of the parent-child conversations that take place happen during other play or learning activities. Still, with that in mind, it is notable that 19% of children have household conversations with parents that are reported as a primary activity.

The measure of eating meals together is also limited in that eating is often reported as a secondary activity (indeed some children report no eating on their diary days) and further it is not confined to dinner exclusively, which is the family meal on which most researchers focus. Once again, however, the reported levels of parent-child meals in the diary are high (keeping in mind that these children are very young and the way in which parents eat together as a family is likely to be qualitatively different than when children are older). About 91% of children ate meals with their parents on the diary day—an estimated 5 hours a week.

Table 4.2 also assesses children's time spent with extended relatives, visiting others outside the household, and time spent alone. Extended family members seem to play a key role in children's lives as children spend about 8 hours a week with extended family (e.g. grandparents, cousins, etc.). Visiting others outside the household more generally, however, is less common, as only 22% of children did so on their diary days. Additionally, the overall time spent visiting is low at only around

an hour a week. At the same time, average time spent visiting among those who did any visiting was relatively high at around 6 hours a week.

Finally, over 95% of parents report that they know where their preschool-aged children are “all of the time,” which is not terribly surprising given how young their children are. What is somewhat surprising about preschool-aged children’s time use, however, is that they spend 11 (waking) hours per week alone, or engaging in activities where they are not directly interacting with an adult or peer—note that these are waking hours because time when the child is sleeping is not included in this measure. This may be time when a child is in a playpen, watching a video, or coloring on his/her own and a caregiver may be in the vicinity but not directly interacting with the child. Particularly in the case of toddlers, who are walking, talking and “into everything,” this seems like a large amount of time (well over an hour a day) for the child to be keeping to him/herself, again keeping in mind that these are the child’s waking hours.

Variation in parental investment by maternal education among preschool-aged children

Table 4.3 shows differences between children whose parents are college-educated and those whose parents have less than a college degree in children’s time with parents as well as their time spent reading, playing, and watching television with their parents. All of the figures in the table are predicted means and percentages adjusted for an array of demographic variables described in Appendix Table 3.1. The predicted values are obtained from OLS and logistic regression models—full regression model results are shown in Appendix Tables 4.3 – 4.6.

[Table 4.3 about here]

Preschool-aged children's time with parents seems relatively similar regardless of how well educated their mothers are. Children's time with mothers does not seem to vary at all by maternal education, and time with fathers shows some variation by maternal education, though the relationship does not appear to be linear. Only children whose mothers have a high school degree only spend significantly less time with their fathers when compared with children of college-educated mothers (13.8 hours/week compared with 17.2 respectively). Children whose mothers have a high school degree or less spend similar amounts of time with their fathers (16.3 hours per week) as children whose mothers have attained a college degree.

In contrast to the findings for children's overall time with parents, children's participation in specific activities with their parents shown in the bottom half of Table 4.3 tend to vary as a function of maternal education, though the variation is more substantial for some activities than others. The two most prominent gaps are those in reading and television viewing—and the primary divide tends to be between mothers who have at least some college or more and children of mothers who have less than some college education. Children of highly educated mothers read with parents more often than children of less educated mothers—about 57% of mothers with a college degree and 49% of mothers with some college read to their children on the diary days whereas only 36% of mothers with only a high school degree and 29% of mothers with a high school degree or less read to their children. These differences amounted to a 26-percentage point gap between children whose mothers were the most highly educated and those whose mothers had the least education. Better-educated mothers

also spent more time reading to their children on average, at an hour and a half per week compared with just over half an hour per week (for children whose mothers had less than a high school degree). Among those children who spent any time reading, levels were high: children of mothers who had attained college spent almost 4 and a half hours a week reading with their parents compared with children of children whose parents are less educated who spent around 3 and a half hours a week reading, holding other family and demographic characteristics constant. Children's time spent reading on their own (without parents present), which is arguably quite difficult for preschool-aged children, was consistently low across educational groups and if anything, tended to be higher among children with less educated mothers (though no differences were statistically significant).

Playing games more generally with children was a much more popular activity for parents and children than reading and this showed only slight variance by maternal education. When adjusting for other demographic factors, eighty-seven percent of mothers who have graduated college played with their children on the diary days compared with 83% of parents who had less than a high school degree. The group with the lowest predicted percentage of playing with their children on the diary days was high-school educated (only) mothers at 72%. Children's overall time spent in play activities with and without parents also showed little variation by maternal education.

The final panel of Table 4.3 focuses on television viewing. On the one hand, there is not much difference by maternal education in the percent of children who watch television with their parents. Just over half of all groups of children reported

watching television with their parents on their diary days. On the other hand, major variation by maternal education was evident in the average hours children spent watching television with their parents—children whose mothers have acquired a college degree watched the least overall at about 2.5 hours per week compared with 5.2 hours a week among children whose parents who had not attained a high school degree. Children whose mothers had only a high school degree watched about 3.9 hours per week and children whose mothers had some college watched about 2.9 hours per week with their parents. Quite surprisingly, there is less variation in the amount of time children spend watching television without their parents present, even though TV time without parents is generally greater than the TV viewing with parents. Children with better-educated mothers still tend to watch less television when their parents are not with them than children of less-educated mothers, holding other demographic factors constant, but these differences are smaller and not statistically significant. If we consider the proportion of television viewing that is accompanied by a parent, it is actually *lowest* among the children with college-educated mothers (27%) and some college-educated mothers (30%) and *highest* among children with mothers who have a high school degree (38%) or less (40%).

Table 4.4 examines parental reports of affection for children and engagement in routine interactive activities with children by maternal education in a combination of measures ascertained from both children's time diaries and parents' responses to survey questions. Parents' daily affection to children was assessed by two survey measures, including whether or not parents told their children that they are loved and appreciated on a daily basis. These indicators varied negligibly by mothers'

educational attainment, particularly considering they are indicators of mothers' *daily* expression of affection for their children.

[Table 4.4 about here]

The only indicator that showed variation was household conversations shows a bit more variation. Adjusting for other factors, about 77% of mothers with a college education report talking to their children about their children's interests on a daily basis in the stylized estimate compared with 57% of mothers with less than a high school education. Mothers with a high school degree only and those with some college hovered around the same level as college-educated mothers at 73% and 82% respectively). When household conversations are measured in the diary, however, there is almost no variation by maternal education, though it is important to keep in mind that the diary underestimates parent-child conversations.

The frequency of family meals, visiting activities, and maternal supervision all vary little by maternal education among preschoolers. Although the top of the table suggested better-educated mothers elicit conversations with their children more frequently than less-educated mothers, the bottom half of the table suggests less-educated mothers may be more likely to eat dinner together as a family with their children than their better-educated counterparts, though differences were not statistically significant. According to the stylized measure of how often mothers report eating dinner as a family, a predicted 76% of mothers with less than a high school education compared with around 60% of parents with more education. This gap was only statistically significant in the multivariate analyses at $p < 0.10$, however, and the diary measures of children's time eating any meal (not just dinner) with

parents showed no variation by maternal education. It is possible that highly educated mothers may cultivate and privilege different types of routine interactions with their preschoolers than less educated mothers, though the evidence from this table is somewhat weak.

When it comes to spending time with extended family and visiting others, children of college-educated mothers look similar to children whose parents have less education. All groups of children spend around 7-8 hours a week with extended families and about 1-2 hours a week in visiting activities. The propensity to engage in visiting activities is also similar at around 20% for all groups. Finally, all groups of mothers report high levels of knowing their children's whereabouts (close to 100%), and there is little variation by maternal education in children's time in activities where they are not directly interacting with another person.

Another domain of parental investment is children's participation in structured and organized activities. These unadjusted figures are shown by age and maternal education in Table 4.5. The purpose of this table is to highlight how negligible parents' investments in these types of activities are when children are so young. Less than 10 percent of preschool-aged children do any kind of structured/organizational activities on their diary days. Only about 6 % of children do an organized activity like cub scouts, YMCA, or community program on the diary day (note also that this estimate may include time where the child is simply accompanying a parent in some kind of civic or volunteer organization, but nonetheless the child is present). Though some children do start t-ball, dance and even music lessons at very young ages, the figures for lessons and sports suggest that preschooler's participation in these

activities on their diary days, is relatively uncommon—the percentage of children involved in these activities is around two percent overall. This expands to only around 4 percent when the universe is restricted to children aged 3 to 5. Although the estimates for children of better-educated mothers are nearly double those of children with less educated mothers, the overall levels of involvement are so low among both groups that the gaps hardly warrant much attention.

Children’s participation in active sports activities that are not necessarily organized is nearly ten times the figure for organized sports (20% compared with 2% overall). The level of participation in these activities is relatively constant by maternal education, whereas participation in sports that are clearly identified as being organized and structured tends to be higher among children of better-educated mothers, though not statistically significant.

[Table 4.5 about here]

Linking parental investments to children’s verbal scores

The last step of the analysis is to examine the extent to which the investments that parents make in children are linked to children’s letter-word comprehension. This part of the analysis focuses only on those activities that suggested variation by maternal education, as the interest is in how the variation in parental investment by maternal education might have implications for children’s development.

Tables 4.6 and 4.7 shows the regression coefficients for standardized letter-word scores in 1997 regressed on maternal education and the various parental investment activities among children aged 3-5 in 1997, as letter-word comprehension

scores were not assessed for younger children in 1997. Children's reading with parents is explored in Table 4.6 and television viewing and mothers' tendency to inquire about their children's interests on a daily basis are shown in Table 4.7, as these are activities that showed the most variation by parental education net of other factors (see Tables 4.3 and 4.4). Full regression models for the figures in Table 4.6 are available in Appendix Tables 4.7-4.10.

[Table 4.6 about here]

Model 1 shows the unadjusted association between maternal education and children's letter-word comprehension score assessed in 1997 without any other controls for family demographics or maternal investment behaviors. The results from Model 1 show that there is a positive association between maternal education and children's cognitive outcomes in 1997. Relative to children with college-educated mothers, children whose mothers did not finish high school scored 14.1 points lower, and those with only a high school degree scored 10.1 points lower on average. The difference between children with college-educated mothers and those with only some college was small and not statistically significant at 3.5 points. Model 2 includes the indicator for children's reading with parents that may help explain the relationship between maternal education and children's verbal achievement. The findings from this model suggest that preschool-aged children who read with their parents had higher letter-word scores in 1997 than their counterparts who did not read with their parents. The inclusion of this indicator reduced the size of association between maternal education and children's verbal achievement only marginally (around 15%), but the R-squared increased from 0.10 to 0.14.

Models 3-6 include other factors like family income, family structure, maternal age, and mother's reading comprehension score in a stepwise fashion. The inclusion of family resources variables, particularly the indicator for having very high incomes over \$75,000, reduce the magnitude of association between maternal education and children's letter-word score by nearly half and the strength of the association diminishes a great deal as well. By the time these variables are included in the model, only the letter-word scores of children of college-educated mothers are statistically significantly different from the letter-word scores of children with mothers who have less than a high school education ($p < 0.05$). The inclusion of family structure variables does very little to the association between maternal education and children's letter-word scores, as the percentage reduction in the coefficient was only around 2-8%. Maternal age reduces the strength and size of the association (by around 25%) so that the association is no longer statistically significant at $p < 0.05$.

What really shrinks the size of the relationship between maternal education and children's letter-word scores, is the addition of mother's reading comprehension score, as shown in Model 6. This measure is strongly and positively associated with children's verbal achievement and it reduces the relationship between maternal education and verbal achievement to almost nothing (it also reduces the strength of the relationship between family resources and verbal achievement). What is intriguing, however, is that the association between parental reading to children and children's letter-word scores remains relatively large and strong across the various models. So, even the inclusion of mothers' reading ability does not do much to

explain the positive relationship between parent-child reading and children's verbal achievement. The final model (Model 7) includes the full array of background variables, and the coefficients look generally similar to those in Model 6 (the full list of variables included in this model are described in Appendix Table 3.1). The bottom panel of Table 4.6 also looks at an alternative measure of reading, the hours per week that parents read to their children. Results parallel the top panel.

The next activity shown in the top of Table 4.7 is children's time spent watching television with parents (diary estimate). Children's television viewing with parents shows a significant (negative) association with their verbal scores in 1997, though the size of the association is somewhat small. It does not reduce the size and strength of the relationship between maternal education and children's letter-word scores—the coefficients for maternal education are reduced by only around 5-9%. However, TV viewing with parents is significantly and negatively associated with children's letter-word scores across all models (though the strength of the association is only significant at $p < 0.10$ by the final model with all background variables included). Once again, family income and mother's verbal ability are the major factors that explain the relationship between maternal education and children's verbal achievement.

The bottom of Table 4.7 shows a full model where both television viewing and reading with parents are put in the model together. As expected, when both parental investment indicators (TV and reading) are entered together they do more to explain the relationship between maternal education and children's verbal achievement than when entered separately. Still, the investment indicators reduce the

maternal education coefficients by only around 20% compared with the 50% reduction when family income is added and roughly 100% reduction when maternal reading ability is added to the model.

Summary

This chapter focused on investments that parents make in their preschool-aged children, how these investments vary by maternal education, and the extent to which these investments are associated with children's cognitive aptitude in 1997. Parental investments were described in the context of various types of investment: parents' time with children, parent's enrichment activities with children, parental engagement in routine interactive activities with children like talking and eating meals together, as well as parental warmth and affection for children. Only some of these activities showed significant variation by maternal education net of controls for other factors—parents' reading with children, parents' television viewing with parents, and parental efforts to elicit conversations with their children about their children's interests. Additionally, this chapter noted how negligible children's involvement in organized and structured activities tends to be. Though this is not terribly surprising given how young the children are, it is noteworthy that the vast majority highly educated parents do not necessarily start "grooming" their children for such activities until they are at least school-aged.

The two investments that stand out as having the most variation by parental education are television viewing with children and reading with children (both

assessed in the children's time diaries), and the primary divide tends to be between mothers who have at least some college or more and children of mothers who have less than some college education. Mothers with a college education watched less television with their children and read more often to their children than parents who have not attended college. Note that although there is variation in the amount of time children and parents watch television together, there is almost no variation in the percentage of children who report watching any television with their parents by parental education. So, the differences are really about how much time is spent in front of the television, and not whether one group has greater access to televisions or is more inclined to sit in front of the television.

Parents' propensity to talk with their children about their children's interests, as assessed in stylized questions, was positively associated with parental education. The adjusted gap in parents' propensity to talk with their children every day about their children's interests between college-educated and less-than-high-school-educated parents was about 20 percentage points, but it is important to remember that the majority of all groups of parents made efforts to talk about their children's interests on a daily basis. These figures seem particularly impressive given that the children are so young and discussing an infant's "interests" may be quite difficult. In sum, all parents, regardless of educational attainment, appear to demonstrate high levels of socioemotional support for their children.

Mothers who have a college education also seem similar to parents with less education in their efforts to cultivate family time. If anything, college-educated mothers may be *less* likely than mothers with less than high school to report they eat

dinner together as a family when asked in a stylized question, though this difference was not reflected in the diary measures of eating meals together (not restricted to dinner), which showed little variation by maternal education. Variation in visiting with others and extended family was negligible by maternal education, particularly once family structure and income were held constant, suggesting that arguments about the working class's emphasis on family bonds does not necessarily extend to greater time spent with extended family members, at least among preschool-aged children.

Lastly, this chapter explored the extent to which selected parental investments made early in children's lives are linked to children's letter-word scores. This part of the analysis focused on those activities that showed the most variation by maternal education net of other factors. Both reading with parents and television viewing were associated with children's verbal abilities. The indicator for whether preschool-aged children read with their parents as well as the overall hours reading with parents were positively associated with verbal achievement, whereas children's television viewing with parents was negatively and significantly associated with children's verbal scores, all else equal. Finally, children's reading with parents appears to do more to explain the relationship between maternal education and children's verbal scores than other investment variables, but other non-investment variables like family resources and mother's verbal scores do the most to explain the relationship.

Chapter 5. Variation in Parental Investment by Maternal Education Among Children in Middle Childhood

Two contrasting images of childhood permeate the popular press and research on children in middle childhood. The first image is one where children have large quantities of unstructured and unsupervised free time—they watch too much T.V., play too many video games, and do too little homework. The second image is that children are overscheduled and overworked—they are shuffled to and from activities and pressured to excel in academics with little down time to just “be a kid” (Hofferth and Sandberg 2001a; Zick 2007).

At first blush, it seems that one of these perspectives must be misguided—how could children be both simultaneously over- and under-scheduled? Yet it is possible that both viewpoints may have some validity. The images of children with too much time on their hands is often either explicitly or implicitly associated with working class and poor children and the depictions of children who are over-programmed and over-structured children are largely considered middle and upper class phenomenon. This is supported by previous research that contends childhood looks markedly different by social class (Lareau 2003, Zick 2007).

The popular image of children growing up with highly educated parents is one of a hurried lifestyle for both parents and children. Middle-class parents are shuttling their children back and forth in mini-vans to multiple organized leisure time activities throughout the days and weeks, which often have tight deadlines (what Lareau (2003) terms “concerted cultivation”). Parents are expected to drop their children off and pick them up exactly on time—to be 3 - 5 minutes late is highly frowned upon. Such

rigid schedules, coupled with the plethora of activities, may lead both parents and children to feel extreme time pressures and for some to think such children are being pushed too hard (Lareau 2003).

In contrast, working-class and poor parents are seen as raising children under conditions that leave leisure activities to children, directing children rather than reasoning with them. Compared to middle class families, there may be less focus on parents developing children's special talents, as parents in work-class families believe their children will thrive as long as they are given love, food and safety (Lareau 2002). Such observations may lead some to feel children are not being pushed hard enough, which may explain the dual perceptions of childhood as both too busy and too leisurely.

This chapter details how parents invest in children by maternal educational attainment among families with children in middle childhood (aged 6 to 12)—the group of children who seem to be the most “at risk,” of being pushed too hard or not hard enough. The chapter extends previous research by not only documenting the variations in what parents do for and with their children by maternal education empirically, but also linking these investments to children's aptitude as they age into adolescence. The following questions are addressed in this chapter:

- How are parental investments in children who are in the “prime” of childhood systematically different in families where mothers are highly educated as compared to those where families are less educated?
- Are families with highly educated mothers enrolling their children in myriad organized and structured activities in an effort to encourage and develop their

children's talents to the maximum of their children's abilities? Are these parents engaging their children in constant conversation and other cognitively stimulating types of interaction with their children?

- Are families where mothers are less educated better at cultivating extended family ties and orchestrating a social network of playmates for children outside of the household than mothers who have attained a college degree? Similarly, are children of highly educated parents more often left alone and "bored"?
- Further, can any of the investments that tend to vary by maternal education be linked to children's verbal achievement?

In contrast to the previous chapter that examined very young children who were not yet enrolled in school, this chapter explores not only parents' time with children, but also delves into parental investment in children's schooling. At the same time, certain measures of interest for very young children, such as reading to them, are less relevant to older children and hence the focus of the investments shifts. Children are spending less overall time with parents as they transition to schooling and parents start enrolling children in organized and structured activities that do not necessarily require parental supervision.

Organization of the chapter

As with chapter 4, the results of this chapter are organized around the following series of investments: 1) overall time with parents and time with parents in enrichment activities, 2) parental oversight of children's schooling, 3) children's

participation in organized and structured activities, and 3) parental warmth and routine activities with children. Parents' scholastic investment is an additional bundle from the previous chapter that includes conferencing with teachers, attending school events for the child, volunteering for the school and attending PTA meetings.

Overall investment among children in middle childhood

Children's overall time with parents and time in selected enrichment activities with parents are shown in Table 5.1 for children aged 6 to 12 in 1997. On average, children in middle childhood spend about 19 hours a week with their mothers and 11 hours a week with their fathers. They spend only nominal amounts of time reading and playing with parents at this age. Though the low time spent reading with parents is understandable given that many of these children may be able to read on their own without the help of an adult (only about 16% of children spent any time reading with their parents on the diary days), the levels of playing with parents seem low when compared to the levels of television viewing with parents. Only about a third of children played with their parents on the diary days whereas over 60% watched television with their parents. Time spent in TV viewing with parents also trumped time in play activities by a 3 to 1 margin—Children spent 4 hours a week watching television with their parents and only 1.4 hours per week playing with parents. Though parents are busy and children have friends to play with when they are school-aged—they spend about 10 hours a week playing without their parents present—parents and children still make large amounts of time to watch TV together as opposed to more hands-on activities like playing games. Further, children spent large

amounts of time watching TV that was not accompanied by a parent—an average of 9 hours a week.

[Table 5.1 about here]

Table 5.2 turns the focus to children's time in scholastic and structured activities as well as parental oversight of children's schooling. Of the various activities related to children's schooling that parents report doing in the stylized questionnaire, the most common is meeting with teachers. The vast majority of parents (over 80%) met with their children's teachers at least once in the past school year and most attended a school event for the child (66%). Fewer parents did more indirect activities related to their children's education—less than half of parents attended a PTA meeting (43%) and a little over a third (36%) volunteered in some capacity for the school.

[Table 5.2 about here]

Children's participation in extracurricular activities including lessons, sports and structured activities like girl scouts and after school clubs was much lower than anticipated given all the attention given to children's enrollment in these activities in recent years. Only around 6% of children did lessons on the diary day, 14% had a practice or meet for an organized sport, and around 10% participated in organizational activities like clubs. None of these activities characterized a majority of children, yet, what is notable about children's participation in organizations is that children spent large amounts of time in these activities when they selected into them—about 5 to 7 hours a week. However, it is important to keep in mind that these estimates are taken from two one-day diaries and multiplied to construct a weekly

measure. Hence, if a child only has a practice or meet once a week, the weekly measure is grossly overstating the frequency with which children engage in these kinds of activities. At the same time, the involvement in some organized sports teams can be quite intensive with daily practices and meets during the week, and hence this calculation may be appropriate for such activities. Regardless, the estimate should be interpreted with caution.

In contrast to the activities that are clearly identified by the respondent as being organized, the other active sports are shown at the bottom of Table 5.2. These activities are traditional sports like football or tennis that are not necessarily organized and structured through a school or community center (e.g. the family goes to play tennis together at the park or neighborhood kids getting together to play football). Participation in these kind of active sports is much higher than the individual and team-based sports at just over 43% of children.

Measures of parents' overall warmth and affection are shown in Table 5.3. Parents' verbal expressions of their love for their children were very high—nearly 80% did so every day. Conversely, about 43% of parents told their children they were appreciated on a daily basis (again, however, it is critical to keep in mind that these are daily measures). Nearly half (49%) talked with their children about their children's interests daily. This figure is much higher than the report of household conversations with parents in the diary, which about 21% of children did. Part of the reason this figure is so much lower than the measure obtained from the stylized question is that parents and children often have conversations in the midst of other

activities (eating, traveling, playing) and thus are not recorded as a primary activity in the time diary.

[Table 5.3 about here]

Eating meals together is a popular family activity when children are in middle childhood. Nearly 60% of parents reported eating dinner together as a family several times a week and about 81% of children reported eating a meal at any time of day with the parent (the former measure is a stylized measure from the primary-caregiver's questionnaire and the latter measure is from children's time diaries). Further, parents and children spent a fair amount of time eating together during the week—around 3 hours a week.

Visiting others outside the household, including extended family, were less common activities than interacting with parents, as expected. Only about 22% of children spent time visiting others outside the household during the week and did so for an average of one hour a week (among participants, however, visits were long: 4.6 hours a week). Still, children spent about 5.6 hours a week on average with extended family members (presumably extended family members were visiting children in the children's own households at least some of the time).

Parental supervision of children aged 6 to 12 is unclear. Although parental reports from stylized estimates indicated parents knew their children's whereabouts around 85% of the time, diary estimates suggest children spent about 12 hours a week in activities where they were not directly involved with a peer or caregiver. This does not mean that children were unsupervised given that parents likely know their children's whereabouts even when children are alone (e.g. studying, watching TV,

playing video games). Rather, children's time alone is a time when children are not engaging in interactive activities with others.

Variation in parental investment by maternal education

Table 5.4 focuses on the parental investments made in children aged 6 to 12 in 1997 and how they vary by maternal education. This table shows adjusted estimates of children's time with parents in various activities by whether parents have attained some college or only a high school degree. The adjusted differences in maternal education are calculated from predicted values generated from multivariate regression models that control for a host of child and family background controls including parent's sex and age; child's sex, age, and race; family income; family structure and parental employment; and season of the diary. The full regression models that were used to calculate these figures are shown in Appendix Tables 5.4 – 5.10. The adjusted estimates are critical, because as noted in chapter 3, there are several significant demographic differences between children of mothers who completed college and those who have not.

[Table 5.4 about here]

Overall, children with mothers who have a high school degree or more appear to spend more time (about six hours more) with their mothers than children of mothers who have not completed high school. Father time, however, looks generally similar by maternal education when adjusted for variables like family structure. The major differences that persisted once demographic factors, particularly family structure, had been accounted for were children's time spent reading and watching

television with parents—the activities previous research suggests should differ the most by maternal education. About 25% of children aged 6 to 12 whose mothers were college-educated read with their parents in 1997, compared with only 2% of children whose mothers were less-than-high-school educated. When the universe was restricted to all children who did any reading on their diary days, however, there was almost no variation by maternal education, and children of mothers who had only a high school diploma reported the highest levels of reading. It is possible that this may be an indication that children of better-educated mothers are more proficient at reading than children of less educated mothers, and thus need less help from their parents. Indeed, the amount of time children spent reading without the aid of a parent was around 1.2 hours per week among those whose mothers were college-educated, 0.8 hours per week among children whose mothers had some college or a high school education, and 0.4 hours per week among children whose mothers had less than a high school degree (only differences between college-educated mothers and those with less than a high school degree were statistically significant at $p < 0.05$). Though children's time spent reading without the assistance or direct oversight of a parent is not necessarily a direct parental investment, the idea is that parents are likely encouraging or instituting some sort of rules about how much their children should spend reading. This would not be captured in the measure of parent-child reading time, and hence the examination of reading with and without parents.

Television, in contrast to reading, was negatively related to maternal education. Children of better-educated mothers were less likely to watch television *and* watched significantly less television with their parents than better-educated

mothers. Additionally, the amount of time children of well-educated mothers watched when parents were not with them was lower than that of children with less-educated mothers. Again, the idea here is that well-educated mothers may be more likely than less-educated mothers to limit their children's television viewing, even when they are not with their children. This may not be as direct an investment in children's well-being as parents' direct oversight of children's television viewing, but it nonetheless reflects how the activities that better-educated families orchestrate for their children may differ from those of less-educated families.

In addition, children of college-educated mothers were more likely to engage in play activities with their parents on the diary days when compared with children of mothers who had not obtained a high school degree (44% compared with 19%). At the same time, much less difference in children's average hours per week in play activities with and without parents was observed by maternal education once the estimates were adjusted for other demographic factors like maternal employment (note that the maternal education differences were statistically significant, but small, in the tobit models, see Appendix Table 5.8).

The next set of activities details parental investment in their children's academic life as well as children's involvement in extracurricular and structured activities (see Table 5.5). Three of four measures for parents' investments in children's schooling varied by maternal education when adjustments were made for the divergent family backgrounds of children whose mothers have attained a college degree and those whose mothers had not. Around 45% of mothers with a college education volunteered in some capacity for their child's school, compared with only

29% of mothers who were less than high school educated, 27% of mothers with a high school degree, and 38% of mothers with some college (only gap between college-educated mothers and mothers with a high school degree only was statistically significant at $p < 0.05$). Similarly, PTA attendance was at 41% for college-educated mothers and only 25-30% for mothers with a high school degree or less. Meeting with teachers was high for all groups: 90% among mothers with a college degree, 87% among mothers with some college, 77% for mothers with only a high school education and 80% among children whose parents do not have a high school diploma, though gaps between college-educated mothers and those with a high school degree or less were statistically significant at $p < 0.05$. The activity with the largest (adjusted) gap by maternal education was attending events for the child, where the majority of mothers with some college education or more attended a school event for the child (49-55%), compared to a moderate minority (25-38%) of parents with a high school degree or less. These differences, however, were not statistically significant.

[Table 5.5 about here]

Returning to the structured activities shown in Table 5.5, we again observed a great deal of variation by maternal education. Children of better-educated mothers were more likely to participate in some kind of structured activity (including lessons, sports, or organizational activities) than children of mothers who have attained only a high school degree or less. Around 31% of children with college-educated mothers spent any time in a structured activity compared with 29% of children with mothers who had some college, 25% of high-school-educated mothers, and about 9% of

children of parents with less than a high school diploma. Children with better-educated mothers also spent about an hour or two more a week in structured leisure activities than children with less educated mothers, though only the differences in overall participation (not length of participation) between children with college-educated mothers and those with mothers who have less than a high school education were statistically significant.

As noted earlier in the chapter, levels of participation in lessons, sports and organizations, were still somewhat low for all groups, even though the children were aged 6 to 12 in this chapter. Only the adjusted gaps between children of college-educated mothers and those with mothers who did not have a high school diploma in participation in lessons and organizational activities were statistically significant. Family income and family structure accounted for most of the reduction in the association between parental education and children's involvement in sports and lessons in the multivariate models (see Appendix Tables 5.2, 5.5, and 5.10). The percentage of children aged 6 to 12 participating in active sports that were not necessarily structured looked similar at around 40-45%, regardless of maternal education.

Finally, parental reports of daily affection and routine interactions with children are shown in Table 5.6. These figures confirm expectations that parental warmth and affection for children do not seem to vary systematically by maternal education. One difference (though not statistically significant) that was also observed among parents with preschoolers, is the greater frequency with which parents inquire and discuss their children's interests with their children—about 57% of parents with a

college education talked to their children about their children's interests on a daily basis, compared with about 41% of parents who had not completed high school and 46% who had only a high school degree. Children in middle childhood whose parents had attained some college or also showed a greater propensity to have conversations with their parents as assessed in their time diaries when compared with children whose parents had less education—over 20% and 15% did so respectively. This finding should again be interpreted with caution given that the focus is only on household conversations as a primary activity and thus grossly underestimates the aggregate level of “parent-child talk.”

[Table 5.6 about here]

Somewhat surprisingly, there was some non-linear variation in the propensities with which families ate dinner together (as assessed in the stylized questionnaire) by maternal education, though it was not statistically significant. About 45% of the most highly educated mothers—those with a college education—ate dinner together as a family “several” times a week, compared with 63% of mothers with some college, 50% of mothers with only a high degree and 64% of mothers with less than a high school degree. This is particularly surprising given that the most highly educated parents might be the most likely to report high levels of eating dinner together as a family given that they might be most aware of its social desirability. The level of eating meals with parents assessed in the children's diaries showed far less variation by maternal education (though neither the stylized or diary estimates were statistically significantly different).

With respect to children's visiting activities, differences are small and suggest children of parents with lower levels of education may do more than children with parents who have attained a high school education or more (though none of the differences were statistically significant in the multivariate models). Consistent with Lareau's (2003) work, children of parents who are not highly educated spent more time overall with extended family members—again, however, none of these differences were statistically significant once measures like family structure were taken into account.

Maternal reports of knowing their children's whereabouts looked similar regardless of educational attainment, though better-educated mothers tended to be slightly less aware of their children's whereabouts than children with less educated mothers. Still, percentages for all groups were near 80-90%. Lastly, children's time spent doing activities alone showed little movement by maternal education.

Linking parental investments to children's cognitive development

The final portion of the analysis examines how parental investments are linked to children's letter-word scores. Tables 5.7-5.10 displays the OLS regression coefficients for letter-word scores regressed on maternal education and the various investment activities among children aged 6-12 in 1997 (Appendix Tables 5.11-5.18 shows full regressions). Model 1 shows the bivariate relationship between maternal education and children's letter-word comprehension and Model 2 includes the parental investment measures in the regression models (separately for each parental investment measure, then all together in the bottom of Table 5.9). The first measure,

whether children read with parents, is *negatively* associated with children's reading scores in 1997, though the association is not statistically significant in the initial models, and only becomes significant after the introduction of other family background variables. This suggests that children who have more difficulty reading are garnering more help reading with their parents, and that reading with school-aged children may actually reflect parental efforts to help children who are having trouble rather than an investment effort (i.e. reverse causality). As such, this is a different kind of parental investment than parental reading with children observed in chapter four. Children of better-educated mothers who are really struggling with their reading skills may therefore get much more help than children with less educated parents. Because these associations are shown only at the cross-section, and because the investments are assessed when children are already aged 6, the implications of this finding are limited.

The bottom portion of Table 5.7 shows how children's overall hours per week reading (not necessarily with a parent) is associated with their verbal achievement. This measure, in contrast to the indicator for reading with parents, is positively associated with achievement. Each additional hour per week that a child spent reading is associated with a 0.5 increase in their letter-word score, though this association did not remain statistically significant once all controls were introduced in the model (Models 5-7). Children's overall reading also did very little to reduce the size and strength of the association between maternal education and children's verbal scores. Much more important was the inclusion of family income variables (15-20%

reduction in maternal education coefficient) and maternal reading ability indicator (25-30% reduction in maternal education coefficient).

An indicator for whether children played with their parents on the diary day is shown in the top panel of Table 5.8. As was the case with reading, this indicator does almost nothing to explain the positive association between maternal education and children's verbal scores (percentage reduction in maternal education coefficient is only around 2%). Further, this indicator is not statistically significant, suggesting it does not have an association with children's verbal achievement net of maternal education and other factors. Similar to what we observed in Chapter 4 when the focus was on preschool-aged children, the two factors that do have a strong association with verbal achievement and do more to explain the relationship between maternal education and verbal achievement are family income and mother's reading comprehension score.

Given that children's time watching television both with and without the presence of a parent are associated with maternal education, the association between children's overall hours per week spent watching television and their letter-word scores is shown in the bottom panel of Table 5.8. The amount of time children spent watching TV does little to explain the relationship between maternal education and children's letter-word scores, and further television viewing in itself has a negligible relationship with verbal achievement. Once again, family income and mothers' reading comprehension scores have a stronger association with verbal achievement.

[Table 5.8 about here]

The organized activities that showed variation by maternal education earlier in the chapter are examined in the top of Table 5.9. The indicator for whether children participated in any structured activity (e.g. lessons, sports, or organizations) generally showed sizeable positive associations with children's reading scores, but only reduced the size of the association between maternal education and children's letter-word scores by a minimal amount (6-8%). Family income and mothers' passage comprehension score are much more strongly associated with children's verbal scores. The bottom portion of Table 5.9 shows the full model with four parental investment measures entered together. This bundle of parental investment indicators becomes as powerful as family income in explaining the association between maternal education and children's verbal achievement (both reduce the association by about 15%), though still not as powerful as mothers' passage comprehension scores (which reduce the association by around 30%).

[Table 5.9 about here]

Table 5.10 describes the associations between children's reading scores and maternal education and maternal investment in children's scholastic activities, specifically mothers' attendance at parent-teacher conferences and PTA meetings. Neither of these measures were positively associated with children's verbal scores, nor did they do much to reduce the positive relationship between maternal education and children's verbal scores, casting doubt on the premise that these parental behaviors that better-educated parents tend to do more often, help to explain why children of better-educated parents have higher verbal scores than children with less-educated parents (see Appendix Table 5.17-5.18 for full regression models).

[Table 5.10 about here]

Summary

This chapter focused on parents' investments in middle childhood (children aged 6 to 12), how these investments varied by maternal education, and how they are associated with children's verbal achievement. Similar to the observations for very young children, children's overall time with parents when children are aged 6 to 12 does not seem to vary greatly by parental education—there are specific pockets of time where parent-child time differs by educational attainment of the parent, net of other demographic factors. These included: children's reading with parents, children's television viewing with parents, children's playing with parents, and children's participation in organizational activities. All of the above were positively associated with maternal education, with the exception of watching television with parents, which was negatively associated with maternal education. The greater time spent in structured activities among children whose mothers are more highly educated provides limited evidence that these children are somewhat more “scheduled” than children whose mothers are less educated, though it is important to note that the levels of involvement in structured activities among children of highly educated mothers did not seem extremely high.

Furthermore, more highly educated mothers also seem more intensely involved in their children's schooling when their children are aged 6-12. Mothers with a college education more often volunteer with the school, meet with teachers,

attend school events for the child, and attend PTA meetings when compared with parents who have a high school education or less.

Activities that showed less variation by parental education included children's time with extended family, children's visits with others, children's time spent eating meals together, children's time spent alone, and parents' daily expressions of warmth and affection for their children. The lack of significant variation in time with extended family by parental education was consistent with the findings for preschool-aged children, once again suggesting that the stronger extended kin ties in less educated families do not necessarily translate into more time spent together. Further, parents of all levels of educational attainment display high levels of warmth and affection for their children when their children are aged 6 to 12 as well as when their children are preschool-aged (see chapter 4).

Of the parental investments that varied by maternal education, children's reading with parents and involvement in structured activities were the only activities significantly associated with children's verbal abilities in 1997. Reading with parents was negatively associated with verbal achievement, suggesting that the most troubled readers get more help from parents, whereas overall hours spent reading (with or without the presence/assistance of a parent) was positively but not significantly associated with verbal scores. Because there is little reason to believe that children of better-educated mothers need more help reading (if anything, one would assume the opposite is true), this suggests that these parental efforts to read with children may translate into important protective effects for children. Rather than reading to children in such a way that helps them to get ahead, reading at this age may help these

children to get back on track with their verbal development if they are slipping behind or at least it may allow them to keep pace with other students.

Participation in structured activities was positively associated with children's letter-word scores. When considered alone, these activities did much to explain the positive association between maternal education and children's letter-word scores. When considered as a bundle, however, they become about as effective as family income in reducing the association between maternal education and children's verbal achievement. Mothers' reading comprehension was the most powerful factor that helped to reduce/explain the positive association between maternal education and children's letter-word scores. This suggests that the way in which parental investment behaviors vary by maternal education are not the primary mechanism through which maternal education positively affects children's outcomes, but still play an important role in the process.

Chapter 6. Variation in Parental Investment by Maternal Education Among Adolescents

Adolescence is a complex period of childhood, particularly for studying parental investment. Some look at children in this stage of their lives as “mini-adults” preparing to embark on adulthood and leave the nest. Others still view adolescents as children who are far removed from the period of adulthood—children who still require important parental care and intervention. This latter perspective emerges from the groups of parents who see childhood as extending well into the late teens and early twenties (Furstenberg et al. 2003).

Though these perspectives are not necessarily incompatible—one can still view adolescents as needing important care from parents but as more self-sufficient than younger children—they do seem to be coming from slightly different perspectives on the role of parents in adolescents’ lives that seem loosely connected to socioeconomic status. For example, the perspective that childhood should extend well into a child’s early twenties is largely a middle class viewpoint. It extends from the idea that children will go off to college, often on their parents’ dime, and return home to “find themselves” before they embark on a career. With this perspective in mind, highly educated parents likely see adolescence as a period of time to groom children for academic success, ushering them to various activities to make them more attractive to prospective colleges. These parents seem more apt to view adolescence as a period of “apprenticeship” where parents intervene heavily in children’s lives to make sure they are learning the right skills and gaining the right credentials to

succeed in college, and ultimately their careers (alla Lareau's (2003) "concerted cultivation").

Parents with less education, however, may be less focused on getting a child to college—indeed, it may be an option that seems out of reach—and view adolescents as more self-sufficient and perhaps even potential contributors to the household as caregivers for younger siblings or able-bodied workers who can get a part-time job. As Furstenberg et al. (2003) noted in their research on the timing adulthood, parents who had not attended college were more likely to subscribe to an earlier timetable for leaving home, completing school, obtaining full-time employment, marriage, and parenthood. For these parents, adolescence may simply be viewed as the period of life before adulthood and children need to learn responsibility and prepare for the "real world." There may be less attention to building the child's social capital because it is assumed children already have the basic skills they need and should have some autonomy over the leisure time before they are full-fledged adults.

This chapter discusses how investments in adolescents, who require less intense supervision than younger children but still require parental care, vary by the education level of mothers. It addresses the following questions:

- To what extent do highly educated mothers intervene in their adolescents' lives particularly in the way of spending time with them, talking with them, and being involved with their adolescent's schooling and how does their behavior diverge from mothers who are less educated?

- Are adolescents of mothers with a college education spending inordinate amounts of time in structured leisure activities when compared with adolescents whose mothers did not attend college?
- Does family time fall by the wayside in highly educated households as parents focus their energy on grooming adolescents for college when compared with families with less educated mothers who may place a higher value on family bonds than building academic careers?
- Finally, are any of the investments that parents make in adolescents linked to adolescents' verbal abilities?

Organization of the chapter

As with the previous chapters, the results of this chapter are organized around the following series of investments: 1) overall time with parents and time with parents in enrichment activities, 2) parental investment in adolescents' schooling, 3) adolescents' participation in organized and structured activities, and 3) parental warmth and routine activities with adolescents.

Overall investment among adolescents in 2002

Total time investments in adolescents in 2002 are shown in Table 6.1. Overall, adolescents spent about 14 hours a week with mothers, 9 with dads, and 23 hours in activities on their own, which underscores the loosening ties to parents that adolescents experience in this stage of their childhood. Still the majority of parents

(69%) report knowing their adolescents' whereabouts "all of the time." Spending time with extended family accounted for about 3 hours of an adolescent's week, while visiting activities accounting for about 2 hours a week. Still, among those who did any visiting, visits amounted to around 6 hours per week.

[Table 6.1 about here]

Television viewing with parents—a popular parent-child activity in early childhood—remains so throughout adolescence. Over half of adolescents watch television with their parents, and that TV time averages about 4 hours a week across the whole sample, and 7 hours per week among those who watch any TV. Other parent-child interactions, like parental efforts to talk with their adolescents about their adolescents' interests as well as household conversations with parents recorded in the adolescents' diaries (keeping in mind this is not an exhaustive measure of parent-child talk) and parent-child meals pale in comparison to TV viewing. A little over a quarter of parents report talking to their adolescents about their adolescents' interests on a daily basis, and around 18% of adolescents have conversations with parents in their diary recorded as a primary activity. As assessed in the stylized questionnaire, a little under half (44%) of parents report eating dinner as a family several times a week, which compares to about 63% of adolescents who report eating any meal with a parent on their diary day. Of those who ate together, meals lasted around 3.4 hours a week, or about a half hour a day.

The bottom of Table 6.1 describes how often parents verbalize affection for their adolescents, which are measures based on parents responses to stylized questions. This table suggests some unevenness along the measures. While a majority

of parents (62%) tell their adolescents that they are loved on a daily basis, only 18% of parents tell their adolescents that they are appreciated everyday. This underscores the idea that all parents love their children, and express it often, but adolescence is nonetheless a period when parents and children tend to clash, and parents may be less inclined to express their appreciation for their children on a daily basis (and vice versa).

Parental investment in their adolescents' schooling and adolescents' participation in structured activities are displayed in Table 6.2. A large majority of parents met with teachers and attended a school event related to the child (around 68%), whereas a minority of parents volunteered at their adolescent's school (17%) or attended a PTA meeting (36%) (all measures assessed by stylized questionnaires). Participation in organized and structured activities, as measured in the adolescents' diaries, suggests a great deal of disparity among adolescents. Only about a quarter of adolescents (26%) spent any time in a structured activity (lessons, sports, or organizational activity like after school clubs), but the average time spent in these activities among those who participated was incredibly high at nearly 17 hours a week (again, using caution with interpreting this figure, noting that weekly estimates are generated from two one-day diaries and may therefore overstate the frequency with which children engage in such activities). This was primarily driven by sports participation—around 18% engaged in a structured sports activity on the diary days and the time averaged 21 hours a week among those who played sports. Participation in lessons, in contrast, was negligible (1%), but this is likely an underestimate given that lessons do not happen as frequently as sports practices and therefore are less

likely to be picked up in the diary. Around 9% reported time in a non-religious organizational activity like community groups, and time spent in these kinds of organized activities (3 hours a week among participants) was not nearly as high as the time devoted to sports.

[Table 6.2 about here]

Variation in parental investment by parental education

Table 6.3 illustrates how adolescents' time with parents varies by parental education once adjusting for other factors that are also associated with children's time use. Predicted means and percentages are based on OLS and logistic regression models shown in Appendix Tables 6.1 – 6.8). Only a handful of differences emerge. Adolescent's time with mothers and fathers does not vary much by the educational attainment of their parents, nor does parents' knowledge of their adolescent's whereabouts or adolescents' time spent alone.

[Table 6.3 about here]

There is some suggestion that adolescents of mothers with college-educated mothers spend less time with extended family and visiting others when compared with mothers who have only a high school degree, which would be consistent with Lareau's (2003) arguments about the importance of family bonds in families among working class families. The gap in time spent with extended family, however, is explained primarily by race (see Appendix Tables 6.1 and 6.4). That is, black adolescents spend more time with extended family than white adolescents, net of other factors. The group that stands out as being the most different from the others is

children of mothers who have only a high school degree—these children spend the most time visiting with others and with extended families when compared with children of college-educated mothers.

With regard to specific parent-adolescent interactions, watching television was the one area of variation by maternal education, as it was for the two younger age groups examined in this dissertation. In contrast to the other age groups, however, the variation was only observed between children of some college-educated mothers and those with college-educated mothers with children of some college-educated mothers watching the least amount of television (5.6 hours per week compared with 7.8). At the same time, this group also watched similar amounts of television, if not more, than other groups without parents present. Indeed, about a third of their overall tv-viewing was accompanied by a parent when compared with children of college-educated mothers (45%), children whose parents had only a high school degree (48%) and children whose parents did not acquire a high school diploma (41%).

Conversations between parents and adolescents showed almost no variation by maternal education, and some slight variation in the frequency with which parent-adolescent meals was reported in the diary, though none of the differences were statistically significant. Children of less-educated mothers are more likely to report eating dinner together as a family “several” times a week whereas children of well-educated mothers report comparatively higher levels of parent-child meals, in the diary.

The variation in parental warmth by maternal education is generally small, and somewhat non-linear. One statistically significant difference between college-

educated mothers and mothers with only a high school degree in parental warmth is indicated in the bottom of Table 6.3. Adjusting for other background characteristics, 52% of college-educated mothers report saying “I love you” to their children on a daily basis compared with 63% of mothers with some college, 68% of high-school-educated mothers and 65% of mothers with less than high school. Telling children they are appreciated every day, however, however, shows less variation by maternal education, though if anything mothers with only a high school degree do so the least often (13% compared with 17-20% of all other groups).

The area where there is much more variation by maternal education is in adolescent’s participation in structured activities, as shown in Table 6.4. Children with college-educated mothers are much more likely to participate in structured activities (38% do so compared with 22% of children with some college-educated mothers, 21% of children with mothers who have only a high school degree, and 17% of children with mothers who do not have a high school diploma), and spend a great deal more time participating in such activities (6.8 hours a week compared with 3.2 hours for children with some college-educated mothers, 3.4 hours among children with mothers who have only a high school education, and 2.8 hours among children with mothers who did not complete high school). Much of these differences seem to be driven by participation in organized sports, which 29% of children with college-educated mothers participated in on their diary days compared with 14% of mothers with a high school degree or some college and 8% of children whose mothers had less than high school. Participation in lessons was so negligible, it could not be disaggregated by maternal education and participation in organizational activities was

also low at around 2-3% and showed little systematic variation by maternal education. Interestingly, the amount of time spent in structured activities, or more specifically, organized sports did not vary much by maternal education when the universe was restricted to any adolescents who engaged in sports activities—both groups spent around 22 hours per week in these time-intensive activities (again, interpreting these figures with caution given that they are generated from two one-day diaries and not weekly diaries).

[Table 6.4 about here]

Table 6.4 also shows moderate variations in parents' participation in activities related to their adolescents' education (stylized estimates). Mothers who had attained a college education were much more likely than mothers who had only a high school degree or less to attend a school event for their child (49% compared with 15-27%) as well as attend a PTA meeting (49% compared with 24-30%). At the same time, the percentage of college-educated mothers and those with less education who volunteered for the school and met with teachers looked relatively similar (in the case of volunteering for the school, college-educated mothers may actually do the least, though differences were not statistically significant).

Tables 6.5 – 6.7 describe the extent to which the investments in adolescents that tend to vary by maternal education are associated with adolescent's verbal achievement—adolescent's time spent with extended family and visiting others; maternal investment in adolescent's schooling like attending PTA meetings and school events for the adolescent; and adolescent's participation in organized leisure activities. The first panel of 6.5 examines the relationship between adolescents' time

with extended family and children's letter-word scores and the bottom panel shows adolescents' time in visiting activities. Neither activity appears to be related to children's verbal scores.

[Table 6.5 about here]

Table 6.6 considers the relationship between parental investment in children's schooling and children's letter-word scores. Model 1 shows the strongly positive relationship between maternal education and adolescents' verbal scores in 2002, without taking into account any other background factors. Model 2 considers the extent to which the association between maternal education and adolescents' verbal scores decline when parental investment activities are included in the model (see the full regression models shown in Appendix Tables 6.9-6.14). The case of mothers' attendance at a school event for the child, this indicator variable only marginally explains the positive association between maternal education and children's verbal achievement, though it does have a significantly positive association with children's verbal achievement.

In contrast, parental attendance at PTA meetings is generally positively associated with children's verbal achievement, though not statistically significantly. Further, it does little to explain the strongly positive association between maternal education and children's verbal scores. The factors that contribute to the greatest reduction in the strength and magnitude of the relationship between maternal education and adolescents' verbal achievement are family structure and mother's reading comprehension score, though family income does play a small role as well.

Table 6.7 shows models where adolescents' letter-word scores are regressed on maternal education and adolescents' participation in structured activities. Neither measure does much to reduce or explain the strong positive association between maternal education and adolescents' verbal achievement. Further, neither measure has a statistically significant relationship with adolescents' verbal achievement. Adolescents' overall participation in structured leisure activities is positively, though not statistically significantly, associated with verbal achievement, while paradoxically adolescents' participation in organized sports in particular is negatively (though again not significantly) associated with verbal achievement.

Summary

Overall, this chapter indicated that the divergence in parental investments by maternal education among adolescents seem much less pronounced than at younger ages. Though adolescence may seem like a period when involvement in structured activities is at its height, this chapters shows that most children, even those with highly educated parents, are not spending inordinate amounts of time in organized activities. That said, children of highly educated parents are far more likely to be enrolled in sports activities than children of less educated parents, and those who do participate in organized sports activities spend quite a bit of time in them. At the same time, overall time spent with parents, time spent having conversations, and eating meals together, parental supervision of adolescents, and parental displays of warmth and affection for adolescents did not show substantial variation by the educational attainment of parents. Slight evidence emerged that children with less

educated parents spend more time visiting others than children with highly educated parents, but this association was nonlinear and partially explained by racial differences.

This chapter also showed that adolescents' overall participation in structured leisure activities is positively, though not statistically significantly, associated with verbal achievement, while paradoxically adolescents' participation in organized sports in particular is negatively (though again not significantly) associated with verbal achievement. Perhaps this is because the large time commitment of organized sports when children are in high school interferes with adolescents' time for more direct academic pursuits.

Parental attendance of school events, which may be linked to adolescents' participation in organized activities, however, was positively associated with adolescents' verbal achievement. Perhaps those who attend school events reflect the group of parents who are the most invested and supportive of their adolescents' activities and this encouragement benefits the adolescents. At the same time, while there is a positive association between parental attendance at school events for adolescents and adolescents' letter-word scores, this relationship does not seem to reduce the strong positive association between maternal education and adolescents' letter-word scores. So, parental behavior in the way of supporting adolescents' special scholastic pursuits like attending plays or soccer meets does not seem to be one of the key ways through which maternal education influences academic outcomes for adolescents. Other factors like family structure and mothers' reading comprehension score, which could be considered a proxy for genetic ability, do much more to explain

why children of better-educated mothers have higher letter-word scores than children of less-educated mothers.

No other parental investments showed strong links to adolescent's verbal abilities. Neither visiting with others or extended family members appears to be related to children's verbal scores, perhaps because such activities provide children with more socioemotional support that may benefit them in non-academic ways. At this late stage of childhood, it is important to keep in mind that adolescents have already received extensive time investments from their parents and therefore the associations between investments and cognitive outcomes at this point in time provide only limited insight into how parental investments are related to children's verbal abilities.

Chapter 7. Conclusions

The findings from this dissertation expand upon some of the major perspectives on social class differences in parenting and child outcomes that have been voiced in recent years. Most notably, Sarah McLanahan's (2004) concern about the "diverging destinies" of children who grow up in homes with highly educated parents and those who grow up with less educated parents is echoed in the findings documented in this dissertation. Indeed, this dissertation underscores how children growing up with well-educated parents do get more resources from their parents, including time—but only in selected activities.

It is not just children's overall time with parents that varies systematically by maternal education, but rather certain types of enriching parent-child activities. It is this nuance—the *types* of activities parents do with children vary by socioeconomic status—that is consistent with Lareau's (2003) arguments as well as others (Hill & Stafford 1985; Hoff, Laursen, Tardif 2002; Hoff-Ginsberg 1991). Previous literature suggested that middle class parents spend large amounts of time developing their children's verbal faculties by frequent and extensive language use and participation in a variety of structured leisure activities. In contrast, working class parents are less likely to make direct interventions in children's lives that are specifically aimed at developing children's talents, noting instead that if parents provide children with the basic necessities, including love, they will grow and prosper. Activities associated with cultivating rich extended family networks are a greater priority in these families

than activities (like lessons or after school clubs) that may or may not translate into children's academic success.

In particular, this dissertation supports many of Lareau's (2003) contentions as well as those of other researchers (Hill & Stafford 1985; Hoff, Laursen, Tardif 2002; Hoff-Ginsberg 1991), including: young children of parents with at least some college are read to more often than children of less-educated parents, highly educated mothers make greater efforts to elicit conversations with their children (at least when they are under age 12), and children of highly educated mothers spend more time in structured activities. Further, more highly-educated mothers also seem more intensely invested in their children's schooling. Mothers with a college education are more likely to volunteer with the school, meet with teachers, attend school events for the child, and attend PTA meetings when compared with mothers who have a high school degree only.

Examining children's participation in structured activities over the course of childhood, however, adds greater insight into the divergent participation in structured activities by maternal education. For example, the structured activities highlighted by many scholars as consuming so much of parents and children's lives (particularly in the middle class) do not register as being particularly time-intensive in early years of children's lives. Well-educated mothers in particular do not seem to be racing to enroll their children in t-ball, ballet, and community soccer groups before their children are school-aged. On the one hand, one might expect that young children would not spend much time in organized activities, but on the other hand, previous research on the intensity with which highly educated mothers encourage their

children's participation in such activities suggests parents may begin enrolling children in structured activities at young ages. It appears highly educated mothers do not start the structured activities component of their "concerted cultivation" until children are school aged.

Even when children are school-aged, however, structured activities do not seem to dominate children's time use—even among children of highly-educated mothers—though they may dominate parents' time use when parents have multiple children in multiple activities. Children's participation in structured activities among children in middle childhood as well as adolescence is not as high as what previous research might have suggested. In light of the fact that middle childhood (particularly the early years of middle childhood) are the formative years for learning how to play sports and developing proficiencies in the arts (e.g. music, voice and dance), it is surprising that only a small minority of children did lessons on the diary day. Part of the reason for this may be because diaries are better at measuring routine activities when compared to activities that are regular but less frequent. Nevertheless, even if we doubled or tripled the diary estimates, levels would still not be very high. One area that did seem "all consuming" of children's time was organized sports participation among adolescents, but this was a very specific—and moderately sized—population: about 8-14% of adolescents with mothers who did not have a college degree and 29% of adolescents with highly educated mothers spent an average of just over 20 hours a week in organized sports. This does suggest a rather rigorous and demanding level of structured activity participation among certain age-

specific groups of children with highly educated parents, though it is important to keep in mind that these are two-day diaries used to generate weekly estimates.

In all, the figures in this dissertation do not paint a picture of highly-educated mothers going to extremes to organize their children's leisure time. School-aged children with mothers who graduated college seem more "scheduled" relative to children whose mothers have not attained a college degree, but the overall levels of participation are not grossly high for either group. Further, children with less educated mothers are participating in these structured activities to some extent as well. Returning to the "special case" of adolescents' organized sports participation, which was the most time intensive structured activity explored in this dissertation, it is important to note that all adolescents who participated in organized sports, regardless of the educational attainment of their mothers, spent a great deal of time in these activities. Children of better-educated mothers were simply a bit more likely to participate.

In addition to supporting existing theoretical frameworks about the different ways that parents approach parenting, this dissertation also implies that there are important ways in which better-educated and less educated mothers do not diverge as much as other research and perspectives might suggest. In fact, some of the most surprising findings from this dissertation are the areas of parent-child interaction that did not vary dramatically by maternal education. Most notably, variation in time spent with extended family and visiting others was less pronounced by maternal education once family structure and race were held constant—indeed race seemed to be the primary driver for most differences in time spent with extended family. This

was true regardless of how old the children are, suggesting that arguments about the working class's emphasis on family bonds does not necessarily translate into greater time spent with extended family members. It is possible, however, that the greater family bonds in families where parents are less educated manifest themselves in other ways—greater availability/proximity of kin in emergency situations and greater provision of socioemotional support to parents and children.

Other activities that showed less variation by maternal education included parents' knowledge of children's whereabouts as well as their daily expressions of warmth and affection for their children. Mothers of all levels of educational attainment claimed to know their children's whereabouts, particularly when their children were very young, suggesting that even if highly educated mothers are more likely to encourage their children to be in activities that are directed by parents and other adults, mothers with less education still keep close tabs on what their children are doing. All mothers also display high levels of warmth and affection for their children when their children are under age 13. Levels of parental warmth were not quite as high among adolescents in 2002, but still showed little variation by maternal education. In many ways, this is consistent with the idea that all types of families feel children need lots of love to thrive in childhood, but highly educated and less educated families diverge in the extent to which they engage in certain activities (e.g. reading, structured activities) that may promote their children's healthy development.

Finally, one of the major findings in this dissertation *not* emphasized strongly in the conceptual models of most previous work on the divergent parenting strategies of better and less educated mothers is the greater time children with parents who have

only a high school degree spent watching television with their parents. Although the finding that children with less-educated mothers generally tend to watch more television than children with mothers who are highly educated has been documented in previous literature (Bianchi and Robinson 1997; Hofferth and Sandberg 2001a), joint parent-child television watching is not often a focus of the theoretical frameworks concerning parenting. This is puzzling given that television viewing is a popular and pervasive parent-child activity throughout childhood.

Although this dissertation also underscores the high level of TV viewing of children with parents in all families, children of less educated mothers consistently watched more television with their parents than children of highly educated mothers, regardless of how old they were, though differentials seemed somewhat less pronounced among adolescents than younger children. This is a conceptually important distinction because this dissertation suggests watching TV with parents is negatively associated with children's verbal aptitude when children are preschool aged, a critical period for brain development, and therefore more attention should be paid to this issue.

The link between parental investment and children's verbal abilities

Thus, one of the major contributions of this dissertation is to underscore that the attention to the variation in parental investment by maternal educational attainment is important because it is associated with children's development. This is where Coleman's (1988) perspectives on social capital play a critical role in understanding the dynamics between parental education, parental involvement with

children, and children's cognitive outcomes, as he specifies that it is not just having human capital that is important for child development, but also what mothers do with their human capital that has implications for children's academic outcomes.

This is also an opportune time to reiterate that while Coleman's model explicitly suggests that the parental behaviors (and presence) of those with higher levels of education are one of the mechanisms that "cause" their children to have more salutary outcomes than children of less educated parents, this dissertation cannot stake any claims on causality. At best, it provides circumstantial evidence, using some of the best available data for measuring parental time investments, that certain parental behaviors that vary by maternal education can be linked to children's verbal abilities both at the cross-section and over time. However, whether these behaviors directly cause more salutary outcomes for children is a question this dissertation cannot address. It is simply not possible to account for all of the things happening in the children's home environment, the genetic variation in children, or the external events and actors outside the family that influence children's development.

At the same time, Cowan and Cowan (2002) point out that dismissing the findings derived from correlational studies that do not conclusively determine the direction of parenting effects is unwarranted. In other words, "Ambiguity concerning the direction of effects does not rule out the utility of all concurrent correlational designs" (77). Even if we cannot prove the extent to which parents "cause" various behaviors and outcomes in their children, these studies can still offer insight into the nature of the parent-child relationship.

This dissertation assessed the links between maternal education, parental investment and children's verbal abilities in two ways. I tested to see 1) the extent to which parental investments that varied by maternal education were significantly associated with children's verbal achievement and 2) the extent to which parental investments explained the relationship between maternal education and children's verbal scores. Among young children, reading with parents was a critical difference between highly and less educated families that was linked to children's verbal abilities. In addition, preschool-aged children's television viewing with parents was also negatively and significantly associated with children's verbal scores.

By the time children reach school age, however, reading is negatively and significantly associated with verbal achievement. At this age, reading with parents seems to be some sort of assistance to children who are struggling, rather than a general investment that may enhance children's verbal development. Children of highly educated mothers get this kind of help at rates much higher than children of less-educated mothers (almost no children whose mothers are less than high school educated receive reading help from their mothers). This means children of well-educated mothers are more likely to get a kind of protective assistance from parents at a time when they may need it the most. We generally think of the advantages conferred by highly educated parents as some sort of fast-tracking that helps their already advantaged children pull even further ahead. This finding suggests the children of educated mothers may also be advantaged in that their parents may be more likely to intervene when they fall behind. In sum, highly educated parents are not only like to read to their children during the critical formative years of brain

development, but these parents may also be better able to provide the kind of assistance their school-aged children need when they are having problems with their verbal abilities.

Among the investments that “start” when children are school-aged, structured activities, particularly time in organizational activities like after school clubs, show a consistent connection with current and later verbal aptitude, offering support for the contention that involvement in structured activities enhances children’s skills that help them succeed academically. While this analysis cannot fully account for selection effects into structured activities—perhaps those with greater genetic verbal ability and reasoning skills are the children who most seek out involvement in community and scholastic organizations—it is a finding nonetheless consistent with the literature suggesting that children’s participation in such activities offers a host of benefits to children that enhance their academic success and general well-being. Greater attention to what components of the organized activities that might be associated with development is needed, as well as more creative study designs that better control for selection effects. Further, it is possible, and indeed probable that these kind of parental investments may have implications for other areas of children’s lives beyond verbal scores, which future research should explore more fully.

Finally, the extensive array of parental investment measures assessed in this dissertation only marginally explain the positive relationship between maternal education and children’s verbal achievement. Other family resources, like income and maternal ability play larger roles in understanding how and why children of better-educated mothers are more likely to have high-achieving children than less-educated

mothers. At the same time, when parental investment activities are considered in bundles—when children’s reading and TV viewing and structured activities are included in the regression model together—parental investment rivals family income in its ability to explain the relationship between maternal education and children’s verbal achievement scores. In this sense it is the many things that better-educated mothers do for their children—not just one activity in particular—that helps to explain why their children are advantaged relative to youth whose mothers have less education. In particular, this dissertation highlighted the importance of reading, limiting television viewing, and encouraging participation in structured activities.

Though this does not necessarily disprove the idea that the distinctive parenting strategies of highly and less educated parents explains why children of better-educated parents have more favorable academic outcomes than children of less-educated parents, it does underscore that the relationship between maternal education, parental behaviors and resources, and child outcomes is complex and multifaceted. No “one” factor can explain the relationship. Indeed, many behaviors and resources act in concert to transmit advantage and privilege from highly educated parents to their children.

Why is maternal education related to children’s verbal achievement? This work suggests that high ability mothers acquire higher levels of education (though clearly the causality may run both ways here in that higher levels of education may enhance a mother’s ability to achieve a high passage comprehension score) and reside in families with high levels of income relative to mothers with less education. These factors seem to be more advantageous to youth than the specific parenting activities

that better-educated mothers do when compared with less-educated mothers (or at least those activities that can be measured in this study, which were extensive relative to previous studies).

Directions for future research

Sociologists examine many socializing agents like schools, religious institutions, and the media that “steer” children into unequal stratified paths. This study focused on just one of these agents—the family. As Crosnoe and Trinitapoli (2005) note:

Practically axiomatic in both scientific and popular circles is the notion that the family is a primary context of youth development. How young people grow, what they learn, the kinds of adults they become—all of these things are deeply rooted in what happens at home... Although traditionally less often the focus of research and theory, the simple, mundane routines of everyday family life—how and with whom family members spend their time—are also crucial to understanding the paths that young people follow through the early life course, including how effectively they adapt to extra-familial contexts and institutions and how well they make important developmental transitions (3).

The assumption is that what parents do for children is extremely important for their children’s development and subsequent well-being, and this dissertation presented some evidence to support this contention, though it was limited in the extent to which it can prove that specific parental behaviors *cause* particular outcomes in children. This is partially because parents are not the only actors whose behaviors might have implications for children. Other family members, teachers, neighbors, coaches, and particularly peers (when children get older) play important roles in children’s lives. Indeed, Harris’s (1995) widely cited (and heavily critiqued) work on children’s socialization argues peers have a more powerful influence on the

development of children's personality characteristics than parents. Although this dissertation focuses on parental investment, it should be acknowledged that other actors make important investments in children that might have implications for the ways in which children grow and develop.

Not only does this conceptual framework focus squarely on parents rather than other actors who might act on the child's behalf, but it also is primarily concerned with parental action aimed directly at the child, or the *direct* investments parents make in their children. Undoubtedly, parents influence their children's lives in myriad ways, not just in their direct interactions with their children, but also in the way they behave themselves. For example, some have argued that parents invest indirectly in their children by maintaining a healthy lifestyle as they may more energized and better able to interact with their children, or modeling certain behaviors that may prolong their own and their children's lives like exercising and not smoking (Bianchi et al. 2004). Recent work on how parents select (or do not select) the neighborhoods in which to reside is another area of promising research on parental investment. Another consequential parental behavior is the extent to which parents are able to find and maintain stable employment to provide for children's material well-being, especially among fathers and low-income parents. As McLanahan (2004) notes, even the way a parent interacts with the other parent (e.g. staying partnered or dissolving the romantic relationship) could be considered an indirect investment in children.

Like the more direct parental investments that have traditionally been the focus of research, these indirect investments may also diverge by parental education.

To follow the above examples, better-educated parents are more likely to engage in regular exercise and are less likely to smoke than their less-educated counterparts (Bianchi et al. 2004). Parents, especially fathers, are also more likely to be stably employed if they are well-educated, as education and employment are highly correlated (again, more strongly among fathers than mothers). And as noted in the literature review, better-educated parents are more likely to be in stable marital relationships than less-educated parents. To this end, parental investment can be conceptualized in myriad ways. Although this dissertation focused on *direct* investments, partially because these are largely considered the most important investments for children's well-being and also because they are the easiest to carefully assess with survey data, more research and theory is needed to describe the ways in which parents make *indirect* investments in children and how these investments might have consequences for children's healthy development.

Tables

Table 3.1. Children's Time Diary Measures, 1997-2002 PSID-CDS

Measure	Description
Reading	Time spent reading books, magazines, newspapers, or being read to
Playing	Time spent on card, board, and social games; unspecified indoor/outdoor play; electronic video games (e.g. nintendo, sony, game boy, sega)
Watching Television	Time spent watching television
Having Conversations	Talking, complaining/conversations with household members
Eating Meals	All meals and snacks eaten at home or away from home
Visiting	Time spent visiting with others; socializing with people other than the child's own household members either at respondents home or another home
Extended Family	Any activity where extended family members are with the child
Lessons	Lessons in sports activities, dance, music/voice, activity unspecified
Organized Sports	Time spent at meets/games/practices for team-based and individual sports where child/parent respondent clearly specifies to the interviewer that it is 'organized'
Active Sports	Time spent in 'traditional team-based sports' like football, basketball, baseball, vollyball, tennis, golf that respondent does not clearly identify as being organized or structured
Organizations	Time spent at volunteer and helping organizations; professional and union organizations; child, youth or family organizations; fraternal organizations; political and civic unions; special interest organizations; before/after school clubs; travel related to organizations

Source: 1997-2002 Child Development Supplement to the Panel Study of Income Dynamics

Table 3.2. Stylized Survey Questionnaire Measures Asked of Child's Primary Caregiver, 1997-2002 PSID-CDS

<i>Scholastic Involvement</i>
During the current school year, how often have you participated in any of the following activities at (CHILD)'s school? Would it be not in the current school year, once or more than once? a. Volunteered in the classroom, school office, or library? b. Had a conference with (CHILD)'s teacher? h. Attended a school event in which (CHILD) participated such as a play, sporting event or concert? j. Attended a meeting of the PTA or other such organization? (Not in the current school year, once, more than once)
<i>Parental Warmth, Affection, and Routine Interactions with Children</i>
About how often in the past month have you: b. Told (CHILD) that you love (him/her)? e. Talked with (him/her) about things (he/she) is especially interested in? f. Told (CHILD) you appreciated something (he/she) did? (Not in the past month, 1 or 2 times in the past month, about once a week, several times a week, every day)
About how often do you know who (CHILD) is with when (he/she) is not at home? (all of the time, most of the time, some of the time, only rarely)
How often does (CHILD) eat a meal with both mother and (father/stepfather/adoptive father/father-figure)? (at least once a day, several times a week, about once a week, a few times a month, a few times a year or less, never, do not know)

Source: 1997-2002 Child Development Supplement to the Panel Study of Income Dynamics

Table 3.3. Means of Children's Outcome Measures from the Woodcock-Johnson Revised Test of Basic Achievement Letter-Word Subtest, 1997-2002

	Children Aged 3 to 5 in 1997	Children Aged 6 to 12 in 1997	Children Aged 13 to 17 in 2002
Total	100.0	100.0	100.0
Mothers have less than a high school	90.2	87.3	86.5
Mothers have high school degree only	96.2	96.8	96.7
Mothers have some college	103.1	102.3	102.4
Mothers have college degree	108.3	109.4	107.1
N	1039	1286	754

All maternal education differences statistically significant at $p < 0.001$

Source: 1997-2002 Child Development Supplement to the Panel Study of Income Dynamics

Table 3.4. Means and Proportions of Independent Variables, 1997-2002

	Children Aged 0 to 5 in 1997	Children Aged 6 to 12 in 1997	Children Aged 13 to 17 in 2002
Mother has less than a high school degree	0.15	0.18	0.15
Mother has high school degree only	0.28	0.30	0.31
Mother attained some college	0.32	0.30	0.31
Mother has college degree	0.25	0.22	0.24
Imputation flag for maternal education	0.04	0.02	-
Mother's age was between 17 and 24 years old	0.16	0.01	0.00
Mother's age was between 25 and 29 years old	0.25	0.08	0.01
Mother's age was between 30 and 34 years old	0.32	0.28	0.11
Mother's age was between 35 and 39 years old	0.20	0.33	0.28
Mother's age was between 40 and 44 years old	0.06	0.23	0.30
Mother's age was 45 or older	0.00	0.07	0.30
Child was female	0.49	0.49	0.49
Child was white	0.71	0.67	0.69
Child was black	0.11	0.16	0.17
Child was Hispanic	0.10	0.10	0.09
Child was other race	0.08	0.07	0.06
Child's birthweight	7.00	7.03	7.02
Number of children in the household	2.12	2.53	2.22
Family income was \$75,000 or more	0.25	0.33	0.37
Family income was between \$50,000 and \$75,000	0.25	0.24	0.23
Family income was between \$30,000 and \$50,000	0.25	0.18	0.17
Family income was less than \$30,000	0.25	0.25	0.22
Imputation flag for family income	0.14	0.12	-
Biological father and mother (or stepmother)	0.82	0.74	0.67
Single-mother family	0.16	0.23	0.24
Biological mother and stepfather	0.02	0.04	0.06
Mother employed	0.69	0.77	0.83
Mother's passage comprehension score	1.00	1.00	1.00
N	1039	1286	786

Source: 1997-2002 Child Development Supplement to the Panel Study of Income Dynamics

Table 3.5. Means of Independent Variables Among Families with Children Aged 0 to 12 by Maternal Education, 1997

	Children Aged 0-5				Children Aged 6-12			
	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college-educated	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college-educated
Imputation flag for maternal education	0.00	0.04	0.09	0.00	0.01	0.01	0.06	0.00
Mother's age was between 17 and 24 years old	0.35	0.23	0.12	0.02	0.01	0.02	0.02	0.00
Mother's age was between 25 and 29 years old	0.28	0.28	0.30	0.14	0.12	0.10	0.08	0.01
Mother's age was between 30 and 34 years old	0.21	0.33	0.32	0.37	0.49	0.35	0.21	0.11
Mother's age was between 35 and 39 years old	0.16	0.13	0.18	0.34	0.20	0.36	0.38	0.32
Mother's age was between 40 and 44 years old	0.01	0.02	0.07	0.13	0.11	0.14	0.26	0.41
Mother's age was 45 or older	0.00	0.01	0.00	0.01	0.07	0.04	0.06	0.15
Child was female	0.51	0.52	0.45	0.49	0.43	0.50	0.49	0.52
Child was white	0.35	0.71	0.76	0.86	0.24	0.71	0.73	0.87
Child was black	0.13	0.14	0.12	0.04	0.24	0.17	0.18	0.07
Child was Hispanic	0.39	0.08	0.06	0.01	0.35	0.06	0.03	0.02
Child was other race	0.13	0.07	0.06	0.09	0.17	0.06	0.06	0.04
Child's birthweight	7.06	6.98	7.02	6.97	6.96	6.93	7.07	7.18
Number of children in the household	2.50	2.12	1.92	2.16	3.10	2.40	2.36	2.44
Family income was \$75,000 or more	0.09	0.09	0.22	0.57	0.19	0.14	0.37	0.65
Family income was between \$50,000 and \$75,000	0.24	0.22	0.28	0.27	0.24	0.27	0.22	0.22
Family income was between \$30,000 and \$50,000	0.26	0.35	0.26	0.10	0.14	0.26	0.21	0.05
Family income was less than \$30,000	0.41	0.34	0.25	0.06	0.43	0.33	0.20	0.08
Imputation flag for family income	0.42	0.09	0.06	0.11	0.40	0.05	0.06	0.04
Biological father and mother (or stepmother)	0.69	0.78	0.81	0.96	0.65	0.69	0.77	0.86
Single-mother family	0.30	0.19	0.17	0.03	0.33	0.26	0.20	0.13
Biological mother and stepfather	0.01	0.04	0.02	0.00	0.04	0.05	0.04	0.01
Mother employed	0.51	0.67	0.76	0.74	0.58	0.84	0.79	0.80
Mother's passage comprehension score	90.2	96.2	103.1	108.3	87.3	96.8	102.3	109.4
N	187	310	326	216	224	435	396	231

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Table 3.6. Means of Independent Variables Among Families with Adolescents (Children Aged 13 to 17) by Maternal Education, 2002

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated
Mother's age was between 17 and 24 years old	0.00	0.00	0.00	0.00
Mother's age was between 25 and 29 years old	0.01	0.01	0.02	0.00
Mother's age was between 30 and 34 years old	0.23	0.16	0.07	0.03
Mother's age was between 35 and 39 years old	0.37	0.35	0.25	0.16
Mother's age was between 40 and 44 years old	0.18	0.29	0.37	0.31
Mother's age was 45 or older	0.21	0.19	0.29	0.51
Child was female	0.47	0.51	0.46	0.52
Child was white	0.27	0.73	0.76	0.79
Child was black	0.25	0.18	0.16	0.10
Child was Hispanic	0.40	0.06	0.04	0.02
Child was other race	0.09	0.03	0.04	0.09
Child's birthweight	6.97	6.71	7.20	7.22
Number of children in the household	3.12	2.09	2.08	2.02
Family income was \$75,000 or more	0.06	0.21	0.43	0.69
Family income was between \$50,000 and \$75,000	0.13	0.30	0.26	0.17
Family income was between \$30,000 and \$50,000	0.27	0.20	0.15	0.11
Family income was less than \$30,000	0.54	0.29	0.15	0.03
Biological father and mother (or stepmother)	0.58	0.64	0.66	0.80
Single-mother family	0.29	0.28	0.27	0.13
Biological mother and stepfather	0.10	0.06	0.06	0.03
Mother employed	0.77	0.83	0.85	0.85
Mother's passage comprehension score	86.5	96.7	102.4	107.1
N	122	264	250	150

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Table 4.1. Preschool-Aged (0-5) Children's Overall Hours Per Week with Parents and in Selected Enrichment Activities with Parents, 1997

	Mean/Percentage	(SE)
Time with parents		
Hours per week spent with mother	32.4	(0.66)
Hours per week spent with father	15.7	(0.54)
Reading		
Percent who read with parents	45.2%	-
Reading with parents among participants only	2.5	(0.13)
Overall hours per week child read with parents	1.1	(0.08)
Overall hours per week child read without parents	0.3	(0.05)
Playing		
Percent who played with parents	77.5%	-
Playing with parents among participants only	9.6	(0.43)
Overall hours per week child played with parents	7.4	(0.37)
Overall hours per week child played without parents	13.5	(0.45)
Watching TV		
Percent who watched TV with parents	55.1%	-
Watching TV with parents among participants only	6.2	(0.36)
Overall hours per week child watched TV with parents	3.4	(0.24)
Overall hours per week child watched TV without parents	6.7	(0.29)
N	1039	

Table 4.2. Preschool-Aged (0-5) Children's Daily Affection from Parents and Hours per Week in Daily Interactions with Parents, 1997

	Mean/Percentage	(SE)
Maternal warmth		
Percent of mothers saying "I love you" to child daily	94.0%	-
Percent of mothers telling child he/she appreciated daily	71.5%	-
Parent-child conversations		
Percent of mothers talking with child about child's interests daily	72.5%	-
Percent of children reporting conversation with parent in diary	19.1%	-
Eating meals together		
Eat dinner as a family "several" times a week	64.1%	-
Percent eating meals with parents in diary	91.1%	-
Overall hours eating meals with parents in diary	5.0	(0.17)
Hours eating meals with parents in diary among participants	5.5	(0.16)
Visiting		
Hours per week spent with extended family	8.2	(0.52)
Percent who visit with people outside the HH	22.2%	-
Overall hours visiting with others	1.3	(0.22)
Visiting with others among participants only	6.0	(0.82)
Maternal supervision		
Aware of child's whereabouts "all of the time"	95.3%	-
Waking hours per week spent alone	10.6	(0.45)
N	1039	

Table 4.3. Adjusted Estimates of Preschool-Aged (0-5) Children's Average Hours Per Week with Parents and in Selected Enrichment Activities with Parents by Maternal Education, 1997

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated	
Time with parents					
Hours per week spent with mother	33.5	31.5	32.2	32.9	
Hours per week spent with father	16.3	13.8	15.8	17.2	^B
Reading					
Percent who read with parents	29.0%	35.9%	49.1%	54.9%	^{AB}
Reading with parents among participants only	3.5	3.8	4.4	4.3	
Overall hours per week child read with parents	0.6	0.8	1.4	1.5	^{AB}
Overall hours per week child read without parents	0.4	0.4	0.3	0.2	
Playing					
Percent who played with parents	82.7%	72.1%	80.4%	87.0%	^B
Playing with parents among participants only	10.4	8.9	9.4	9.1	
Overall hours per week child played with parents	8.3	6.4	7.5	7.8	
Overall hours per week child played without parents	14.6	13.9	15.1	13.3	
Watching TV					
Percent who watched TV with parents	61.9%	55.0%	53.6%	54.3%	
Watching TV with parents among participants only	8.6	7.0	5.4	4.5	^{AB}
Overall hours per week child watched TV with parents	5.2	3.9	2.9	2.5	^{AB}
Overall hours per week child watched TV without parents	7.9	6.3	6.6	6.7	
N	187	310	326	216	

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 4.4. Adjusted Estimates of Preschool-Aged (0-5) Children's Daily Affection from Mothers and Average Hours per Week in Daily Interactions with Parents by Maternal Education, 1997

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated
Maternal warmth				
Percent of mothers saying "I love you" to child daily	92.2%	95.3%	98.9%	96.7%
Percent of mothers telling child he/she appreciated daily	65.9%	74.2%	77.3%	67.6%
Parent-child conversations				
Percent of mothers talking with child about child's interests daily	57.1%	72.7%	81.5%	76.6% ^A
Percent of children reporting conversation with parent in diary	19.3%	14.3%	16.3%	17.1%
Eating meals together				
Eat dinner as a family "several" times a week	75.9%	60.9%	62.8%	59.8%
Percent eating meals with parents in diary	90.7%	93.5%	92.1%	94.9%
Overall hours eating meals with parents in diary	5.3	5.2	4.6	5.3
Hours eating meals with parents in diary among participants	6.0	5.6	5.1	5.7
Visiting				
Hours per week spent with extended family	6.8	8.1	8.9	8.3
Percent who visit with people outside the HH	22.7%	19.6%	21.9%	17.9%
Overall hours visiting with others	2.3	0.7	1.6	1.1
Visiting with others among participants only	9.9	4.1	6.1	5.2
Maternal supervision				
Aware of child's whereabouts "all of the time"	97.2%	97.1%	97.4%	98.6%
Waking hours per week spent alone	11.2	10.4	10.4	10.8
N	187	310	326	216

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 4.5. Percent of Preschool-Aged (0-5) Children Engaged in Organized and Structured Activities by Maternal Education, 1997

	All Children Aged 0-5					All Children Aged 3-5				
	Total	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college-educated	Total	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college-educated
Organized and structured activities	9.2%	1.9%	10.0%	12.4%	8.4%	14.9%	3.9%	13.9%	13.9%	14.2%
Organizations	5.5%	1.2%	7.1%	7.5%	3.9%	8.0%	2.3%	8.3%	12.2%	5.5%
Meets, games, practices for organized sports	1.7%	0.8%	1.3%	1.8%	2.6%	3.2%	1.6%	2.4%	3.5%	4.8%
Lessons in sports, music, voice	2.0%	0.0%	1.6%	3.2%	2.0%	3.7%	0.0%	3.2%	5.6%	4.0%
Other active sports activities	21.0%	16.8%	19.0%	26.0%	19.1%	30.5%	26.4%	28.7%	36.4%	27.1%
N	1039	187	310	326	216	540	97	168	164	111

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Note. Organizational activities include such activities as Cub Scouts, YMCA, neighborhood organizations, and volunteering that the child may be doing alone or with someone else. If a parent is doing volunteer work and brings along the child, this would be included in these estimates. Figures exclude organized religious activities.

Table 4.6. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Maternal Reading with Children Among Children Aged 3-5 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than h.s. degree	-14.1 ***	-11.9 ***	-6.8 *	-6.9 *	-5.5 #	-1.3	-0.2
Mother attained a h.s.degree	-10.1 ***	-8.5 ***	-4.7 #	-4.6 #	-3.5	-0.2	0.7
Mother has some college	-3.5	-3.2	-0.8	-0.8	-0.3	0.8	1.2
<i>Child read with parent</i>		6.2 ***	5.9 **	5.6 ***	5.7 **	5.5 **	5.1 **
Family income \$75,000 or more			7.6 **	5.7 #	4.5 *	4.3	5.4 *
Family income \$50,000 - \$75,000			4.3	2.5	1.9	2.0	3.1
Family income \$30,000 - \$50,000			0.4	-1.0	-1.0	-1.8	-1.8
Single-mother family				-3.1	-3.1	-2.2	-2.9
Biological mother and stepfather				-4.2	-2.6	-1.9	0.2
Mother is 17 - 24 years old					-1.7	-0.9	-0.8
Mother is 25 - 29 years old					1.3	2.0	1.4
Mother is 35 - 39 years old					4.4 *	4.4 *	4.8 *
Mother is 40 - 44 years old					3.9	2.5	3.0
Mother is 45 or older					0.1	1.3	0.7
Mother's reading comp score						0.2 ***	0.3 ***
R-squared	0.10	0.14	0.18	0.18	0.20	0.24	0.27
Mother has less than h.s. degree	-14.1 ***	-12.2 ***	-6.9 *	-6.9 *	-5.4 #	-1.4	-0.3
Mother attained a h.s.degree	-10.1 ***	-8.6 ***	-4.6 #	-4.5 #	-3.3	-0.1	0.7
Mother has some college	-3.5	-3.6	-1.0	-1.0	-0.6	0.5	0.8
<i>Hours per week read with parent</i>		2.0 **	2.0 **	1.9 ***	1.9 **	1.8 **	1.8 **
Family income \$75,000 or more			7.8 **	6.1 *	4.8	4.7 #	5.4 *
Family income \$50,000 - \$75,000			4.3	2.7	2.2	2.2	2.9
Family income \$30,000 - \$50,000			0.1	-1.1	-1.2	-2.0	-2.4
Single-mother family				-2.8	-2.7	-2.0	-3.0
Biological mother and stepfather				-4.8	-3.1	-2.5 ***	-0.4
Mother is 17 - 24 years old					-2.1	-1.3	-1.0
Mother is 25 - 29 years old					1.3	1.9	1.3
Mother is 35 - 39 years old					4.4 *	4.5 *	4.9 *
Mother is 40 - 44 years old					3.2	1.9	2.3
Mother is 45 or older					-2.1	-0.9	-1.1
Mother's reading comp score						0.2 ***	0.3 ***
R-squared	0.10	0.15	0.19	0.19	0.21	0.24	0.28
N	419	419	419	419	419	419	419

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with maternal education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 4.7. OLS Regression Coefficients of Letter-Word Comprehension on maternal Education and maternal Investment Among Children Aged 3-5 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than h.s. degree	-14.1 ***	-13.4 ***	-8.5 **	-8.6 **	-7.3 *	-3.2	-1.6
Mother attained a h.s.degree	-10.1 ***	-9.1 ***	-5.5 *	-5.3 *	-4.4 #	-1.2	0.0
Mother has some college	-3.5	-3.3	-1.0	-0.8	-0.6	0.5	0.9
<i>Hrs/wk watching tv w/parents</i>		<i>-0.3 *</i>	<i>-0.3 *</i>	<i>-0.3 #</i>	<i>-0.3 #</i>	<i>-0.2</i>	<i>-0.3 #</i>
Family income \$75,000 or more			6.9 *	4.2 *	3.2	3.2	4.0
Family income \$50,000 - \$75,000			3.6	0.9	0.4	0.6	1.5
Family income \$30,000 - \$50,000			-0.7	-2.8	-2.9	-3.5	-3.8
Single-mother family				-4.5 #	-4.6 *	-3.8 #	-4.8 *
Biological mother and stepfather				-3.9	-2.2	-1.4	0.6
Mother is 17 - 24 years old					-2.4	-1.6	-1.6
Mother is 25 - 29 years old					2.4	2.9	2.2
Mother is 35 - 39 years old					3.7 #	3.7 #	4.4 *
Mother is 40 - 44 years old					4.4	3.1	3.5
Mother is 45 or older					0.4	1.5	0.6
Mother's reading comp score						0.2 ***	0.3 ***
R-squared	0.10	0.12	0.15	0.16	0.18	0.21	0.25
Mother has less than h.s. degree	-14.1 ***	-11.5 ***	-6.7 *	-6.8 *	-5.5 #	-1.6	-0.4
Mother attained a h.s.degree	-10.1 ***	-7.7 **	-4.1	-4.0	-3.0	0.0	0.9
Mother has some college	-3.5	-3.4	-1.1	-1.0	-0.7	0.3	0.6
Imputation flag for education	4.5	4.8	5.0	5.4	5.1	3.8	3.5
<i>Hrs/wk watching tv w/parents</i>		<i>-0.3 *</i>	<i>-0.3 #</i>	<i>-0.3 #</i>	<i>-0.3 #</i>	<i>-0.2</i>	<i>-0.3 #</i>
<i>Hours per week read with parent</i>		<i>2.0 **</i>	<i>1.9 **</i>	<i>1.9 **</i>	<i>1.9 **</i>	<i>1.8 **</i>	<i>1.8 **</i>
Family income \$75,000 or more			6.8 *	5.1 #	4.0	4.0	4.6 #
Family income \$50,000 - \$75,000			3.5	1.9	1.4	1.6	2.2
Family income \$30,000 - \$50,000			-0.8	-2.0	-2.1	-2.7	-3.3
Single-mother family				-2.8	-2.8	-2.1	-3.5 #
Biological mother and stepfather				-5.4	-3.8	-3.0	-1.1
Mother is 17 - 24 years old					-1.8	-1.1	-0.9
Mother is 25 - 29 years old					1.7	2.2	1.6
Mother is 35 - 39 years old					4.4 *	4.4 *	4.8 *
Mother is 40 - 44 years old					3.1	1.9	2.2
Mother is 45 or older					-1.5	-0.5	-0.6
Mother's reading comp score						0.2 ***	0.3 ***
R-squared	0.10	0.16	0.20	0.20	0.22	0.25	0.28
N	419	419	419	419	419	419	419

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with maternal education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 5.1. Children (Aged 6-12)'s Overall Hours Per Week Spent with Parents and in Selected Enrichment Activities with Parents, 1997

	Mean/Percentage	(SE)
Time with parents		
Hours per week spent with mother	18.7	(0.49)
Hours per week spent with father	11.1	(0.41)
Reading		
Percent who read with parents	15.9%	-
Reading with parents among participants only	2.2	(0.13)
Overall hours per week child read with parents	0.3	(0.04)
Overall hours per week child read without parents	0.8	(0.08)
Playing		
Percent who played with parents	32.5%	-
Playing with parents among participants only	4.2	(0.30)
Overall hours per week child played with parents	1.4	(0.13)
Overall hours per week child played without parents	10.1	(0.40)
Watching TV		
Percent who watched TV with parents	60.9%	-
Watching TV with parents among participants only	6.3	(0.24)
Overall hours per week child watched TV with parents	3.8	(0.20)
Overall hours per week child watched TV without parents	9.0	(0.35)
N	1286	

Table 5.2. Children Aged 6 to 12's Participation in Educational, Organized and Structured Activities, 1997

	Mean/Percentage	(SE)
Scholastic activities		
Parent volunteered with school	35.6%	-
Parent met with teachers	82.6%	-
Parent attended school event for child	65.7%	-
Parent attended PTA	42.9%	-
Total structured leisure activities^A		
Percent participating in structured leisure activity on diary day	27.5%	-
Hours per week spent in structured leisure among participants	6.2	(0.43)
Hours per week spent in structured leisure activities	1.7	(0.16)
Lessons		
Percent participating in lessons on diary day	5.6%	-
Hours per week spent in lessons among participants	5.3	(0.36)
Hours per week spent in lessons	0.3	(0.05)
Sports		
Percent participating in organized sports on diary day	13.9%	-
Hours in sports among participants	7.7	(0.65)
Hours per week in meets, games, practices for sports	1.1	(0.13)
Organizational activities		
Child participated in organizational activity on diary day	10.4%	-
Hours per week in organizations among participants	3.4	(0.64)
Hours per week in organizational activity	0.4	(0.08)
Other active sports^B		
Percent participating in active sports activity on diary day	43.3%	-
Hours per week spent in active sports activity among participants	5.9	(0.28)
Hours per week spent in active sports	2.5	(0.17)
N	1286	

^ATotal structured activities include lessons, sports, and organizational activities. ^BOther active sports activities include traditional team-based sports like football that are not necessarily organized/structured/supervised by an adult/coach.

Table 5.3. Children in Middle Childhood (Aged 6-12)'s Daily Affection from Parents and Hours per Week in Daily Interactions with Parents, 1997

	Mean/Percentage	(SE)
Daily affection		
Say "I love you" to child daily	80.4%	-
Tell child he/she appreciated daily	42.6%	-
Parent-child conversations		
Talk with child about child's interests daily	49.0%	-
Percent reporting conversation with parent in diary	21.4%	-
Hours spent in conversation among participants	1.4	(0.08)
Overall hours spent in conversations with parents in diary	0.3	(0.03)
Eating meals together		
Eat dinner as a family "several" times a week	59.1%	-
Percent eating meals with parents in diary	80.5%	-
Hours eating meals with parents in diary among participants	3.5	(0.10)
Overall hours eating meals with parents in diary	2.9	(0.10)
Visiting		
Hours per week spent with extended family	5.6	(0.44)
Percent who visit with people outside the HH	21.7%	-
Visiting with others among participants only	4.6	(0.70)
Overall hours visiting with others	1.0	(0.17)
Parental supervision		
Aware of child's whereabouts "all of the time"	85.1%	-
Waking hours per week spent alone	12.3	(0.47)
N	1286	

Table 5.4. Adjusted Estimates of Children (Aged 6-12)'s Overall Hours Per Week with Parents and in Selected Enrichment Activities with Parents by Maternal Education, 1997

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated	
Time with parents					
Hours per week spent with mother	14.4	19.1	19.4	20.9	A
Hours per week spent with father	11.8	10.8	10.1	12.1	
Reading					
Percent who read with parents	2.2%	11.1%	17.5%	25.3%	AB
Reading with parents among participants only	1.8	2.8	1.8	2.2	
Overall hours per week child read with parents	0.0	0.4	0.4	0.6	A
Overall hours per week child read without parents	0.4	0.8	0.8	1.2	A
Playing					
Percent who played with parents	19.3%	29.6%	31.3%	43.9%	AB
Playing with parents among participants only	4.5	3.8	5.0	3.1	
Overall hours per week child played with parents	0.9	1.2	1.6	1.5	
Overall hours per week child played without parents	9.4	9.7	10.0	10.8	
Watching TV					
Percent who watched TV with parents	75.2%	65.8%	48.2%	60.5%	C
Watching TV with parents among participants only	7.3	6.9	5.5	5.2	AB
Overall hours per week child watched TV with parents	5.5	4.5	2.7	2.9	AB
Overall hours per week child watched TV without parents	12.1	8.8	8.7	7.3	AC
N	224	435	396	231	

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 5.5. Adjusted Estimates of Children (Aged 6-12)'s Participation in Educational, Organized and Structured Activities by Maternal Education, 1997

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college-educated	
Scholastic activities					
Parent volunteered with school	29.4%	26.9%	37.9%	44.6%	^B
Parent met with teachers	79.6%	77.1%	86.8%	90.4%	^{AB}
Parent attended school event for child	24.7%	38.9%	49.3%	54.8%	
Parent attended PTA	24.7%	31.2%	35.3%	40.6%	^{AB}
Total structured leisure activities^D					
Percent participating in structured leisure activity on diary day	8.8%	24.8%	29.4%	30.8%	^{AB}
Hours per week spent in structured leisure activities	1.0	1.7	2.2	1.8	
Hours per week spent in structured leisure among participants	4.6	5.6	6.4	5.2	
Lessons					
Percent participating in lessons on diary day	0.6%	3.9%	3.7%	5.9%	^A
Hours per week spent in lessons	0.1	0.3	0.3	0.4	
Hours per week spent in lessons among participants	7.1	5.7	4.9	4.9	
Sports					
Percent participating in organized sports on diary day	4.1%	9.9%	9.9%	10.5%	
Hours per week in meets, games, practices for sports	0.8	1.1	1.3	0.9	
Hours in sports among participants	6.0	7.6	8.5	6.5	
Organizational activities					
Child participated in organizational activity on diary day	2.5%	6.4%	9.9%	10.5%	^A
Hours per week in organizational activity	0.1	0.2	0.6	0.4	
Hours per week in organizations among participants	0.6	2.2	5.0	3.3	
Other active sports^E					
Percent participating in structured leisure activity on diary day	44.8%	44.1%	41.0%	41.9%	
Hours per week spent in structured leisure among participants	2.8	2.5	2.4	2.5	
Hours per week spent in structured leisure activities	5.4	5.7	5.8	5.8	
N	224	435	396	231	

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

^DTotal structured activities include lessons, sports, and organizational activities. ^EOther active sports activities include traditional team-based sports like football that are not necessarily organized/structured/supervised by an adult/coach.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 5.6. Adjusted Estimates of Children (Aged 6 to 12)'s Daily Affection from Parents and Daily Interactions with Parents by Maternal Education, 1997

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated
Daily affection				
Say "I love you" to child daily	85.1%	80.4%	83.6%	82.2%
Tell child he/she appreciated daily	33.8%	40.8%	45.4%	47.3%
Parent-child conversations				
Talk with child about child's interests daily	40.9%	46.1%	50.2%	57.4%
Percent reporting conversation with parent in diary	15.2%	15.2%	20.4%	27.2%
Overall hours spent in conversations with parents in diary	0.2	0.2	0.3	0.4 ^B
Hours spent in conversation among participants	1.5	1.3	1.6	1.4
Eating meals together				
Eat dinner as a family "several" times a week	63.7%	50.3%	63.2%	45.1% ^C
Percent eating meals with parents in diary	77.3%	79.0%	86.3%	82.0%
Overall hours eating meals with parents in diary	2.8	2.7	3.2	2.7
Hours eating meals with parents in diary among participants	3.6	3.5	3.7	3.4
Visiting				
Hours per week spent with extended family	7.3	5.4	5.4	4.6
Percent who visit with people outside the HH	14.1%	23.4%	19.7%	22.0%
Overall hours visiting with others	0.6	1.4	0.8	1.0
Visiting with others among participants only	4.9	4.8	4.0	5.0
Parental supervision				
Aware of child's whereabouts "all of the time"	90.1%	88.8%	86.5%	80.1% ^{AB}
Waking hours per week spent alone	11.9	12.8	13.1	10.8
N	224	435	396	231

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 5.7. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Children's Reading Activities Among Children Aged 6-12 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than a high school degree	-15.5 ***	-15.9 ***	-12.9 ***	-12.9 ***	-13.3 ***	-9.8 ***	-8.8 ***
Mother attained a high school degree	-9.7 ***	-10.0 ***	-8.4 ***	-8.3 ***	-8.2 ***	-5.9 **	-6.0 ***
Mother has some college	-5.3 **	-5.4 **	-4.5 *	-4.5	-4.4 *	-3.4 #	-3.5 *
<i>Reading with parents indicator</i>		-2.2	-2.3	-2.7 #	-2.6 #	-2.8 #	-3.5 *
Family income \$75,000 or more			5.4 **	3.8 #	3.6 #	2.5	2.3
Family income \$50,000 - \$75,000			3.8 *	2.2	2.0	1.2	0.8
Family income \$30,000 - \$50,000			4.7 **	3.4 #	3.5 *	2.2	1.3
Single-mother family				-2.59	-2.86 #	-1.8	-0.3
Biological mother and stepfather				-3.9 *	-3.75 #	-3.5 #	-2.9
Mother's age 17 - 24 years old					-0.4	0.5	-1.1
Mother's age 25 - 29 years old					-1.0	-0.8	-1.5
Mother's age 35 - 39 years old					-2.0	-1.7	-1.9
Mother's age 40 - 44 years old					-1.4	-1.1	-1.2
Mother's age is 45 or older					3.0	3.0	1.7
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.11	0.13	0.14	0.14	0.17	0.23
Mother has less than a high school degree	-15.5 ***	-14.7 ***	-11.9 ***	-11.8 ***	-12.3 ***	-9.0 ***	-7.8 ***
Mother attained a high school degree	-9.7 ***	-9.3 ***	-7.8 ***	-7.7 ***	-7.6 ***	-5.4 **	-5.4 **
Mother has some college	-5.3 **	-4.9 **	-4.1 **	-4.1 *	-4.0 #	-3.0	-3.2 #
<i>Hours/week reading</i>		0.5 #	0.5 #	0.5 #	0.4	0.4	0.4
Family income \$75,000 or more			5.2 **	4.1 #	3.8 #	2.8	2.7
Family income \$50,000 - \$75,000			3.5 *	2.4	2.1	1.3	1.0
Family income \$30,000 - \$50,000			4.7 **	3.8 *	3.8 *	2.5	1.7
Single-mother family				-1.9	-2.2	-1.2	0.2
Biological mother and stepfather				-3.72 #	-3.6 #	-3.3	-2.8
Mother's age 17 - 24 years old					-0.4	0.5	-1.2
Mother's age 25 - 29 years old					-1.0	-0.9	-1.7
Mother's age 35 - 39 years old					-1.9	-1.7	-1.9
Mother's age 40 - 44 years old					-1.2	-0.9	-1.1
Mother's age is 45 or older					2.8	2.9	1.6
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.11	0.13	0.13	0.14	0.16	0.22
N	1100	1100	1100	1100	1100	1100	1100

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with parental education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 5.8. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Parental Playing with Children and TV Viewing with Children Among Children Aged 6-12 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than a high school degree	-15.5 ***	-15.3 ***	-12.4 ***	-12.3 ***	-12.7 ***	-9.2 ***	-8.2 ***
Mother attained a high school degree	-9.7 ***	-9.6 ***	-8.1 ***	-8.0 ***	-7.8 ***	-5.5 **	-5.6 **
Mother has some college	-5.3 **	-5.1 **	-4.3 *	-4.3 *	-4.1 *	-3.1	-3.3 #
<i>Playing with parents indicator</i>		<i>1.1</i>	<i>0.8</i>	<i>0.6</i>	<i>0.7</i>	<i>0.7</i>	<i>-0.1</i>
Family income \$75,000 or more			5.3 **	4.0 #	3.7 #	2.7	2.6
Family income \$50,000 - \$75,000			3.7 *	2.5	2.2	1.4	1.0
Family income \$30,000 - \$50,000			4.6 **	3.6 *	3.7 *	2.4	1.5
Single-mother family				-2.1	-2.33	-1.3	0.1
Biological mother and stepfather				-3.7 #	-3.42 #	-3.1	-2.8
Mother's age 17 - 24 years old					-0.7	0.2	-1.4
Mother's age 25 - 29 years old					-1.2	-1.0	-1.8
Mother's age 35 - 39 years old					-2.0	-1.8	-1.9
Mother's age 40 - 44 years old					-1.2	-0.9	-1.1
Mother's age is 45 or older					3.2	3.2	1.8
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.11	0.13	0.13	0.14	0.16	0.22
Mother has less than a high school degree	-15.5 ***	-15.2 ***	-12.3 ***	-12.2 ***	-12.6 ***	-9.3 ***	-8.1 ***
Mother attained a high school degree	-9.7 ***	-9.6 ***	-8.1 ***	-7.9 ***	-7.8 ***	-5.6 **	-5.5 **
Mother has some college	-5.3 **	-5.2 **	-4.4 *	-4.4 *	-4.2 *	-3.2 #	-3.3 #
<i>Overall hours/week watched TV</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
Family income \$75,000 or more			5.3 **	4.0 #	3.7 #	2.7	2.5
Family income \$50,000 - \$75,000			3.7 *	2.4	2.1	1.3	1.0
Family income \$30,000 - \$50,000			4.6 **	3.6 *	3.7 *	2.4	1.5
Single-mother family				-2.1	-2.4	-1.4	0.1
Biological mother and stepfather				-3.7 #	-3.5 #	-3.2	-2.7
Mother's age 17 - 24 years old					-0.7	0.2	-1.5
Mother's age 25 - 29 years old					-1.2	-1.1	-1.9
Mother's age 35 - 39 years old					-1.9	-1.7	-1.9
Mother's age 40 - 44 years old					-1.2	-1.0	-1.1
Mother's age is 45 or older					3.1	3.2	1.8
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.11	0.13	0.13	0.14	0.16	0.22
N	1100	1100	1100	1100	1100	1100	1100

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with parental education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 5.9. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Parental Investment Indicators Among Children Aged 6-12 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than a high school degree	-15.5 ***	-14.3 ***	-12.1 ***	-12.0 ***	-12.3 ***	-8.6 ***	-7.7 ***
Mother attained a high school degree	-9.7 ***	-9.0 ***	-7.9 ***	-7.8 ***	-7.6 ***	-5.2 **	-5.3 **
Mother has some college	-5.3 **	-5.0 **	-4.3 *	-4.3 *	-4.1 *	-3.1	-3.2 #
<i>Indicator for structured activities</i>		3.7 **	2.9 *	2.8 *	2.8 *	3.2 *	2.2 #
Family income \$75,000 or more			4.6 *	3.3	3.0	1.9	2.0
Family income \$50,000 - \$75,000			3.3 #	2.1	1.8	0.9	0.7
Family income \$30,000 - \$50,000			4.1 **	3.2 #	3.2 #	1.8	1.1
Single-mother family				-2.0	-2.3	-1.2	0.1
Biological mother and stepfather				-3.58 #	-3.4 #	-3.1	-2.7
Mother's age 17 - 24 years old					0.0	1.0	-0.9
Mother's age 25 - 29 years old					-0.9	-0.7	-1.6
Mother's age 35 - 39 years old					-1.6	-1.4	-1.7
Mother's age 40 - 44 years old					-1.1	-0.8	-1.0
Mother's age is 45 or older					3.5	3.5	2.1
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.12	0.13	0.14	0.14	0.17	0.22
Mother has less than a high school degree	-15.5 ***	-13.2 ***	-11.2 ***	-11.1 ***	-11.5 ***	-8.1 ***	-7.3 **
Mother attained a high school degree	-9.7 ***	-8.5 ***	-7.5 ***	-7.4 ***	-7.2 ***	-4.9 **	-5.1 **
Mother has some college	-5.3 **	-4.5 *	-3.9 *	-4.0 *	-3.8 #	-2.8	-3.1 #
<i>Indicator for playing with parents</i>		0.8	0.7	0.5	0.6	0.6	-0.1
<i>Hours/week reading</i>		0.5 #	0.5 #	0.5 #	0.4	0.4	0.37
<i>Hours/week watched TV</i>		0.0	0.0	0.0	0.0	0.0	0.0
<i>Indicator for structured activities</i>		3.6 **	2.8 *	2.8 *	2.7 *	3.2 *	2.2 #
Family income \$75,000 or more			4.3 *	3.3	3.1	2.0	2.1
Family income \$50,000 - \$75,000			3.1 #	2.1	1.8	1.0	0.8
Family income \$30,000 - \$50,000			4.2 **	3.4 *	3.4 *	2.0	1.3
Single-mother family				-1.7	-2.0	-0.9	0.2
Biological mother and stepfather				-3.36	-3.2	-2.9	-2.7
Mother's age 17 - 24 years old					0.1	1.2	-0.7
Mother's age 25 - 29 years old					-0.8	-0.6	-1.5
Mother's age 35 - 39 years old					-1.6	-1.4	-1.6
Mother's age 40 - 44 years old					-1.0	-0.7	-1.0
Mother's age is 45 or older					3.1	3.2	1.8
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.13	0.14	0.14	0.15	0.18	0.23
N	1100	1100	1100	1100	1100	1100	1100

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with parental education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 5.10. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Parental Investment in Children's Schooling Among Children Aged 6-12 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than a high school degree	-15.5 ***	-15.4 ***	-12.6 ***	-12.5 ***	-12.8 ***	-9.4 ***	-8.2 ***
Mother attained a high school degree	-9.7 ***	-9.4 ***	-8.0 ***	-7.9 ***	-7.7 ***	-5.5 ***	-5.4 ***
Mother has some college	-5.3 **	-4.9 **	-4.2 *	-4.2 *	-4.0 #	-2.9	-3.0 #
<i>Indicator for parent-teacher conferences</i>		0.8	0.9	0.9	1.0	0.4	0.4
Family income \$75,000 or more			5.0 **	3.5	3.2	2.1	1.9
Family income \$50,000 - \$75,000			4.0 *	2.5	2.2	1.3	1.0
Family income \$30,000 - \$50,000			4.5 **	3.3 #	3.4 #	2.0	1.2
Single-mother family				-2.41	-2.69	-1.7	-0.2
Biological mother and stepfather				-3.88 *	-3.67 #	-3.3 #	-2.7
Mother's age 17 - 24 years old					-0.7	0.2	-1.5
Mother's age 25 - 29 years old					-1.2	-1.1	-1.8
Mother's age 35 - 39 years old					-1.7	-1.4	-1.7
Mother's age 40 - 44 years old					-1.3	-1.0	-1.1
Mother's age is 45 or older					3.2	3.3	2.0
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.11	0.13	0.13	0.14	0.16	0.22
Mother has less than a high school degree	-15.5 ***	-15.1 ***	-12.3 ***	-12.1 ***	-12.5 ***	-8.8 ***	-7.7 ***
Mother attained a high school degree	-9.7 ***	-9.4 ***	-8.0 ***	-7.9 ***	-7.8 ***	-5.4 **	-5.4 **
Mother has some college	-5.3 **	-5.0 **	-4.2 *	-4.2 *	-4.1 #	-3.0	-3.1 #
<i>Indicator for attending pta meetings</i>		1.4	1.2	1.3	1.4	1.8	1.6
Family income \$75,000 or more			5.1 **	3.7 #	3.4	2.2	2.0
Family income \$50,000 - \$75,000			4.1 *	2.7	2.4	1.6	1.1
Family income \$30,000 - \$50,000			4.6 **	3.5 #	3.5 #	2.1	1.2
Single-mother family				-2.31	-2.6	-1.6	-0.1
Biological mother and stepfather				-3.72 #	-3.55 #	-3.2	-2.7
Mother's age 17 - 24 years old					-0.7	0.2	-1.4
Mother's age 25 - 29 years old					-1.1	-0.9	-1.6
Mother's age 35 - 39 years old					-1.7	-1.5	-1.7
Mother's age 40 - 44 years old					-1.4	-1.2	-1.2
Mother's age is 45 or older					3.2	3.2	1.9
Mother's reading comprehension score						0.2 ***	0.2 ***
R-squared	0.11	0.11	0.13	0.14	0.14	0.17	0.23
N	1086	1086	1086	1086	1086	1086	1086

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with parental education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 6.1. Adolescents' Time with Parents and Daily Affection from Parents, 2002

	Mean/Percentage	(SE)
Time with parents		
Hours per week spent with mother	13.5	(0.6)
Hours per week spent with father	9.4	(0.6)
Parental supervision		
Aware of child's whereabouts "all of the time"	68.9%	-
Waking hours per week spent alone	23.1	(0.7)
Visiting		
Hours per week spent with extended family	3.2	(3.2)
Percent who visit with people outside the HH	25.9%	-
Visiting with others among participants only	6.1	(0.6)
Overall hours visiting with others	1.6	(0.2)
Watching television		
Percent who watched TV with parents	52.8%	-
Hours child watched TV with parents among participants	7.9	(0.5)
Overall hours per week child watched TV with parents	4.1	(0.3)
Overall hours per week child watched TV without parents	10.2	(0.5)
Parent-child conversations		
Talk with child about child's interests daily	27.0%	-
Percent reporting conversation with parent in diary	18.0%	-
Hours spent in conversation among participants	2.5	(0.2)
Overall hours spent in conversations with parents in diary	0.4	(0.1)
Eating meals together		
Eat dinner as a family "several" times a week	43.5%	-
Percent eating meals with parents in diary	63.4%	-
Hours eating meals with parents in diary among participants	3.4	(0.1)
Overall hours eating meals with parents in diary	2.2	(0.1)
Daily affection		
Say "I love you" to child daily	61.6%	-
Tell child he/she appreciated daily	18.3%	-
N	786	

Table 6.2. Parental Investment in Adolescents' Schooling and Adolescents' Participation in Organized and Structured Activities, 2002

	Mean/Percentage	(SE)
Scholastic activities		
Parent volunteered with school	16.9%	-
Parent met with teachers	68.2%	-
Parent attended school event for child	68.2%	-
Parent attended PTA	36.1%	-
Total structured leisure activities^D		
Percent participating in structured leisure activity on diary day	26.3%	-
Hours per week spent in structured leisure among participants	16.5	(1.3)
Hours per week spent in structured leisure activities	4.3	(0.5)
Lessons		
Percent participating in lessons on diary day	1.4%	-
Hours per week spent in lessons among participants	2.1	(0.6)
Hours per week spent in lessons	0.0	(0.0)
Sports		
Percent participating in organized sports on diary day	18.7%	-
Hours in sports among participants	21.4	(1.3)
Hours per week in meets, games, practices for sports	4.0	(0.5)
Organizational activities		
Child participated in organizational activity on diary day	9.2%	-
Hours per week in organizations among participants	3.3	(0.8)
Hours per week in organizational activity	0.3	(0.1)
Other active sports^E		
Percent participating in structured leisure activity on diary day	26.4%	-
Hours per week spent in structured leisure among participants	2.1	(0.2)
Hours per week spent in structured leisure activities	8.0	(0.6)
N	786	

^DTotal structured activities include lessons, sports, and organizational activities. ^EOther active sports activities include traditional team-based sports like football that are not necessarily organized/structured/supervised by an adult/coach.

Table 6.3. Adjusted Estimates of Adolescents' Time with Parents and Daily Affection from Parents by Maternal Education, 2002

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated	
Time with parents					
Hours per week spent with mother	13.3	13.7	11.3	12.1	
Hours per week spent with father	7.8	9.8	9.3	9.6	
Parental supervision					
Aware of child's whereabouts "all of the time"	67.9%	65.9%	74.9%	0.7	
Waking hours per week spent alone	22.8	22.3	25.1	23.9	
Visiting					
Hours per week spent with extended family	2.7	3.9	2.4	2.3	^B
Percent who visit with people outside the HH	16.1%	26.8%	22.5%	0.3	
Visiting with others among participants only	7.4	8.2	4.5	5.8	
Overall hours visiting with others	1.6	2.5	1.2	1.3	^B
Watching television					
Percent who watched TV with parents	57.9%	54.1%	53.9%	46.8%	^C
Hours child watched TV with parents among participants	9.1	9.0	5.6	7.8	
Overall hours per week child watched TV with parents	5.1	4.7	2.8	3.3	
Overall hours per week child watched TV without parents	12.9	9.6	11.3	9.5	
Parent-child conversations					
Talk with child about child's interests daily	27.5%	23.2%	27.1%	28.0%	
Percent reporting conversation with parent in diary	25.9%	10.1%	19.0%	13.0%	
Hours spent in conversation among participants	2.0	2.4	2.9	2.5	
Overall hours spent in conversations with parents in diary	0.6	0.2	0.5	0.3	
Eating meals together					
Eat dinner as a family "several" times a week	53.3%	37.7%	47.6%	37.9%	
Percent eating meals with parents in diary	49.0%	62.0%	72.0%	64.7%	
Hours eating meals with parents in diary among participants	3.2	3.6	3.4	3.0	
Overall hours eating meals with parents in diary	1.5	2.2	2.5	2.0	
Daily affection					
Say "I love you" to child daily	64.8%	68.1%	63.3%	51.6%	^B
Tell child he/she appreciated daily	20.2%	12.5%	19.9%	17.6%	

N

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 6.4. Adjusted Estimates of Parental Investment in Adolescents' Schooling and Adolescents' Participation in Organized and Structured Activities by Maternal Education, 2002

	Mothers have less than high school	Mothers have HS degree only	Mothers have some college	Mothers are college- educated	
Scholastic activities					
Parent volunteered with school	12.5%	16.6%	17.9%	10.7%	
Parent met with teachers	61.0%	73.0%	70.6%	66.5%	
Parent attended school event for child	14.6%	26.9%	34.0%	49.3%	AB
Parent attended PTA	24.0%	29.9%	33.9%	49.3%	AB
Total structured leisure activities^D					
Percent participating in structured leisure activity on diary day	17.3%	21.4%	21.9%	37.8%	ABC
Hours per week spent in structured leisure among participants	12.9	16.6	16.0	18.6	
Hours per week spent in structured leisure activities	2.8	3.4	3.2	6.8	ABC
Sports					
Percent participating in organized sports on diary day	8.4%	14.0%	14.4%	28.7%	ABC
Hours in sports among participants	15.5	24.6	22.7	22.6	
Hours per week in meets, games, practices for sports	1.9	3.2	3.1	6.4	ABC
Organizational activities					
Child participated in organizational activity on diary day	2.8%	1.6%	1.6%	2.7%	
Hours per week in organizations among participants	13.3	2.2	0.0	3.2	
Hours per week in organizational activity	0.8	0.2	0.0	0.3	
Other active sports^E					
Percent participating in structured leisure activity on diary day	23.3%	20.6%	25.4%	25.9%	
Hours per week spent in structured leisure among participants	7.5	7.8	8.9	6.7	
Hours per week spent in structured leisure activities	1.9	1.7	2.6	1.9	

N

^Achildren of college-educated mothers different from children of mothers with less than high school, p-value < 0.05;

^Bchildren of college-educated mothers different from children of mothers with only a high school degree, p-value < 0.05;

^Cchildren of college-educated mothers different from children of mothers with some college, p-value < 0.05.

^DTotal structured activities include lessons, sports, and organizational activities. ^EOther active sports activities include traditional team-based sports like football that are not necessarily organized/structured/supervised by an adult/coach.

Predicted means based on OLS and logistic regression models that control for mother's age, sex of the child, race of the child, family income, family structure, maternal employment, number of children in the family, and season of the time diary.

Table 6.5. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Adolescent's Time with Extended Family and Visiting in 2002

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than h.s. degree	-12.3 ***	-12.3 ***	-10.1 ***	-9.9 ***	-9.8 ***	-7.5 **	-6.8 *
Mother attained a h.s.degree	-6.9 ***	-6.8 ***	-5.3 **	-4.9 *	-4.6 *	-3.3 #	-3.2
Mother has some college	-4.0 *	-3.9 #	-3.2	-2.7	-2.5	-2.0	-1.9
<i>Hours/week with extended family</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>0.1</i>
Family income \$75,000 or more			3.4 #	2.6	1.8	0.7	0.5
Family income \$50,000 - \$75,000			0.7	-0.5	-0.9	-1.7	-2.5
Family income \$30,000 - \$50,000			-0.8	-1.3	-1.7	-2.1	-2.7
Single-mother family				-3.0 #	-3.13 *	-2.7 #	-2.0
Biological mother and stepfather				-6.9 *	-6.55 *	-6.8 *	-7.3 *
Mother's age is 17 - 24 years old					-4.1	-4.2	-2.1
Mother's age is 25 - 29 years old					-0.4	-0.2	1.0
Mother's age is 35 - 39 years old					-2.2	-2.2	-2.5
Mother's reading comp score						0.2 **	0.1 #
R-squared	0.07	0.07	0.08	0.09	0.10	0.12	0.17
Mother has less than h.s. degree	-12.3 ***	-12.3 ***	-10.1 ***	-9.9 ***	-9.8 ***	-7.51 **	-6.8 *
Mother attained a h.s.degree	-6.9 ***	-6.9 ***	-5.3 **	-4.9 *	-4.6 *	-3.3	-3.0
Mother has some college	-4.0 *	-4.0 *	-3.2	-2.7	-2.5	-2.0	-1.9
<i>Hours/week visiting others</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
Family income \$75,000 or more			3.4 #	2.5	1.7	0.6	0.3
Family income \$50,000 - \$75,000			0.7	-0.5	-0.9	-1.8	-2.5
Family income \$30,000 - \$50,000			-0.8	-1.4	-1.8	-2.2	-2.9
Single-mother family				-3.0 #	-3.09 #	-2.7 #	-1.9
Biological mother and stepfather				-6.87 *	-6.46 *	-6.6 *	-7.0 *
Mother's age is 17 - 24 years old					-4.0	-4.1	-1.9
Mother's age is 25 - 29 years old					-0.5	-0.2	0.9
Mother's age is 35 - 39 years old					-2.2	-2.1	-2.3
Mother's reading comp score						0.2 **	0.1 #
R-squared	0.07	0.07	0.08	0.09	0.10	0.12	0.17
N	754	754	754	754	754	754	754

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with maternal education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 6.6. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Parental Investment in Children's Schooling Among Adolescents in 2002

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than h.s. degree	-12.3 ***	-11.0 ***	-9.1 ***	-9.0 ***	-8.8 ***	-6.9 *	-6.4 **
Mother attained a h.s.degree	-6.9 ***	-6.4 ***	-5.0 *	-4.6 *	-4.2 *	-3.1	-3.0
Mother has some college	-4.0 *	-3.8 #	-3.1	-2.7	-2.5	-2.0	-2.0
<i>Parent attendance at school events</i>		3.7 *	3.3 *	3.1 *	3.2 *	2.8 *	2.0
Family income \$75,000 or more			3.1	2.3	1.4	0.5	0.3
Family income \$50,000 - \$75,000			0.5	-0.6	-1.0	-1.8	-2.5
Family income \$30,000 - \$50,000			-0.7	-1.2	-1.7	-2.1	-2.7
Single-mother family				-2.8 #	-2.9 #	-2.5	-1.8
Biological mother and stepfather				-6.8 *	-6.4 *	-6.5 *	-6.9 *
Mother's age is 17 - 24 years old					-4.2	-4.1	-2.0
Mother's age is 25 - 29 years old					-0.6	-0.4	0.8
Mother's age is 35 - 39 years old					-2.0	-1.9	-2.1
Mother's reading comp score						0.1 *	0.1 #
R-squared	0.07	0.08	0.09	0.10	0.11	0.13	0.18
Mother has less than h.s. degree	-12.3 ***	-12.1 ***	-10.0 ***	-9.9 ***	-9.8 ***	-7.3 **	-6.4 *
Mother attained a h.s.degree	-6.9 ***	-6.7 ***	-5.3 **	-4.9 *	-4.6 *	-3.2	-2.8
Mother has some college	-4.0 *	-3.8 #	-3.2	-2.7	-2.5	-2.0	-1.8
<i>PTA meetings</i>		0.6	0.2	-0.2	-0.4	-0.1	0.7
Family income \$75,000 or more			3.4	2.5	1.6	0.4	0.2
Family income \$50,000 - \$75,000			0.7	-0.6	-1.1	-1.9	-2.6
Family income \$30,000 - \$50,000			-0.8	-1.4	-1.9	-2.4	-3.0 #
Single-mother family				-3.1 #	-3.2 #	-2.7	-1.8
Biological mother and stepfather				-6.9 *	-6.5 *	-6.6 *	-6.9 *
Mother's age is 17 - 24 years old					-4.2	-4.2	-2.0
Mother's age is 25 - 29 years old					-0.5	-0.4	0.8
Mother's age is 35 - 39 years old					-2.2	-2.2	-2.4
Mother's reading comp score						0.2 **	0.1 #
R-squared	0.07	0.07	0.08	0.09	0.10	0.12	0.17
N	754	754	754	754	754	754	754

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with maternal education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 6.7. OLS Regression Coefficients of Letter-Word Comprehension on Maternal Education and Children's Participation in Structured Activities Among Adolescents in 2002

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mother has less than h.s. degree	-12.3 ***	-12.1 ***	-10.0 ***	-9.9 ***	-9.8 ***	-7.5 **	-6.7 *
Mother attained a h.s.degree	-6.9 ***	-6.7 ***	-5.2 **	-4.8 *	-4.5 *	-3.2	-2.9
Mother has some college	-4.0 *	-3.8 *	-3.1	-2.7	-2.5	-2.0	-1.8
<i>Indicator for structured activity</i>		0.8	0.4	0.2	0.2	0.2	0.5
Family income \$75,000 or more			3.4	2.5	1.7	0.6	0.3
Family income \$50,000 - \$75,000			0.7	-0.6	-1.0	-1.8	-2.5
Family income \$30,000 - \$50,000			-0.8	-1.4	-1.8	-2.2	-2.9
Single-mother family				-3.0 #	-3.05 #	-2.6	-1.9
Biological mother and stepfather				-6.84 *	-6.43 *	-6.6 *	-6.9 *
Mother's age is 17 - 24 years old					-4.1	-4.1	-1.9
Mother's age is 25 - 29 years old					-0.5	-0.2	0.9
Mother's age is 35 - 39 years old					-2.1	-2.1	-2.3
Mother's reading comp score						0.2 **	0.1 #
R-squared	0.07	0.07	0.08	0.09	0.10	0.12	0.17
Mother has less than h.s. degree	-12.3 ***	-12.5 ***	-10.3 ***	-10.2 ***	-10.1 ***	-7.8 **	-7.0 *
Mother attained a h.s.degree	-6.9 ***	-7.0 ***	-5.5 **	-5.1 **	-4.8 *	-3.5 #	-3.2
Mother has some college	-4.0 *	-4.1 *	-3.4 #	-2.9	-2.7	-2.2	-2.1
<i>Indicator for organized sports</i>		-0.8	-1.2	-1.6	-1.5	-1.4	-1.0
Family income \$75,000 or more			3.6 #	2.7	1.8	0.7	0.4
Family income \$50,000 - \$75,000			0.8	-0.5	-0.9	-1.7	-2.5
Family income \$30,000 - \$50,000			-0.8	-1.3	-1.8	-2.2	-2.9
Single-mother family				-3.1 #	-3.2 *	-2.7 #	-2.0
Biological mother and stepfather				-7.0 *	-6.6 *	-6.8 *	-7.1 *
Mother's age is 17 - 24 years old					-4.0	-4.0	-1.9
Mother's age is 25 - 29 years old					-0.4	-0.2	0.9
Mother's age is 35 - 39 years old					-2.1	-2.0	-2.3
Mother's reading comp score						0.2 **	0.1 #
R-squared	0.07	0.07	0.08	0.09	0.10	0.12	0.17
N	754	754	754	754	754	754	754

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Model 1 shows the association with maternal education only; Model 2 adds parental investment indicators; Model 3 includes family resources/income, Model 4 adds family structure indicators, Model 5 adds maternal age, Model 6 includes mother's reading comprehension score; and Model 7 is the full model with all family background covariates as described in Appendix Table 3.1.

Table 7.1. Summary Table of Results by Type of Parental Investment in Children

	Variation in by Maternal Education			Association with Verbal Achievement at Cross-Section		
	Preschool-aged children	Children in middle childhood	Adolescents	Preschool-aged children	Children in middle childhood	Adolescents
Overall time with mom	n.s.	CE > LH	n.s.			
Overall time with father	CE > HS	n.s.	n.s.			
Reading	CE > LH, HS	CE > LH, HS	n/a	+	+	
Playing	CE > HS	CE > HS, LH	n/a		n.s.	
Watching TV	CE > LH, HS	CE > LH, HS	n.s.	-	n.s.	
Parental warmth	n.s.	n.s.	CE < HS			
Parent-child conversations	CE > LH	n.s.	n.s.			
Eating meals together	n.s.	n.s.	n.s.			
Visiting	n.s.	n.s.	CE < HS			n.s.
Parental supervision	n.s.	CE < HS, LH	n.s.			
Structured activities	n/a	CE > HS, LH	CE > SC, HS, LH		+	n.s.
Parental investment in schooling	n/a	CE > HS, LH	CE > SC, HS, LH		n.s.	+

n.s. = no significant association.

+ = association is positive and statistically significant, $p < 0.10$

- = association is negative and statistically significant, $p < 0.10$

CE = children of college-educated mothers

SC = children of some college-educated mothers

HS = children of mothers with only a high school degree

LH = children of mothers with less than a high school degree

Appendices

Appendix Table 3.1. Covariates in Multivariate Regression Models

Independent variables in models predicting parental investment

Mother has less than a high school degree
Mother attained some college
Mother has college degree
Imputation flag for maternal education
Mother's age is between 17 and 24 years old
Mother's age is between 25 and 29 years old
Mother's age is between 35 and 39 years old
Mother's age is between 40 and 44 years old
Mother's age is 45 or older
Child is female
Child is black
Child is Hispanic
Child is other race
Child's birth weight
Number of children in the household
Family income is \$75,000 or more
Family income is between \$50,000 and \$75,000
Family income is between \$30,000 and \$50,000
Imputation flag for family income (in 1997 only)
Single-mother family
Biological mother and stepfather
Mother employed
Season of the diary is fall (in 1997)

Additional independent variables in models predicting children's outcomes in 2002

Mother's passage comprehension score

Note. Season of the diary is included in measures obtained from children's time diaries only. Omitted categories are: mother had a high school degree only, mother's age is between 30 and 34; child is non-Hispanic white; family income is less than \$30,000; child was in a family with a biological father and mother (or stepmother); the season of the diary was spring in 1997

Appendix Table 3.2. Proportion of Children Who Completed the Time Diary and Seasonality of the Diary, 1997-2002

	1997		2002
	Children Aged 0 to 5	Children Aged 6 to 12	Children Aged 13 to 17
Completed both weekend and weekday diary	0.82	0.82	0.82
Spring diary	0.57	0.69	0.13
Fall diary	0.30	0.28	0.19
Summer diary	0.12	0.02	0.01
Winter diary	0.00	0.01	0.67
N	1039	1286	786

Source: 1997-2002 Child Development Supplement to the Panel Study of Income Dynamics

Appendix Table 3.3. Odds Ratios of Completing the Time Diary by Sample Characteristics, 1997-2002

	1997 Children Aged 0-12	2002 Children Aged 13-17	
Mother has less than a high school degree	0.94	1.51	
Mother attained some college	1.42	1.46	
Mother has college degree	1.09	1.42	
Imputation flag for maternal education	0.77	-	
Mother's age is between 17 and 24 years old	1.56	-	
Mother's age is between 25 and 29 years old	1.07	1.76	
Mother's age is between 35 and 39 years old	1.13	0.30	**
Mother's age is between 40 and 44 years old	2.29	0.37	*
Mother's age is 45 or older	1.25	0.32	*
Child is female	0.98	1.14	
Child is black	0.90	1.42	
Child is Hispanic	1.00	0.86	
Child is other race	1.62	0.63	
Child's birth weight	1.00	0.99	
Number of children in the household	0.96	0.73	**
Family income is \$75,000 or more	0.69	0.68	
Family income is between \$50,000 and \$75,000	0.92	0.74	
Family income is between \$30,000 and \$50,000	0.60	0.74	*
Imputation flag for family income (in 1997 only)	0.45	-	
Single-mother family	0.46	0.40	**
Biological mother and stepfather	0.74	0.54	
Mother employed	1.33	0.50	
N	2900	994	

Source: 1997-2002 Child Development Supplement to the Panel Study of Income Dynamics

Note: Reference categories are: PCG is aged 30 to 34, child is white, family income is less than \$30,000, two-parent family with a biological father.

***p < 0.001, **p < 0.01, *p < 0.05

Appendix Table 4.1. OLS Regression Coefficients for Preschool-Aged Children's Hours per Week with Parents, 1997

	Time with mother		Time with father		Reading w/ parents - participants		Playing w/ parents - participants		TV w/ parents - participants	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	41.3	(4.6) ***	26.8	(2.9) ***	3.1	(0.7) ***	12.3	(2.6) ***	6.5	(2.2) ***
Mother has less than a high school degree	0.6	(2.4)	-0.9	(1.9)	-0.8	(0.4) #	1.3	(1.8)	4.1	(1.4) **
Mother attained a high school degree	-1.4	(2.0)	-3.4	(1.6) *	-0.5	(0.3) #	-0.2	(1.2)	2.4	(0.9) **
Mother has some college	-0.7	(1.8)	-1.4	(1.5)	0.1	(0.4)	0.3	(1.1)	0.9	(0.7)
Imputation flag for maternal education	0.5	(3.0)	-2.7	(1.9)	0.3	(0.5)	2.8	(1.4) *	-1.5	(1.3)
Mother's age is between 17 and 24 years old	3.2	(2.0)	-3.6	(1.3) **	0.4	(0.4)	2.4	(1.3) #	1.2	(1.0)
Mother's age is between 25 and 29 years old	1.7	(1.8)	-0.4	(1.3)	0.0	(0.3)	2.8	(1.4) *	1.5	(0.9)
Mother's age is between 35 and 39 years old	-0.5	(1.7)	-2.7	(1.3) *	-0.2	(0.4)	-1.1	(0.9)	-0.9	(0.8)
Mother's age is between 40 and 44 years old	1.4	(3.2)	-1.7	(2.2)	0.4	(0.5)	-1.3	(1.4)	-0.3	(1.0)
Mother's age is 45 or older	6.0	(7.1)	0.4	(2.1)	0.9	(1.0)	-5.0	(2.0) *	0.9	(1.9)
Child is female	1.5	(1.2)	-0.3	(0.9)	0.0	(0.2)	0.1	(0.8)	-0.2	(0.6)
Child is black	0.5	(2.0)	-2.8	(1.3) *	-0.3	(0.2)	-0.4	(0.9)	2.9	(1.4) *
Child is Hispanic	-1.3	(2.8)	0.3	(2.2)	-0.1	(0.7)	0.6	(2.0)	-4.0	(1.6) *
Child is other race	-3.6	(2.3)	-0.4	(2.2)	0.3	(0.7)	-0.7	(1.9)	0.4	(1.2)
Single-mother family	-4.6	(2.1) *	-16.7	(1.4) ***	-0.6	(0.3) #	-4.2	(1.2) ***	-0.9	(1.0)
Biological mother and stepfather	-10.7	(3.9) **	0.3	(2.8)	-0.8	(0.6)	-6.2	(1.5) ***	-1.0	(1.7)
Mother employed	-4.5	(1.4) **	2.4	(1.0) *	-0.4	(0.2)	-0.1	(0.9)	-0.2	(0.7)
Family income is \$75,000 or more	-2.6	(2.5)	-6.2	(1.8) ***	0.1	(0.4)	-0.3	(1.6)	-0.9	(1.0)
Family income is between \$50,000 and \$75,000	-1.6	(2.3)	-4.1	(1.6) *	0.1	(0.4)	-0.4	(1.6)	-1.2	(1.0)
Family income is between \$30,000 and \$50,000	-2.9	(2.1)	-4.4	(1.5) **	0.1	(0.3)	-1.0	(1.4)	-1.4	(0.9)
Imputation flag for family income	3.2	(2.7)	-1.3	(2.1)	-0.1	(0.5)	3.6	(1.8) *	2.0	(1.4)
Number of children in the household	-3.1	(0.6) ***	-1.1	(0.5) *	-0.1	(0.1)	-0.9	(0.4) *	0.0	(0.3)
Child's birth weight	0.3	(0.5)	-0.2	(0.3)	0.0	(0.1)	-0.2	(0.3)	-0.2	(0.2)
Season of the diary is summer	1.8	(1.9)	3.2	(1.8) #	0.3	(0.4)	0.8	(1.3)	-0.5	(1.2)
Season of the diary is fall	0.0	(1.4)	1.1	(1.0)	0.1	(0.3)	-0.3	(0.9)	0.3	(0.7)
N	1039		1039		430		760		581	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997. Models where imputation flag for parental education was statistically significant were rerun excluding imputed cases.

Appendix Table 4.2. OLS Regression Coefficients of Preschool-Aged Children's Hours per Week Eating with Parents and Visiting Activities, 1997

	Eating w/ parents - participants		Time with extended family		Visiting w/ others - participants		Time spent Alone	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	6.2	(1.3) ***	16.2	(3.5) ***	6.3	(3.7) #	12.6	(2.9) ***
Mother has less than a high school degree	0.3	(0.6)	-1.5	(1.7)	4.7	(3.8)	0.4	(1.7)
Mother attained a high school degree	0.0	(0.4)	-0.2	(1.5)	-1.1	(1.3)	-0.3	(1.2)
Mother has some college	-0.6	(0.4)	0.6	(1.4)	0.9	(1.7)	-0.3	(1.2)
Imputation flag for maternal education	0.0	(0.6)	5.0	(3.5)	-2.6	(2.7)	-2.5	(1.6)
Mother's age is between 17 and 24 years old	0.1	(0.5)	2.0	(1.7)	-2.5	(2.1)	0.1	(1.3)
Mother's age is between 25 and 29 years old	0.1	(0.4)	0.3	(1.4)	-0.9	(2.1)	1.2	(1.2)
Mother's age is between 35 and 39 years old	-0.6	(0.4)	-2.1	(1.5)	0.0	(2.2)	1.8	(1.3)
Mother's age is between 40 and 44 years old	0.8	(0.6)	-2.1	(2.2)	-3.3	(2.4)	2.7	(1.9)
Mother's age is 45 or older	-1.3	(1.5)	5.7	(6.9)	-1.3	(2.2)	4.0	(2.9)
Child is female	0.2	(0.3)	0.7	(0.9)	-0.6	(1.1)	-0.5	(0.8)
Child is black	-0.2	(0.6)	1.4	(1.6)	-1.1	(3.8)	-1.8	(1.0) #
Child is Hispanic	0.5	(1.0)	2.4	(3.1)	5.5	(4.6)	-2.3	(1.8)
Child is other race	-0.9	(0.6)	-0.5	(2.3)	3.1	(2.1)	-0.2	(1.6)
Single-mother family	-0.9	(0.6) #	-0.7	(1.9)	-0.5	(3.5)	0.2	(1.2)
Biological mother and stepfather	-0.7	(0.9)	-1.0	(2.9)	7.5	(4.7)	-0.4	(3.4)
Mother employed	-0.5	(0.4)	1.9	(1.3)	4.6	(2.3) *	-2.9	(1.0) **
Family income is \$75,000 or more	-1.2	(0.5) *	-2.7	(2.2)	-4.8	(3.2)	-1.0	(1.5)
Family income is between \$50,000 and \$75,000	-1.0	(0.5) *	-1.9	(2.0)	-6.9	(3.6)	1.4	(1.4)
Family income is between \$30,000 and \$50,000	-0.9	(0.5) #	-0.7	(1.8)	-5.9	(3.2)	1.6	(1.3)
Imputation flag for family income	1.0	(0.9)	1.9	(3.1)	-5.3	(2.3) *	1.4	(1.7)
Number of children in the household	0.0	(0.2)	-1.3	(0.5) *	0.8	(1.0)	-1.3	(0.4) **
Child's birth weight	0.1	(0.1)	-0.8	(0.4) *	-0.1	(0.4)	0.4	(0.3)
Season of the diary is summer	0.4	(0.5)	1.5	(1.9)	-0.4	(1.3)	-2.6	(1.3) *
Season of the diary is fall	-0.5	(0.3)	-1.5	(1.2)	0.5	(1.7)	-0.7	(0.9)
N	938		1039		232		1039	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 4.3. Logistic Regression Coefficients for Preschool-Aged Children's Hours per Week with Parents (Diary Estimates), 1997

	Read w/ parents		Play w/ parents		Watch TV w/ parents		Had Conversation w/ parents		Ate w/ parents		Visited others	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
	Intercept	0.2	(0.6)	3.9	(0.7) ***	1.0	(0.6) *	-0.2	(0.7)	2.5	(1.1)	-1.0
Mother has less than a high school degree	-1.1	(0.4) **	-0.3	(0.4)	0.3	(0.3)	0.1	(0.5)	-0.6	(0.5)	0.3	(0.4)
Mother attained a high school degree	-0.8	(0.3) **	-0.9	(0.3) **	0.0	(0.3)	-0.2	(0.3)	-0.3	(0.5)	0.1	(0.3)
Mother has some college	-0.2	(0.3)	-0.5	(0.3)	0.0	(0.3)	-0.1	(0.3)	-0.5	(0.4)	0.3	(0.3)
Imputation flag for maternal education	-0.3	(0.5)	0.1	(0.4)	-0.3	(0.4)	-0.7	(0.7)	-0.5	(0.7)	-0.8	(0.5)
Mother's age is between 17 and 24 years old	-0.8	(0.3) **	-0.4	(0.4)	-0.5	(0.3)	-0.8	(0.4) *	0.3	(0.5)	-0.2	(0.4)
Mother's age is between 25 and 29 years old	0.1	(0.3)	-0.8	(0.3) **	-0.3	(0.2)	-0.5	(0.3) #	-0.5	(0.5)	0.3	(0.3)
Mother's age is between 35 and 39 years old	0.0	(0.3)	0.1	(0.3)	0.3	(0.3)	-0.5	(0.3)	-0.7	(0.4)	-0.2	(0.3)
Mother's age is between 40 and 44 years old	0.7	(0.5)	-0.3	(0.5)	-0.3	(0.4)	1.3	(0.4) **	-0.8	(0.9)	0.7	(0.5)
Mother's age is 45 or older	0.2	(0.9)	-0.4	(1.0)	0.8	(1.0)	1.5	(1.2)	-1.2	(0.9)	1.3	(0.9)
Child is female	0.2	(0.2)	-0.1	(0.2)	0.0	(0.2)	0.1	(0.2)	-0.1	(0.3)	0.1	(0.2)
Child is black	-0.8	(0.3) **	-0.7	(0.3) *	0.6	(0.3) *	-0.8	(0.3) *	0.1	(0.4)	0.0	(0.3)
Child is Hispanic	-0.6	(0.5)	0.2	(0.5)	0.4	(0.5)	-0.7	(0.7)	0.0	(0.6)	-1.1	(0.5) *
Child is other race	-0.7	(0.5)	-0.8	(0.4) #	0.6	(0.4) #	-0.1	(0.5)	0.7	(0.7)	0.5	(0.4)
Single-mother family	-0.2	(0.3)	-1.5	(0.3) ***	0.0	(0.3)	-1.1	(0.5) *	-1.4	(0.6) *	-0.6	(0.4)
Biological mother and stepfather	0.2	(0.6)	-1.2	(0.7) #	-0.2	(0.6)	0.8	(0.8)	-1.7	(0.8) *	0.8	(0.7)
Mother employed	0.0	(0.2)	-0.1	(0.2)	0.0	(0.2)	0.0	(0.3)	0.6	(0.3)	0.2	(0.3)
Family income is \$75,000 or more	0.0	(0.3)	-0.8	(0.4) *	-0.3	(0.3)	-0.5	(0.4)	-0.9	(0.7)	-0.5	(0.4)
Family income is between \$50,000 and \$75,000	-0.1	(0.3)	-0.3	(0.4)	-0.3	(0.3)	0.0	(0.4)	-0.1	(0.7)	-0.5	(0.4)
Family income is between \$30,000 and \$50,000	-0.1	(0.3)	-0.4	(0.3)	0.0	(0.3)	-0.3	(0.4)	-1.0	(0.6)	-0.2	(0.3)
Imputation flag for family income	-0.4	(0.5)	0.0	(0.4)	-0.4	(0.4)	0.7	(0.5)	0.0	(0.6)	-0.1	(0.5)
Number of children in the household	-0.4	(0.1) ***	-0.3	(0.1) **	-0.3	(0.1) *	-0.2	(0.1)	0.2	(0.2)	-0.3	(0.1) *
Child's birth weight	0.1	(0.1) *	0.0	(0.1)	0.0	(0.1)	0.0	(0.1)	0.0	(0.1)	0.0	(0.1)
Season of the diary is summer	-0.3	(0.3)	0.6	(0.4)	0.0	(0.3)	-0.2	(0.4)	1.0	(0.5) *	-0.1	(0.3)
Season of the diary is fall	0.4	(0.2) #	-0.3	(0.2)	0.4	(0.2) #	-0.1	(0.3)	0.5	(0.3)	0.1	(0.3)
N	1039		1039		1039		1039		1039		1039	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 4.4. Logistic Regression Coefficients for Preschool-Aged Children's Maternal Warmth and Routine Interactions with Parents (Survey Estimates), 1997

	Parent said "I love you" daily		Parent voiced appreciation daily		Parent talked of interests daily		Ate w/ family "several" times a week		Parent always aware of child's whereabouts	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	4.97	(1.2) ***	1.47	(0.7) *	2.17	(0.7) ***	-0.13	(0.7)	3.59	(2.0) #
Mother has less than a high school degree	-0.91	(0.7)	-0.08	(0.4)	-0.90	(0.4) *	0.75	(0.4) #	-0.73	(1.0)
Mother attained a high school degree	-0.37	(0.5)	0.32	(0.3)	-0.21	(0.3)	0.05	(0.3)	-0.75	(0.9)
Mother has some college	1.12	(0.6) #	0.49	(0.3) #	0.30	(0.3)	0.13	(0.3)	-0.66	(0.9)
Imputation flag for maternal education	1.54	(1.0)	-0.06	(0.4)	0.99	(0.4) *	-0.79	(0.5)	-	-
Mother's age is between 17 and 24 years old	0.40	(0.8)	0.23	(0.3)	-0.33	(0.3)	-0.40	(0.3)	-0.53	(0.8)
Mother's age is between 25 and 29 years old	-0.09	(0.6)	0.36	(0.3)	-0.23	(0.3)	-0.16	(0.3)	1.08	(0.8)
Mother's age is between 35 and 39 years old	0.09	(0.5)	0.13	(0.3)	0.08	(0.3)	-0.36	(0.3)	0.58	(0.7)
Mother's age is between 40 and 44 years old	-0.15	(0.7)	0.40	(0.5)	0.35	(0.7)	-0.12	(0.4)	0.35	(1.1)
Mother's age is 45 or older	0.61	(1.1)	-2.11	(0.9) *	1.99	(1.1) #	3.66	(1.2) **	0.44	(2.0)
Child is female	0.07	(0.3)	-0.31	(0.2) #	-0.24	(0.2)	0.20	(0.2)	0.50	(0.6)
Child is black	-1.97	(0.4) ***	0.07	(0.3)	-0.65	(0.3) *	-0.95	(0.3) **	0.49	(0.7)
Child is Hispanic	-1.16	(0.8)	-1.00	(0.5) *	-0.37	(0.6)	0.04	(0.6)	-0.18	(1.8)
Child is other race	-0.87	(0.6)	-0.24	(0.4)	0.55	(0.5)	0.02	(0.5)	-0.48	(1.4)
Single-mother family	-1.18	(0.5) *	-0.65	(0.3) #	-0.34	(0.3)	-0.28	(0.6)	1.95	(0.9) *
Biological mother and stepfather	1.04	(1.0)	0.68	(0.6)	-1.05	(0.6) #	0.68	(0.7)	0.22	(1.9)
Mother employed	0.85	(0.4) *	-0.23	(0.2)	-0.09	(0.2)	-0.24	(0.2)	-0.20	(0.5)
Family income is \$75,000 or more	-2.58	(0.6) ***	-0.34	(0.4)	-0.19	(0.4)	-0.38	(0.4)	0.44	(1.3)
Family income is between \$50,000 and \$75,000	-2.21	(0.6) ***	-0.51	(0.4)	-0.54	(0.4)	-0.32	(0.3)	-1.63	(0.9) #
Family income is between \$30,000 and \$50,000	-1.67	(0.6) *	-0.58	(0.3) #	-0.57	(0.3) #	0.17	(0.3)	-1.70	(0.7) *
Imputation flag for family income	0.13	(0.5)	1.01	(0.5) *	-0.42	(0.5)	0.43	(0.5)	-0.05	(1.4)
Number of children in the household	-0.04	(0.1)	-0.12	(0.1)	-0.23	(0.1) *	0.08	(0.1)	-0.03	(0.3)
Child's birth weight	-0.01	(0.1)	0.01	(0.1)	0.03	(0.1)	0.12	(0.1)	0.10	(0.2)
N	1037		1017		1014		799		518	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997. Models where imputation flag for parental education was statistically significant were rerun excluding imputed cases and results were similar.

Appendix Table 4.5. Comparison of OLS and Tobit Regression Coefficients for Preschool-Aged Children's Hours per Week Reading and Watching TV, 1997

	Reading w/out parents		Reading with parents		TV w/out parents		TV with parents	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	0.1	-4.4 **	1.6 ***	0.6	4.6 *	1.7	5.1 ***	3.9 ***
Mother has less than a high school degree	0.1	0.2	-0.8 ***	-2.0 ***	1.2	1.2 *	2.7 *	3.7 ***
Mother attained a high school degree	0.2	0.9	-0.7 ***	-1.4 ***	-0.4	-0.9	1.4 *	1.7
Mother has some college	0.0	0.4	-0.1	-0.2	-0.2	0.0	0.4	0.5 #
Imputation flag for maternal education	0.1	0.7	0.0	-0.2	0.2	-0.1	-1.2	-2.0
Mother's age is between 17 and 24 years old	0.1	1.1 #	-0.2	-1.0 **	-0.5	-0.7	-0.1	-1.0
Mother's age is between 25 and 29 years old	0.1	1.0 *	0.1	0.2	-0.9	-1.3	0.4	-0.1
Mother's age is between 35 and 39 years old	0.0	0.2	0.0	-0.1	1.9 *	3.0 ***	-0.2	0.3
Mother's age is between 40 and 44 years old	-0.1	1.2	0.7	1.2 **	1.4	2.7 *	-0.4	-1.2
Mother's age is 45 or older	0.7	3.4 #	0.7	0.8	2.0	4.1	1.0	2.4
Child is female	0.1 #	0.4	0.1	0.3	-0.4	-0.9	0.1	0.1
Child is black	-0.2 #	-1.7 *	-0.4 **	-1.3 **	0.6	0.5	2.6 *	3.9 ***
Child is Hispanic	-0.3	-0.9	-0.2	-0.8	-1.3	-1.6	-1.7	-1.5 #
Child is other race	0.1	0.7	-0.1	-0.8	-1.3	-2.0	1.0	2.2 #
Single-mother family	-0.1	-1.0	-0.3	-0.6	2.2 *	3.7 **	-0.4	-0.5
Biological mother and stepfather	-0.1	0.3	-0.2	-0.4	3.9 #	5.8 **	-0.5	-0.9
Mother employed	-0.3 *	-1.4 ***	-0.2	-0.2	-1.0	-1.5 *	-0.1	-0.1
Family income is \$75,000 or more	0.3	1.2 #	0.1	0.1	0.0	0.0	-1.1	-1.9 #
Family income is between \$50,000 and \$75,000	0.1	0.5	0.0	-0.1	1.1	2.0 #	-1.0	-1.7 #
Family income is between \$30,000 and \$50,000	0.0	0.0	0.0	0.0	2.1 *	3.0 **	-1.0	-1.2
Imputation flag for family income	-0.2	-2.2 *	-0.3	-0.7	0.8	0.9	0.6	0.0
Number of children in the household	0.1	0.5 **	-0.2 **	-0.5 ***	0.9 *	1.1 ***	-0.4 #	-0.9 **
Child's birth weight	0.0	-0.1	0.1	0.2 *	0.1	0.2	-0.2	-0.3
Season of the diary is summer	-0.1	-0.8	-0.1	-0.3	-2.5 ***	-3.3 ***	-0.1	-0.1
Season of the diary is fall	0.0	0.3	0.2	0.6 *	-1.1	-1.0	0.7	1.6 *
N	1039	1039	1039	1039	1039	1039	1039	1039

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 4.6. Comparison of OLS and Tobit Regression Coefficients for Preschool-Aged Children's Hours per Week with Parents, 1997

	Playing with parents		Playing without parents		Ate w/ parents		Visited w/ others	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	13.4 ***	15.4 ***	9.1 **	7.9 ***	5.6 ***	5.4 ***	1.8 *	-7.3 #
Mother has less than a high school degree	0.5	0.5	-0.7	-1.3	0.0	-0.1	1.2	3.9 #
Mother attained a high school degree	-1.4	-2.5 *	0.4	0.4	-0.1	-0.1	-0.3	0.2
Mother has some college	-0.3	-0.6	-1.3	-1.8 #	-0.7 #	-0.8 *	0.5	2.0
Imputation flag for maternal education	2.4 #	2.8	1.4	2.0	-0.2	-0.3	-1.3 *	-6.3 *
Mother's age is between 17 and 24 years old	1.5	1.0	1.1	1.3	0.2	0.3	-1.0	-2.5
Mother's age is between 25 and 29 years old	1.4	0.4	1.3	0.8	-0.1	-0.2	0.2	1.2
Mother's age is between 35 and 39 years old	-0.7	-0.6	-0.7	-0.3	-0.8 *	-0.9 *	-0.3	-1.5
Mother's age is between 40 and 44 years old	-1.3	-1.5	-0.6	-0.2	0.5	0.4	0.1	3.1
Mother's age is 45 or older	-4.5 *	-5.3	-3.2	-2.3	-1.7	-2.2	0.2	5.6
Child is female	0.0	-0.2	-1.0	-0.8	0.2	0.1	0.1	0.4
Child is black	-1.6 *	-3.0 *	-1.9	-2.5 *	-0.2	-0.2	-0.4	-0.6
Child is Hispanic	0.8	1.0	3.0	2.3	0.5	0.5	-0.6	-5.7 *
Child is other race	-1.6	-3.1 *	0.2	0.2	-0.6	-0.5	1.0	4.0 *
Single-mother family	-5.6 ***	-8.3 ***	0.4	0.7	-1.4 *	-1.6 ***	-0.7	-3.6 *
Biological mother and stepfather	-6.0 ***	-9.0 ***	2.6	0.1	-1.6 #	-2.0 *	4.4	9.3 **
Mother employed	-0.2	-0.2	-2.7 **	-2.8 ***	-0.2	-0.2	0.8	2.6 *
Family income is \$75,000 or more	-1.6	-2.5 #	-0.2	-0.5	-1.4 *	-1.6 ***	-1.8	-4.9 **
Family income is between \$50,000 and \$75,000	-1.0	-1.5	0.6	1.4	-1.0 #	-1.0 *	-2.1	-5.9 ***
Family income is between \$30,000 and \$50,000	-1.7	-2.3 *	-1.6	-1.0	-1.1 *	-1.3 **	-1.5	-3.5 *
Imputation flag for family income	2.7 #	3.1 *	-1.0	-0.7	0.9	1.0 #	-0.8	-2.2
Number of children in the household	-1.1 **	-1.6 ***	2.4 ***	2.7 ***	0.0	0.1	-0.1	-1.5 *
Child's birth weight	-0.3	-0.3	0.4	0.4	0.1	0.1	0.1	0.3
Season of the diary is summer	1.5	2.3 *	2.0	1.6	0.7	0.8 *	-0.1	-1.2
Season of the diary is fall	-0.5	-0.8	-2.3 *	-2.2 **	-0.3	-0.2	0.6	1.1
N	1039	1039	1039	1039	1039	1039	1039	1039

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997. Models where imputation flag for parental education was statistically significant were rerun excluding imputed cases and results were similar.

Appendix Table 4.7. OLS Regression Coefficients of Letter-Word Comprehension on Indicator for Reading with Parents Among Children Aged 3-5 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)
Intercept	105.3 (1.9) ***	101.4 (2.2) ***	96.0 (2.9) ***	98.0 (3.4) ***	96.2 (3.4) ***	69.5 (7.6) ***	66.0 (9.2) ***
Mother has less than h.s. degree	-14.1 (2.5) ***	-11.9 (2.5) ***	-6.8 (3.0) *	-6.9 (3.0) *	-5.5 (3.0) #	-1.3 (3.3)	-0.2 (3.2)
Mother attained a h.s. degree	-10.1 (2.4) ***	-8.5 (2.4) ***	-4.7 (2.6) #	-4.6 (2.6) #	-3.5 (2.6)	-0.2 (2.7)	0.7 (2.6)
Mother has some college	-3.5 (2.4)	-3.2 (2.4)	-0.8 (2.4)	-0.8 (2.4)	-0.3 (2.5)	0.8 (2.4)	1.2 (2.5)
Imputation flag for education	4.5 (8.0)	6.1 (7.5)	6.4 (7.7)	6.7 (7.7)	6.3 (7.6)	4.8 (7.4)	4.1 (7.0)
<i>Child read with parent</i>		6.2 (1.8) ***	5.9 (1.8) **	5.6 (1.8) ***	5.7 (1.8) **	5.5 (1.8) **	5.1 (1.8) **
Family income \$75,000 or more			7.6 (2.7) **	5.7 (3.2) #	4.5 (3.1) *	4.3 (2.9)	5.4 (2.7) *
Family income \$50,000 - \$75,000			4.3 (2.8)	2.5 (3.2)	1.9 (3.2)	2.0 (2.9)	3.1 (2.7)
Family income \$30,000 - \$50,000			0.4 (2.4)	-1.0 (2.6)	-1.0 (2.5)	-1.8 (2.4)	-1.8 (2.3)
Imputation flag for family income			-11.5 (3.4) ***	-12.4 (3.0) ***	-14.5 (3.8) ***	-14.9 (2.6) ***	-9.1 (5.9)
Single-mother family				-3.1 (2.5)	-3.1 (2.3)	-2.2 (2.2)	-2.9 (2.2)
Biological mother and stepfather				-4.2 (8.0)	-2.6 (8.6)	-1.9 (9.0)	0.2 (8.8)
Mother is 17 - 24 years old					-1.7 (2.8)	-0.9 (2.6)	-0.8 (2.5)
Mother is 25 - 29 years old					1.3 (2.3)	2.0 (2.3)	1.4 (2.3)
Mother is 35 - 39 years old					4.4 (2.2) *	4.4 (2.1) *	4.8 (2.1) *
Mother is 40 - 44 years old					3.9 (4.3)	2.5 (4.1)	3.0 (4.1)
Mother is 45 or older					0.1 (6.1)	1.3 (7.2)	0.7 (6.5)
Mother's reading comp score						0.2 (0.1) ***	0.3 (0.1) ***
Child is female							1.9 (1.6)
Child is black							3.9 (2.4)
Child is Hispanic							-9.3 (4.3) *
Child is other race							1.2 (2.7)
Mother employed							-3.5 (1.9) #
Number of children in household							-1.5 (1.0)
Child's birthweight							0.5 (0.6)
R-squared	0.10	0.14	0.18	0.18	0.20	0.24	0.27
N	419	419	419	419	419	419	419

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 4.8. OLS Regression Coefficients of Letter-Word Comprehension on Hours per Week Spent Reading with Parents Among Children Aged 3-5 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)
Intercept	105.3 (1.9) ***	102.4 (2.1) ***	96.7 (2.8) ***	98.6 (3.3) ***	96.8 (3.2) ***	70.8 (7.8) ***	66.9 (9.3) ***
Mother has less than h.s. degree	-14.1 (2.5) ***	-12.2 (2.5) ***	-6.9 (3.0) *	-6.9 (3.0) *	-5.4 (3.0) #	-1.4 (3.2)	-0.3 (3.1)
Mother attained a h.s. degree	-10.1 (2.4) ***	-8.6 (2.4) ***	-4.6 (2.6) #	-4.5 (2.6) #	-3.3 (2.5)	-0.1 (2.7)	0.7 (2.6)
Mother has some college	-3.5 (2.4)	-3.6 (2.4)	-1.0 (2.4)	-1.0 (2.4)	-0.6 (2.4)	0.5 (2.4)	0.8 (2.4)
Imputation flag for education	4.5 (8.0)	5.1 (6.8)	5.5 (7.0)	5.8 (7.1)	5.5 (7.0)	4.0 (6.8)	3.8 (6.5)
<i>Hours per week read with parent</i>		2.0 (0.6) **	2.0 (0.6) **	1.9 (0.6) ***	1.9 (0.6) **	1.8 (0.6) **	1.8 (0.6) **
Family income \$75,000 or more			7.8 (2.6) **	6.1 (3.0) *	4.8 (3.0)	4.7 (2.8) #	5.4 (2.6) *
Family income \$50,000 - \$75,000			4.3 (2.7)	2.7 (3.1)	2.2 (3.1)	2.2 (2.9)	2.9 (2.7)
Family income \$30,000 - \$50,000			0.1 (2.3)	-1.1 (2.5)	-1.2 (2.4)	-2.0 (2.3)	-2.4 (2.3)
Imputation flag for family income			-10.4 (4.8) *	-11.3 (4.3) **	-13.6 (5.2) **	-14.0 (3.8) ***	-6.3 (6.6)
Single-mother family				-2.8 (2.4)	-2.7 (2.3)	-2.0 (2.1)	-3.0 (2.1)
Biological mother and stepfather				-4.8 (8.5)	-3.1 (9.2)	-2.5 (9.6) ***	-0.4 (9.3)
Mother is 17 - 24 years old					-2.1 (2.8)	-1.3 (2.7)	-1.0 (2.5)
Mother is 25 - 29 years old					1.3 (2.5)	1.9 (2.4)	1.3 (2.4)
Mother is 35 - 39 years old					4.4 (2.1) *	4.5 (2.0) *	4.9 (2.1) *
Mother is 40 - 44 years old					3.2 (4.0)	1.9 (3.8)	2.3 (3.9)
Mother is 45 or older					-2.1 (5.1)	-0.9 (6.3)	-1.1 (5.6)
Mother's reading comp score						0.2 (0.1) ***	0.3 (0.1) ***
Child is female							1.9 (1.6)
Child is black							3.6 (2.4)
Child is Hispanic							-11.1 (4.2) **
Child is other race							2.1 (2.8)
Mother employed							-2.9 (1.9)
Number of children in household							-1.6 (1.0)
Child's birthweight							0.7 (0.6)
R-squared	0.10	0.15	0.19	0.19	0.21	0.24	0.28
N	419	419	419	419	419	419	419

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 4.9. OLS Regression Coefficients of Letter-Word Comprehension on Hours per Week Watching TV with Parents Among Children Aged 3-5 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.3	(1.9) ***	106.2	(1.8) ***	101.2	(3.0) ***	104.0	(3.4) ***	102.2	(3.2) ***	75.4	(7.3) ***	73.1	(8.7) ***
Mother has less than h.s. degree	-14.1	(2.5) ***	-13.4	(2.5) ***	-8.5	(3.1) **	-8.6	(3.0) **	-7.3	(3.1) *	-3.2	(3.3)	-1.6	(3.2)
Mother attained a h.s. degree	-10.1	(2.4) ***	-9.1	(2.5) ***	-5.5	(2.7) *	-5.3	(2.7) *	-4.4	(2.6) #	-1.2	(2.7)	0.0	(2.6)
Mother has some college	-3.5	(2.4)	-3.3	(2.4)	-1.0	(2.4)	-0.8	(2.4)	-0.6	(2.5)	0.5	(2.4)	0.9	(2.5)
Imputation flag for education	4.488	(8.0)	4.117	(8.1)	4.4	(8.3)	4.9	(8.2)	4.6	(8.0)	3.2	(7.8)	2.83	(7.5)
<i>Hrs/wk watching tv w/parents</i>			<i>-0.3</i>	<i>(0.1) *</i>	<i>-0.3</i>	<i>(0.1) *</i>	<i>-0.3</i>	<i>(0.1) #</i>	<i>-0.3</i>	<i>(0.1) #</i>	<i>-0.2</i>	<i>(0.1)</i>	<i>-0.3</i>	<i>(0.1) #</i>
Family income \$75,000 or more					6.9	(2.8) *	4.2	(3.3) *	3.2	(3.2)	3.2	(2.9)	4.0	(2.6)
Family income \$50,000 - \$75,000					3.6	(2.9)	0.9	(3.3)	0.4	(3.2)	0.6	(2.9)	1.5	(2.7)
Family income \$30,000 - \$50,000					-0.7	(2.6)	-2.8	(2.8)	-2.9	(2.7)	-3.5	(2.5)	-3.8	(2.4)
Imputation flag for family income					-12.0	(5.8) *	-13.3	(4.9) **	-15.4	(5.2) **	-15.6	(3.8) ***	-9.1	(6.8)
Single-mother family							-4.5	(2.5) #	-4.6	(2.3) *	-3.8	(2.1) #	-4.8	(2.1) *
Biological mother and stepfather							-3.9	(9.3)	-2.2	(10.3)	-1.4	(10.7)	0.6	(10.3)
Mother is 17 - 24 years old									-2.4	(2.9)	-1.6	(2.7)	-1.6	(2.4)
Mother is 25 - 29 years old									2.4	(2.5)	2.9	(2.4)	2.2	(2.4)
Mother is 35 - 39 years old									3.7	(2.1) #	3.7	(2.1) #	4.4	(2.1) *
Mother is 40 - 44 years old									4.4	(4.4)	3.1	(4.2)	3.5	(4.2)
Mother is 45 or older									0.4	(6.8)	1.5	(7.9)	0.6	(7.2)
Mother's reading comp score											0.2	(0.1) ***	0.3	(0.1) ***
Child is female													1.9	(1.6)
Child is black													4.2	(2.4) #
Child is Hispanic													-10.4	(4.6) *
Child is other race													1.9	(2.9)
Mother employed													-3.4	(1.9) #
Number of children in household													-2.0	(1.0) *
Child's birthweight													0.5	(0.6)
R-squared	0.10		0.12		0.15		0.16		0.18		0.21		0.25	
N	419		419		419		419		419		419		419	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 4.10. OLS Regression Coefficients of Letter-Word Comprehension on Children's Hours Per Week TV Viewing and Reading with Parents Among Children Aged 3-5 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.3	(1.9) ***	103.3	(2.1) ***	98.4	(3.0) ***	100.2	(3.4) ***	98.4	(3.2) ***	73.1	(7.7) ***	69.3	(9.3) ***
Mother has less than h.s. degree	-14.1	(2.5) ***	-11.5	(2.5) ***	-6.7	(3.0) *	-6.8	(3.0) *	-5.5	(3.0) #	-1.6	(3.3)	-0.4	(3.1)
Mother attained a h.s. degree	-10.1	(2.4) ***	-7.7	(2.5) **	-4.1	(2.6)	-4.0	(2.6)	-3.0	(2.5)	0.0	(2.6)	0.9	(2.6)
Mother has some college	-3.5	(2.4)	-3.4	(2.4)	-1.1	(2.3)	-1.0	(2.3)	-0.7	(2.3)	0.3	(2.3)	0.6	(2.4)
Imputation flag for education	4.5	(8.0)	4.8	(6.8)	5.0	(7.1)	5.4	(7.1)	5.1	(7.1)	3.8	(6.9)	3.5	(6.6)
<i>Hrs/wk watching tv w/parents</i>			<i>-0.3</i>	<i>(0.1) *</i>	<i>-0.3</i>	<i>(0.1) #</i>	<i>-0.3</i>	<i>(0.1) #</i>	<i>-0.3</i>	<i>(0.1) #</i>	<i>-0.2</i>	<i>(0.1)</i>	<i>-0.3</i>	<i>(0.1) #</i>
<i>Hours per week read with parent</i>			<i>2.0</i>	<i>(0.6) **</i>	<i>1.9</i>	<i>(0.6) **</i>	<i>1.9</i>	<i>(0.6) **</i>	<i>1.9</i>	<i>(0.6) **</i>	<i>1.8</i>	<i>(0.6) **</i>	<i>1.8</i>	<i>(0.6) **</i>
Family income \$75,000 or more					6.8	(2.7) *	5.1	(3.0) #	4.0	(3.0)	4.0	(2.8)	4.6	(2.6) #
Family income \$50,000 - \$75,000					3.5	(2.8)	1.9	(3.1)	1.4	(3.1)	1.6	(2.9)	2.2	(2.7)
Family income \$30,000 - \$50,000					-0.8	(2.4)	-2.0	(2.5)	-2.1	(2.5)	-2.7	(2.4)	-3.3	(2.3)
Imputation flag for family income					-11.6	(4.9) *	-12.6	(4.5) **	-14.8	(5.2) **	-15.0	(3.9) ***	-7.2	(6.7)
Single-mother family							-2.8	(2.4)	-2.8	(2.3)	-2.1	(2.1)	-3.5	(2.1) #
Biological mother and stepfather							-5.4	(8.6)	-3.8	(9.4)	-3.0	(9.7)	-1.1	(9.5)
Mother is 17 - 24 years old									-1.8	(2.9)	-1.1	(2.7)	-0.9	(2.4)
Mother is 25 - 29 years old									1.7	(2.5)	2.2	(2.5)	1.6	(2.4)
Mother is 35 - 39 years old									4.4	(2.1) *	4.4	(2.0) *	4.8	(2.0) *
Mother is 40 - 44 years old									3.1	(3.9)	1.9	(3.8)	2.2	(3.8)
Mother is 45 or older									-1.5	(5.1)	-0.5	(6.2)	-0.6	(5.5)
Mother's reading comp score											0.2	(0.1) ***	0.3	(0.1) ***
Child is female													2.1	(1.6)
Child is black													4.5	(2.4) #
Child is Hispanic													-11.1	(4.3) **
Child is other race													2.7	(2.8)
Mother employed													-2.8	(1.8)
Number of children in household													-1.6	(1.0)
Child's birthweight													0.6	(0.6)
R-squared	0.10		0.16		0.20		0.20		0.22		0.25		0.28	
N	419		419		419		419		419		419		419	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.1. OLS Regression Coefficients for Children Aged 6 to 12's Time with Parents (Diary Estimates), 1997

	Time with mother		Time with father		Reading w/ parents - participants		TV w/ parents - participants		Playing w/ parents - participants	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	32.1	(4.4) ***	17.2	(2.5) ***	1.5	(1.2)	10.8	(1.9) ***	3.6	(1.4) *
Mother has less than a high school degree	-6.5	(1.8) ***	-0.3	(1.4)	-0.5	(0.5)	2.2	(0.9) *	1.3	(1.2)
Mother attained a high school degree	-1.8	(1.3)	-1.4	(1.2)	0.6	(0.4)	1.8	(0.7) *	0.6	(0.7)
Mother has some college	-1.5	(1.2)	-2.1	(1.1) #	-0.4	(0.3)	0.3	(0.6)	1.9	(1.0) #
Imputation flag for maternal education	1.8	(2.8)	-0.2	(2.4)	2.1	(1.5)	0.7	(1.2)	2.7	(3.0)
Mother's age is 17 - 24 years old	2.3	(4.8)	-2.3	(1.9)	0.5	(0.7)	0.0	(1.8)	1.4	(1.2)
Mother's age is 25 - 29 years old	3.7	(2.4)	-0.2	(1.2)	-0.2	(0.4)	-0.1	(0.9)	-0.9	(1.1)
Mother's age is 35 - 39 years old	1.0	(1.2)	0.2	(1.0)	0.0	(0.4)	-0.5	(0.6)	0.3	(0.7)
Mother's age is 40 - 44 years old	0.4	(1.3)	-0.6	(1.1)	0.3	(0.4)	0.8	(0.7)	-0.1	(0.8)
Mother's age is 45 or older	-1.0	(1.9)	-0.9	(1.4)	0.1	(0.8)	0.8	(1.3)	-0.4	(1.0)
Child is female	2.1	(0.9) *	-1.0	(0.6)	0.0	(0.3)	0.4	(0.4)	-0.7	(0.6)
Child is black	-0.3	(1.3)	-1.6	(0.9) #	0.8	(0.4) #	-0.5	(0.6)	1.0	(1.0)
Child is Hispanic	3.7	(4.2)	1.6	(1.7)	0.2	(0.6)	1.9	(1.6)	1.8	(1.4)
Child is other race	-0.8	(2.6)	1.1	(1.4)	0.7	(0.5)	0.8	(1.2)	-0.2	(1.1)
Single-mother family in 1997	-1.9	(1.7)	-9.7	(1.1) ***	0.1	(0.6)	0.1	(0.8)	-0.6	(0.9)
Biological mother and stepfather in 1997	-0.8	(1.8)	-3.1	(1.7) #	0.0	(0.8)	-1.0	(0.9)	-0.9	(1.0)
Mother employed in 1997	-1.9	(1.2) #	-0.8	(1.0)	0.0	(0.3)	-1.7	(0.6) **	-1.9	(1.0) #
Family income was \$75,000 or more	-3.8	(1.9) *	0.7	(1.5)	0.0	(0.6)	-1.9	(0.8) *	0.3	(1.1)
Family income is \$50,000 - \$75,000	-2.3	(1.8)	1.3	(1.4)	0.2	(0.5)	-0.6	(0.9)	0.2	(0.9)
Family income is \$30,000 - \$50,000	-3.1	(1.8) #	-0.6	(1.2)	-0.1	(0.5)	-0.7	(0.8)	-1.8	(1.0) #
Imputation flag for family income	3.9	(3.9)	-1.0	(1.7)	0.5	(0.6)	-1.2	(1.2)	-2.3	(1.1) *
Number of children in the household	-2.2	(0.5) ***	-0.8	(0.3) *	-0.2	(0.2)	-0.8	(0.2) ***	0.0	(0.2)
Child's birth weight	-0.5	(0.5)	0.0	(0.2)	0.1	(0.1)	-0.2	(0.2)	0.2	(0.1) #
Season of the diary is summer	4.6	(3.6)	4.6	(2.6) #	1.0	(1.0)	0.0	(2.1)	0.7	(1.3)
Season of the diary is fall	-0.3	(1.2)	0.5	(0.8)	-0.5	(0.3)	-0.5	(0.5)	-0.2	(0.6)
N	1286		1286		182		778		366	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.2. OLS Regression Coefficients for Children Aged 6 to 12's Time in Selected Enrichment and Family Activities, 1997

	Structured activities - participants		Lessons - participants		Sports - participants		Organizational activities - participants		Other active sports - participants					
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)				
Intercept	8.9	(3.1)	**	4.5	(3.1)		6.4	(2.7)	*	11.9	(5.8)	*	3.9	(2.6)
Mother has less than a high school degree	-0.6	(1.7)		2.3	(2.1)		-0.4	(1.9)		-2.7	(2.5)		-0.4	(1.0)
Mother attained a high school degree	0.4	(1.1)		0.9	(1.2)		1.2	(1.0)		-1.0	(2.0)		-0.2	(0.8)
Mother has some college	1.2	(1.3)		0.1	(1.5)		2.0	(1.7)		1.7	(1.9)		-0.1	(0.7)
Imputation flag for maternal education	-1.9	(1.6)		1.2	(1.8)		-5.6	(2.8)	*	-1.9	(1.9)		-0.5	(1.2)
Mother's age is 17 - 24 years old	1.1	(2.2)		0.0	(1.8)		-9.1	(2.0)	***	-	-		0.6	(1.5)
Mother's age is 25 - 29 years old	3.8	(1.8)	*	-1.2	(1.5)		6.8	(2.1)	**	4.1	(2.0)	*	0.9	(1.2)
Mother's age is 35 - 39 years old	1.7	(1.3)		0.4	(1.5)		1.6	(1.5)		0.5	(2.0)		1.0	(0.7)
Mother's age is 40 - 44 years old	1.2	(1.1)		1.7	(1.8)		1.9	(1.4)		0.6	(1.9)		-0.1	(0.7)
Mother's age is 45 or older	0.4	(1.4)		0.1	(1.7)		0.5	(1.7)		-1.6	(1.4)		1.8	(1.2)
Child is female	-2.0	(0.8)	*	0.7	(1.2)		-1.0	(0.8)		-2.5	(1.6)		-1.4	(0.6)
Child is black	-1.5	(1.2)		-0.6	(1.1)		2.6	(1.8)		-3.4	(1.4)	*	-0.4	(0.9)
Child is Hispanic	4.7	(1.4)	**	1.3	(3.5)		6.4	(1.2)	***	1.1	(3.4)		-1.8	(1.2)
Child is other race	-2.1	(1.5)		-1.1	(1.9)		6.1	(2.9)	*	-3.9	(2.3)	#	0.2	(1.5)
Single-mother family in 1997	-0.1	(1.0)		0.8	(1.8)		-0.8	(1.4)		1.8	(1.9)		-0.3	(1.0)
Biological mother and stepfather in 1997	-2.9	(1.3)	*	0.6	(0.9)		3.4	(4.1)		-2.2	(1.7)		3.1	(2.0)
Mother employed in 1997	-1.1	(1.3)		-1.2	(1.0)		-1.1	(2.2)		-3.0	(1.7)	#	0.0	(0.7)
Family income was \$75,000 or more	1.6	(1.2)		-0.6	(2.1)		2.7	(1.9)		1.2	(1.8)		-1.1	(1.0)
Family income is \$50,000 - \$75,000	1.4	(1.1)		-0.4	(2.5)		1.2	(1.4)		2.9	(2.5)		-0.3	(1.1)
Family income is \$30,000 - \$50,000	1.1	(1.0)		-1.0	(2.2)		0.8	(1.7)		0.6	(1.7)		0.8	(1.0)
Imputation flag for family income	-5.3	(1.5)	***	-1.7	(3.2)		-5.2	(2.5)	*	-2.9	(2.7)		1.7	(1.6)
Number of children in the household	-0.5	(0.5)		0.1	(0.4)		-0.7	(0.8)		0.0	(0.7)		0.6	(0.3)
Child's birth weight	-0.3	(0.3)		0.0	(0.3)		-0.1	(0.3)		-1.0	(0.5)	#	0.2	(0.2)
Season of the diary is summer	2.1	(2.3)		0.6	(0.7)		3.6	(2.6)		-3.0	(1.8)	#	-0.5	(1.8)
Season of the diary is fall	0.5	(1.1)		1.5	(1.7)		-0.1	(1.6)		2.7	(1.7)		-0.9	(0.7)
N	334			69			158			139			535	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997. Models where imputation flag for parental education was statistically significant were rerun excluding imputed cases.

Appendix Table 5.3. OLS Regression Coefficients of Children (Aged 6 to 12)'s Hours per Week Eating and Talking with Parents and Visiting Activities, 1997

	Eating w/ parents - participants		Conversations - participants		Time with extended family		Visiting w/ others - participants		Time spent Alone	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	4.0	(1.0) ***	1.9	(0.7) **	10.9	(3.2) ***	5.0	(3.4)	13.3	(2.9) ***
Mother has less than a high school degree	0.2	(0.3)	0.1	(0.3)	2.7	(1.9)	-0.1	(2.2)	1.1	(1.6)
Mother attained a high school degree	0.1	(0.2)	0.0	(0.2)	0.8	(1.1)	-0.2	(1.5)	2.0	(1.3)
Mother has some college	0.3	(0.3)	0.2	(0.2)	0.8	(1.0)	-1.0	(1.2)	2.3	(1.5)
Imputation flag for maternal education	0.7	(0.5)	-0.3	(0.3)	-2.0	(1.5)	1.0	(2.1)	0.9	(4.9)
Mother's age is 17 - 24 years old	-0.1	(0.5)	3.0	(0.4) ***	-4.1	(2.4) #	-2.3	(2.1)	-1.1	(3.3)
Mother's age is 25 - 29 years old	1.1	(0.4) **	0.3	(0.3)	0.6	(2.4)	6.3	(4.4)	-1.7	(2.0)
Mother's age is 35 - 39 years old	0.0	(0.2)	0.5	(0.2) *	-1.2	(1.1)	-1.0	(1.3)	1.6	(1.0)
Mother's age is 40 - 44 years old	0.1	(0.3)	0.4	(0.2) #	-1.4	(1.4)	-2.1	(1.3)	5.1	(1.3) ***
Mother's age is 45 or older	-0.1	(0.3)	0.5	(0.3) #	-0.6	(1.6)	-0.4	(1.4)	7.1	(1.7) ***
Child is female	-0.2	(0.2)	0.1	(0.2)	2.0	(0.9) *	-1.2	(1.1)	-1.5	(0.8) #
Child is black	0.4	(0.3)	0.3	(0.3)	3.7	(1.5) *	1.5	(2.6)	-1.3	(1.3)
Child is Hispanic	-0.8	(0.6)	1.7	(0.5) **	1.2	(3.8)	0.7	(3.1)	-3.8	(2.1) #
Child is other race	0.0	(0.5)	-0.2	(0.2)	0.5	(1.9)	0.1	(2.3)	-4.3	(1.5) **
Single-mother family in 1997	-0.5	(0.2) #	0.0	(0.2)	-1.6	(1.7)	1.3	(1.7)	0.4	(1.3)
Biological mother and stepfather in 1997	0.3	(0.4)	-0.2	(0.3)	2.2	(1.5)	-2.0	(2.2)	1.7	(1.8)
Mother employed in 1997	0.2	(0.2)	-0.1	(0.2)	-1.4	(1.2)	2.3	(1.4)	1.4	(1.0)
Family income was \$75,000 or more	-0.1	(0.4)	0.2	(0.2)	-2.6	(1.7)	-0.9	(1.2)	-0.9	(1.8)
Family income is \$50,000 - \$75,000	-0.4	(0.3)	0.6	(0.3) #	-3.4	(1.5) *	0.7	(1.4)	-0.6	(1.6)
Family income is \$30,000 - \$50,000	-0.6	(0.3) *	0.5	(0.3) *	-0.9	(1.6)	0.2	(1.8)	-0.8	(1.6)
Imputation flag for family income	2.0	(0.8) *	-1.1	(0.3) ***	0.9	(2.8)	4.4	(2.7)	3.4	(2.0) #
Number of children in the household	-0.1	(0.1)	-0.2	(0.1) #	-0.7	(0.4) #	0.5	(0.5)	-1.6	(0.4) ***
Child's birth weight	0.0	(0.1)	-0.1	(0.1) #	-0.3	(0.3)	-0.3	(0.4)	0.1	(0.3)
Season of the diary is summer	-0.3	(0.4)	0.0	(0.4)	-6.2	(1.5) ***	-2.1	(1.0) *	-2.7	(2.8)
Season of the diary is fall	-0.1	(0.2)	0.5	(0.2) **	-0.7	(0.9)	-2.2	(1.0) *	-2.3	(0.8) **
N	994		255		1286		272		1286	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.4. Logistic Regression Coefficients for Children (Aged 6-12)'s Hours per Week with Parents (Diary Estimates), 1997

	Read w/ parents		Play w/ parents		Watch TV w/ parents		Had Conversation w/ parents		Ate w/ parents		Visited others	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	1.4	(0.8) #	1.2	(0.7) #	1.3	(0.6) *	0.9	(0.8)	2.2	(0.7) **	0.0	(0.7)
Mother has less than a high school degree	-2.7	(0.7) ***	-1.2	(0.4) **	0.7	(0.4) #	-0.7	(0.4) #	-0.3	(0.4)	-0.5	(0.4)
Mother attained a high school degree	-1.0	(0.3) **	-0.6	(0.3) *	0.2	(0.3)	-0.7	(0.3) *	-0.2	(0.3)	0.1	(0.3)
Mother has some college	-0.5	(0.3)	-0.5	(0.3) #	-0.5	(0.2) *	-0.4	(0.3)	0.3	(0.4)	-0.1	(0.3)
Imputation flag for maternal education	-0.4	(0.8)	0.2	(0.6)	0.7	(0.6)	-0.9	(0.8)	-0.7	(0.5)	-1.0	(0.5) #
Mother's age is between 17 and 24 years old	0.4	(1.0)	0.2	(0.8)	0.4	(0.8)	-1.4	(1.1)	1.3	(0.7) #	-0.4	(1.0)
Mother's age is between 25 and 29 years old	0.7	(0.4)	0.4	(0.4)	0.2	(0.3)	-0.6	(0.4)	0.0	(0.4)	0.5	(0.4)
Mother's age is between 35 and 39 years old	0.1	(0.3)	0.3	(0.2)	0.3	(0.2)	0.0	(0.3)	-0.1	(0.3)	0.1	(0.3)
Mother's age is between 40 and 44 years old	-0.2	(0.3)	-0.2	(0.3)	-0.1	(0.3)	-0.1	(0.3)	0.0	(0.3)	-0.1	(0.3)
Mother's age is 45 or older	-0.6	(0.5)	-0.1	(0.4)	-0.1	(0.3)	0.1	(0.4)	0.0	(0.4)	0.5	(0.4)
Child is female	0.0	(0.2)	0.0	(0.2)	-0.4	(0.2) *	0.0	(0.2)	-0.3	(0.2)	0.3	(0.2)
Child is black	-1.2	(0.4) *	-0.8	(0.3) **	-0.3	(0.3)	-0.6	(0.3)	-0.3	(0.3)	-0.5	(0.3) #
Child is Hispanic	-0.6	(0.8)	-0.1	(0.5)	-0.9	(0.5) #	-0.2	(0.5)	-0.4	(0.6)	-0.9	(0.7)
Child is other race	0.2	(0.5)	0.3	(0.4)	-0.1	(0.5)	-0.4	(0.5)	-0.3	(0.5)	-0.3	(0.5)
Single-mother family in 1997	-1.2	(0.4) *	-0.2	(0.3)	-0.5	(0.3) #	-1.1	(0.3)	-0.5	(0.3)	-0.3	(0.3)
Biological mother and stepfather in 1997	0.1	(0.5)	-0.5	(0.5)	-0.7	(0.4) #	0.0	(0.5)	0.0	(0.4)	0.1	(0.5)
Mother employed in 1997	-0.3	(0.3)	-0.6	(0.2) *	0.3	(0.2)	-0.2	(0.2)	-0.2	(0.3)	-0.3	(0.2)
Family income was \$75,000 or more	-1.1	(0.4) #	0.1	(0.4)	-0.3	(0.3)	-0.7	(0.3)	-0.4	(0.5)	-0.6	(0.4) #
Family income was between \$50,000 and \$75,000	-1.0	(0.4)	-0.1	(0.3)	-0.3	(0.3)	-0.8	(0.3)	-0.2	(0.4)	-0.4	(0.3)
Family income was between \$30,000 and \$50,000	-0.9	(0.4) #	-0.2	(0.3)	-0.2	(0.3)	-0.7	(0.3)	-0.7	(0.4) #	0.2	(0.3)
Imputation flag for family income	0.7	(0.6) #	-0.3	(0.5)	0.6	(0.5)	0.1	(0.5)	0.0	(0.5)	0.1	(0.6)
Number of children in the household	-0.1	(0.1)	-0.1	(0.1)	0.0	(0.1)	-0.3	(0.1)	-0.2	(0.1) **	0.1	(0.1)
Child's birth weight	-0.1	(0.1)	-0.1	(0.1)	-0.1	(0.1)	0.0	(0.1) #	0.1	(0.1)	-0.1	(0.1) #
Season of the diary is summer	0.6	(0.6)	1.3	(0.6) *	0.4	(0.6)	0.1	(0.6)	1.0	(1.0)	-0.5	(0.8)
Season of the diary is fall	0.1	(0.3)	-0.1	(0.2)	-0.2	(0.2)	-0.2	(0.2)	0.2	(0.3)	-0.1	(0.2)
N	1286		1286		1286		1286		1286		1286	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.5. Logistic Regression Coefficients for Children Aged 6 to 12's Time Spent in Selected Activities (Diary Estimates), 1997

	Did Structured									
	Activities		Did Lessons		Did Sports		Did org Activities		Did other active sports	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	-0.8	(0.7)	-1.8	(1.2)	-2.7	(1.0) **	-1.9	(0.9) *	-1.0	(0.6)
Mother has less than a high school degree	-1.5	(0.4) ***	-2.3	(1.0) *	-1.0	(0.6) #	-1.5	(0.6) *	0.1	(0.4)
Mother attained a high school degree	-0.3	(0.3)	-0.4	(0.5)	-0.1	(0.3)	-0.5	(0.4)	0.1	(0.3)
Mother has some college	-0.1	(0.2)	-0.5	(0.4)	-0.1	(0.3)	-0.1	(0.3)	0.0	(0.3)
Imputation flag for maternal education	-0.6	(0.6)	0.7	(1.0)	-0.8	(0.8)	-1.1	(0.8)	0.2	(0.5)
Mother's age is between 17 and 24 years old	-1.2	(1.1)	0.8	(1.0)	-2.5	(1.3) *	-13.2	(0.7) ***	-1.0	(0.7)
Mother's age is between 25 and 29 years old	-0.5	(0.4)	-0.3	(0.8)	-0.4	(0.5)	-0.1	(0.6)	-0.4	(0.3)
Mother's age is between 35 and 39 years old	-0.4	(0.2) #	0.2	(0.4)	-0.1	(0.3)	-0.6	(0.3) #	-0.3	(0.2)
Mother's age is between 40 and 44 years old	-0.1	(0.3)	-0.4	(0.5)	-0.2	(0.3)	0.3	(0.4)	-0.1	(0.3)
Mother's age is 45 or older	-0.3	(0.4)	0.3	(0.6)	-0.1	(0.5)	-0.8	(0.5)	0.0	(0.4)
Child is female	0.1	(0.2)	1.1	(0.3) ***	-0.6	(0.2) *	0.4	(0.2) #	-0.8	(0.2) ***
Child is black	-0.9	(0.3) **	-1.3	(0.5) *	-1.1	(0.3) ***	-0.4	(0.4)	0.0	(0.2)
Child is Hispanic	0.6	(0.5)	-0.2	(0.7)	1.2	(0.7) #	0.3	(0.6)	0.0	(0.6)
Child is other race	-0.3	(0.5)	-0.3	(0.7)	-1.6	(0.8) *	0.5	(0.6)	-0.4	(0.5)
Single-mother family in 1997	0.1	(0.3)	1.0	(0.4) *	-0.3	(0.5)	0.0	(0.5)	0.5	(0.3) *
Biological mother and stepfather in 1997	0.3	(0.5)	0.4	(0.8)	-1.6	(0.8) *	1.1	(0.5) *	0.1	(0.3)
Mother employed in 1997	-0.5	(0.2) *	-0.5	(0.4)	-0.2	(0.3)	-0.2	(0.3)	0.0	(0.2)
Family income was \$75,000 or more	1.3	(0.3) ***	0.7	(0.5)	1.3	(0.5) *	1.0	(0.5) #	0.4	(0.3)
Family income was between \$50,000 and \$75,000	0.6	(0.4) #	0.1	(0.5)	0.5	(0.5)	0.8	(0.5)	0.4	(0.3)
Family income was between \$30,000 and \$50,000	0.7	(0.3) *	0.0	(0.5)	0.7	(0.5)	0.8	(0.6)	0.5	(0.3) #
Imputation flag for family income	-0.7	(0.5)	0.7	(0.7)	-1.8	(0.8) *	0.1	(0.5)	-0.4	(0.5)
Number of children in the household	-0.1	(0.1)	-0.2	(0.2)	-0.1	(0.1)	-0.1	(0.2)	0.1	(0.1)
Child's birth weight	0.1	(0.1)	-0.1	(0.1)	0.2	(0.1) *	0.0	(0.1)	0.1	(0.1) #
Season of the diary is summer	0.0	(0.5)	0.2	(0.7)	0.2	(0.6)	0.1	(0.9)	0.1	(0.5)
Season of the diary is fall	-0.2	(0.2)	-1.0	(0.5) *	-0.2	(0.3)	0.1	(0.3)	-0.3	(0.2) #
N	1286		1286		1286		1286		1286	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.6. Logistic Regression Coefficients for Parental Involvement in Parental Warmth and Routine Interactions with Children Aged 6 to 12 (Survey Estimates), 1997

	Parent said "I love you" daily		Parent voiced appreciation daily		Parent talked of interests daily		Ate w/ family "several" times a week		Parent always aware of child's whereabouts	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	3.68	(0.8) ***	1.26	(0.6)	1.48	(0.6) *	1.27	(0.8) #	0.40	(0.7)
Mother has less than a high school degree	0.21	(0.5)	-0.56	(0.4)	-0.67	(0.4) #	0.76	(0.4) #	0.82	(0.4) *
Mother attained a high school degree	-0.12	(0.3)	-0.26	(0.3)	-0.46	(0.3) #	0.21	(0.3)	0.68	(0.3) *
Mother has some college	0.10	(0.4)	-0.08	(0.3)	-0.29	(0.3)	0.74	(0.3) *	0.47	(0.3)
Imputation flag for maternal education	-0.03	(0.4)	0.08	(0.5)	-0.10	(0.4)	-0.63	(0.7)	-	-
Mother's age is between 17 and 24 years old	0.34	(0.7)	0.09	(0.7)	0.23	(0.8)	0.58	(1.2)	0.31	(1.3)
Mother's age is between 25 and 29 years old	-0.01	(0.4)	0.10	(0.3)	-0.52	(0.3)	-1.46	(0.5) **	0.05	(0.5)
Mother's age is between 35 and 39 years old	0.09	(0.3)	-0.41	(0.2) #	-0.40	(0.2) #	0.02	(0.3)	-0.23	(0.3)
Mother's age is between 40 and 44 years old	-0.31	(0.3)	0.15	(0.3)	-0.21	(0.3)	0.00	(0.3)	0.01	(0.4)
Mother's age is 45 or older	-1.02	(0.4) *	-0.38	(0.4)	-0.37	(0.3)	0.28	(0.5)	-0.32	(0.5)
Child is female	-0.05	(0.2)	-0.14	(0.2)	-0.17	(0.2)	-0.37	(0.2) *	0.79	(0.3) **
Child is black	-1.53	(0.3) ***	-0.10	(0.3)	-0.26	(0.2)	-0.57	(0.3) *	-0.68	(0.3) *
Child is Hispanic	-0.35	(0.9)	0.48	(0.5)	0.06	(0.4)	-0.39	(0.7)	-0.90	(0.7)
Child is other race	-0.52	(0.5)	0.36	(0.4)	0.30	(0.4)	-0.41	(0.6)	-0.54	(0.5)
Single-mother family in 1997	0.11	(0.4)	0.25	(0.3)	0.43	(0.3)	-0.85	(0.6)	-0.13	(0.3)
Biological mother and stepfather in 1997	-0.56	(0.4)	0.38	(0.4)	-0.15	(0.4)	-0.29	(0.4)	-1.34	(0.4) ***
Mother employed in 1997	0.00	(0.3)	-0.07	(0.2)	-0.38	(0.2)	-0.02	(0.2)	0.49	(0.3) #
Family income was \$75,000 or more	-0.23	(0.4)	-0.44	(0.3)	0.04	(0.3)	-0.40	(0.4)	0.48	(0.4)
Family income was between \$50,000 and \$75,000	-0.68	(0.4) #	-0.56	(0.3) #	-0.11	(0.3)	-0.57	(0.4)	0.11	(0.4)
Family income was between \$30,000 and \$50,000	-0.13	(0.4)	-0.07	(0.3)	-0.07	(0.3)	0.12	(0.4)	0.34	(0.4)
Imputation flag for family income	-0.82	(0.7)	0.07	(0.4)	-0.92	(0.4) *	0.83	(0.6)	0.55	(0.8)
Number of children in the household	-0.18	(0.1)	-0.03	(0.1)	-0.13	(0.1)	0.02	(0.1)	0.16	(0.1)
Child's birth weight	-0.12	(0.1)	-0.13	(0.1) *	-0.03	(0.1)	-0.10	(0.1)	-0.01	(0.1)
N	1284		1283		1284		949		1238	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.7. Logistic Regression Coefficients for Parental Involvement in Children's Schooling with Children Aged 6 to 12 (Survey Estimates), 1997

	Parent volunteered w/ school		Parent met with teachers		Parent attended event		Parent attended PTA	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	-0.19	(0.7)	2.33	(0.9) **	1.01	(0.7)	-0.14	(0.6)
Mother has less than a high school degree	-0.66	(0.4) #	-0.88	(0.4) *	-0.73	(0.4) #	-1.31	(0.4) **
Mother attained a high school degree	-0.78	(0.3) **	-1.03	(0.3) **	-0.41	(0.3)	-0.65	(0.3) *
Mother has some college	-0.28	(0.2)	-0.36	(0.3)	-0.22	(0.3)	-0.22	(0.3)
Imputation flag for maternal education	-0.18	(0.6)	0.17	(0.6)	0.42	(0.4)	-0.26	(0.6)
Mother's age is between 17 and 24 years old	-0.85	(1.0)	0.42	(0.7)	-0.08	(0.9)	0.71	(0.6)
Mother's age is between 25 and 29 years old	-0.17	(0.4)	0.59	(0.4)	-0.46	(0.3)	-0.29	(0.4)
Mother's age is between 35 and 39 years old	0.15	(0.2)	0.08	(0.3)	0.13	(0.2)	0.12	(0.2)
Mother's age is between 40 and 44 years old	-0.30	(0.3)	0.04	(0.3)	0.29	(0.3)	0.02	(0.3)
Mother's age is 45 or older	-0.38	(0.3)	-0.11	(0.4)	0.12	(0.4)	-0.34	(0.4)
Child is female	0.01	(0.2)	-0.16	(0.2)	0.34	(0.2) *	0.04	(0.2)
Child is black	-0.44	(0.3) #	-0.38	(0.3)	-0.52	(0.3) *	0.69	(0.3) *
Child is Hispanic	0.23	(0.5)	-1.32	(0.6) *	-0.09	(0.5)	0.01	(0.6)
Child is other race	0.33	(0.4)	-0.15	(0.5)	-0.24	(0.4)	0.03	(0.5)
Single-mother family in 1997	-0.25	(0.3)	-0.03	(0.4)	-0.45	(0.3)	0.23	(0.3)
Biological mother and stepfather in 1997	0.25	(0.4)	0.87	(0.5) #	-0.01	(0.5)	-0.18	(0.4)
Mother employed in 1997	-0.81	(0.2) ***	-0.15	(0.3)	-0.39	(0.2)	-0.51	(0.2) *
Family income was \$75,000 or more	0.72	(0.4) *	-0.35	(0.4)	-0.01	(0.3)	0.60	(0.4)
Family income was between \$50,000 and \$75,000	0.15	(0.4)	-0.13	(0.4)	0.02	(0.3)	0.61	(0.4)
Family income was between \$30,000 and \$50,000	0.50	(0.3)	-0.14	(0.4)	-0.13	(0.3)	0.28	(0.3)
Imputation flag for family income	-0.79	(0.5)	0.79	(0.6)	-0.96	(0.5) *	0.70	(0.5)
Number of children in the household	-0.01	(0.1)	0.22	(0.1) #	0.11	(0.1) #	0.02	(0.1)
Child's birth weight	0.07	(0.1)	-0.04	(0.1)	0.02	(0.1) #	0.00	(0.1)
N	1272		1270		1271		1272	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.8. Comparison of OLS and Tobit Regression Coefficients for Children (Aged 6-12)'s Hours per Week Reading and Watching Television with Parents, 1997

	Reading w/out parents		Reading with parents		TV w/out parents		TV with parents	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	0.5	-3.7 *	1.2 ***	2.6 *	5.7 *	4.5 *	7.8 ***	7.4 ***
Mother has less than a high school degree	-0.9 **	-3.7 ***	-0.6 ***	-4.9 ***	4.8 ***	5.6 ***	2.6 **	3.8 ***
Mother attained a high school degree	-0.4	-1.7 **	-0.2	-1.7 ***	1.5	1.8 *	1.6 **	2.0 **
Mother has some college	-0.4	-1.3 *	-0.2 *	-1.1 *	1.4	1.5 *	-0.2	-1.1 #
Imputation flag for maternal education	-0.2	-1.0	0.3	0.2	1.8	2.4	1.7	2.9 *
Mother's age is 17 - 24 years old	-0.7 **	-6.2 #	0.3	1.2	2.3	2.8	0.6	1.4
Mother's age is 25 - 29 years old	-0.2	-0.9	0.1	1.1 #	-3.8 ***	-4.7 ***	0.4	0.6
Mother's age is 35 - 39 years old	-0.1	-0.3	0.0	0.2	1.1	1.2 #	0.3	0.8
Mother's age is 40 - 44 years old	0.0	-0.2	0.0	-0.2	1.8	1.8 *	0.5	0.3
Mother's age is 45 or older	0.8 #	2.3 **	-0.2	-1.1	-0.3	-0.3	0.8	0.7
Child is female	0.2 #	0.9 *	-0.1	-0.2	0.3	0.2	-0.3	-0.9 *
Child is black	0.0	0.1	-0.1 *	-2.1 **	3.1 **	3.2 ***	-0.8	-1.4 #
Child is Hispanic	-0.4	0.5	-0.2	-1.2	-1.0	-2.2	0.1	-1.3
Child is other race	-0.1	0.5	0.1	0.4	3.1	2.8 *	0.3	0.2
Single-mother family in 1997	-0.2	-1.7 *	-0.3 *	-2.3 ***	0.1	0.1	-0.7	-1.4 *
Biological mother and stepfather in 1997	0.0	-0.1	0.1	0.2	1.9	2.1	-1.7 *	-3.0 *
Mother employed in 1997	0.1	-0.1	-0.1	-0.6	0.0	0.3	-0.7	-0.3
Family income was \$75,000 or more	-0.1	0.5	-0.3 #	-2.1 ***	0.5	0.6	-1.6 *	-2.3 **
Family income is \$50,000 - \$75,000	0.1	0.8	-0.3	-1.8 **	-0.2	-0.3	-0.8	-1.4 #
Family income is \$30,000 - \$50,000	-0.2	-0.7	-0.3 #	-1.8 **	1.0	1.4	-0.7	-1.1
Imputation flag for family income	0.7 #	1.1	0.4 #	1.5 #	0.5	1.8	-0.1	0.8
Number of children in the household	0.0	0.0	-0.1	-0.3 #	-0.2	-0.2	-0.6 **	-0.7 ***
Child's birth weight	0.1	0.2	0.0	-0.2	0.1	0.1	-0.2	-0.3 *
Season of the diary is summer	-0.1	-0.5	0.4	1.3	-2.5	-3.3 #	0.8	1.3
Season of the diary is fall	0.0	-0.2	0.0	-0.1	-1.8 **	-2.0 ***	-0.6	-0.9 #
N	1286	1286	1286	1286	1286	1286	1286	1286

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997.

Appendix Table 5.9. Comparison of OLS and Tobit Regression Coefficients for Children Aged 6 to 12's Hours per Week Spent in Structured Leisure Activities, 1997

	Total structured activities				Organizational activities					
	Total structured activities		Lessons		Sports		Organizational activities		Other active sports	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	2.6 *	-4.1	0.6 *	-10.4 *	0.5	-19.3 ***	1.4	-7.7 *	0.7	-5.2 **
Mother has less than a high school degree	-0.7	-6.8 ***	-0.3 #	-9.7 **	-0.1	-5.0 #	-0.4	-6.1 **	0.2	0.3
Mother attained a high school degree	-0.1	-1.1	-0.1	-1.6	0.2	0.2	-0.2	-2.2 #	0.0	0.2
Mother has some college	0.4	0.3	-0.1	-2.1	0.3	0.2	0.2	0.2	-0.1	-0.2
Imputation flag for maternal education	-1.0 #	-3.0	0.3	4.0	-0.9 ***	-6.8	-0.4	-3.8	-0.1	0.2
Mother's age is 17 - 24 years old	-0.7	-5.0	0.2	3.0	-0.6	-14.3	-0.4 *	-44.1	-0.8	-4.0
Mother's age is 25 - 29 years old	-0.3	-1.0	-0.1	-1.9	0.0	-1.0	-0.2	-0.4	0.0	-0.9
Mother's age is 35 - 39 years old	-0.2	-1.1	0.0	0.7	0.1	-0.3	-0.3	-2.4 *	0.0	-0.7
Mother's age is 40 - 44 years old	0.0	0.2	-0.1	-2.3	0.0	-0.5	0.2	1.4	0.0	-0.2
Mother's age is 45 or older	-0.6	-1.6	0.1	1.6	-0.2	-0.3	-0.5 #	-4.0 *	0.9	1.1
Child is female	-0.5	-0.4	0.3 ***	5.6 ***	-0.7 **	-4.4 ***	-0.1	1.0	-1.7 ***	-3.9 ***
Child is black	-1.0 **	-5.0 ***	-0.3 #	-5.8 *	-0.3	-6.1 *	-0.4 *	-2.5	-0.1	-0.2
Child is Hispanic	1.2	4.3 *	0.0	-1.7	1.3	8.4 **	0.0	0.7	-0.7	-0.8
Child is other race	-0.7 #	-2.3	-0.2	-2.6	-0.2	-7.9 #	-0.3	0.6	-0.7	-1.6
Single-mother family in 1997	0.4	0.4	0.3 #	5.2 *	-0.2	-2.6	0.3	0.4	0.6	1.8 *
Biological mother and stepfather in 1997	-0.5	0.1	0.1	2.4	-0.9 *	-8.9 *	0.3	3.9 *	1.6	2.1
Mother employed in 1997	-1.0 #	-2.7 **	-0.2	-3.2 *	-0.4	-1.6	-0.4	-1.5	0.0	-0.2
Family income was \$75,000 or more	2.0 ***	7.0 ***	0.2 #	4.1	1.5 **	9.0 ***	0.3	3.9 *	0.0	1.0
Family income is \$50,000 - \$75,000	1.0 *	3.4 *	0.0	1.2	0.4	3.2	0.5 #	3.7 *	0.4	1.3
Family income is \$30,000 - \$50,000	1.1 **	4.2 **	0.0	0.7	0.7 *	5.3 *	0.4	3.7 *	1.0	2.4 **
Imputation flag for family income	-2.0 **	-5.3 **	0.1	3.7	-1.8 **	-12.4 **	-0.3	-0.3	0.3	-0.5
Number of children in the household	-0.2	-0.9 *	0.0	-0.9	-0.1	-1.1	0.0	-0.5	0.4 #	0.6 *
Child's birth weight	0.0	0.2	0.0	-0.6	0.1 #	1.3 **	-0.1	-0.3	0.2 #	0.5 *
Season of the diary is summer	0.8	0.6	0.2	0.1	0.9	1.7	-0.3 *	-0.7	0.1	0.2
Season of the diary is fall	-0.1	-0.8	-0.1	-3.9 *	-0.2	-1.6	0.2	0.9	-0.8 *	-1.8 **
N	1286	1286	1286	1286	1286	1286	1286	1286	1286	1286

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997. Models where imputation flag for parental education was statistically significant were rerun excluding imputed cases.

Appendix Table 5.10. Comparison of OLS and Tobit Regression Coefficients for Children Aged 6 to 12's Hours per Week Spent in Selected Enrichment Activities with Parents, 1997

	Playing w/ parents		Playing w/out parents		Ate meals w/ parents		Conversations with parents		Visits with others	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	2.5 ***	3.1 #	11.7 ***	3.1 #	3.7 ***	3.7 ***	0.8 ***	0.9	1.7 #	-1.7
Mother has less than a high school degree	-0.6	-3.8 ***	0.3	-3.8 ***	0.0	-0.1	-0.1	-0.8 *	-0.5	-3.5 *
Mother attained a high school degree	-0.3	-1.8 *	0.6	-1.8 *	-0.1	-0.1	-0.2 #	-0.9 **	0.3	0.4
Mother has some college	0.1	-0.9	1.3	-0.9	0.4	0.5 *	0.0	-0.4	-0.2	-1.3
Imputation flag for maternal education	1.0	2.2	-0.8	2.2	0.0	-0.2	-0.2 #	-1.0	-0.3	-4.5
Mother's age is 17 - 24 years old	0.7	1.7	-2.2	1.7	0.4	0.6	0.0	-0.9	-0.6	-3.0
Mother's age is 25 - 29 years old	0.2	1.3	3.1	1.3	0.8 #	0.9 *	0.0	-0.6	2.5	5.8 ***
Mother's age is 35 - 39 years old	0.4	1.3 #	-0.2	1.3 #	0.0	0.0	0.1	0.1	-0.2	0.1
Mother's age is 40 - 44 years old	-0.2	-0.5	-0.5	-0.5	0.1	0.1	0.1	0.0	-0.4	-1.4
Mother's age is 45 or older	-0.5	-0.5	-1.4	-0.5	-0.1	-0.1	0.1	0.3	0.3	2.3
Child is female	-0.3	-0.5	-1.3 *	-0.5	-0.3 #	-0.4 *	0.0	0.0	-0.1	0.9
Child is black	-0.5	-2.7 **	-2.2	-2.7 **	0.1	0.1	0.0	-0.6 #	0.1	-1.8
Child is Hispanic	0.5	0.4	-0.3	0.4	-0.9	-1.1 *	0.1	0.1	-1.0	-4.6 *
Child is other race	0.2	0.8	-0.2	0.8	-0.1	-0.3	-0.2 *	-0.6	-0.5	-2.1
Single-mother family in 1997	-0.2	-1.1	-0.5	-1.1	-0.6 *	-0.8 **	-0.2 **	-1.3 ***	0.3	-0.6
Biological mother and stepfather in 1997	-0.6	-2.1	-1.0	-2.1	0.2	0.2	0.0	-0.1	-0.1	0.0
Mother employed in 1997	-1.1 *	-2.7 ***	-0.3	-2.7 ***	0.1	0.0	-0.1	-0.3	0.1	-0.8
Family income was \$75,000 or more	0.4	0.4	-1.4	0.4	-0.3	-0.4	-0.1	-0.8 *	-0.4	-3.5 *
Family income is \$50,000 - \$75,000	0.1	-0.3	-2.0	-0.3	-0.4	-0.5 #	-0.1	-0.7 *	-0.1	-1.7
Family income is \$30,000 - \$50,000	-0.5	-1.4	-1.1	-1.4	-0.8 **	-1.0 ***	-0.1	-0.6 #	0.3	1.3
Imputation flag for family income	-1.0 *	-1.9	-0.5	-1.9	1.6 *	1.7 ***	0.0	0.0	1.4 #	3.0
Number of children in the household	-0.1	-0.4	0.3	-0.4	-0.2 *	-0.3 ***	-0.1 ***	-0.5 ***	0.1	0.4
Child's birth weight	0.0	-0.2	0.1	-0.2	0.0	0.0	0.0	0.0	-0.1	-0.7 *
Season of the diary is summer	1.4	4.0 **	-0.7	4.0 **	0.3	0.5	0.1	0.2	-1.0 **	-4.5
Season of the diary is fall	-0.1	-0.4	-2.3 **	-0.4	0.0	0.1	0.0	-0.1	-0.7 #	-1.5
N	1286	1286	1286	1286	1286	1286	1286	1286	1286	1286

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother's age is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is spring in 1997. Models where imputation flag for parental education was statistically significant were rerun excluding imputed cases.

Appendix Table 5.11. OLS Regression Coefficients of Letter-Word Comprehension on Indicator for Reading with Parents Among Children Aged 6-12 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	106.7	(1.2) ***	107.3	(1.4) ***	102.7	(1.9) ***	104.5	(2.1) ***	105.5	(2.7) ***	83.8	(6.0) ***	85.0	(6.4) ***
Mother has less than h.s. degree	-15.5	(1.9) ***	-15.9	(1.9) ***	-12.9	(2.2) ***	-12.9	(2.2) ***	-13.3	(2.4) ***	-9.8	(2.3) ***	-8.8	(2.3) ***
Mother attained a h.s. degree	-9.7	(1.6) ***	-10.0	(1.6) ***	-8.4	(1.8) ***	-8.3	(1.8) ***	-8.2	(1.9) ***	-5.9	(1.9) **	-6.0	(1.7) ***
Mother has some college	-5.3	(1.8) **	-5.4	(1.8) **	-4.5	(2.0) *	-4.5	(2.0)	-4.4	(2.1) *	-3.4	(1.9) #	-3.5	(1.7) *
Imputation flag for education	-1.3	(2.9)	-1.4	(2.9)	-1.0	(3.0)	-0.5	(3.0)	-1.1	(3.3)	-0.4	(3.4)	-1.0	(3.3)
<i>Child read with parent</i>			-2.2	(1.5)	-2.3	(1.5)	-2.7	(1.5) #	-2.6	(1.5) #	-2.8	(1.4) #	-3.5	(1.4) *
Family income \$75,000 or more					5.4	(1.9) **	3.8	(2.1) #	3.6	(2.1) #	2.5	(2.1)	2.3	(2.1)
Family income \$50,000 - \$75,000					3.8	(1.8) *	2.2	(1.9)	2.0	(1.9)	1.2	(1.9)	0.8	(1.9)
Family income \$30,000 - \$50,000					4.7	(1.6) **	3.4	(1.8) #	3.5	(1.8) *	2.2	(1.7)	1.3	(1.7)
Imputation flag for family income					10.5	(2.2) ***	10.2	(2.2) ***	9.9	(2.3) ***	12.6	(2.6) ***	19.7	(3.7) ***
Single-mother family							-2.6	(1.7) #	-2.9	(1.7) #	-1.8	(1.6)	-0.3	(1.7)
Biological mother and stepfather							-3.9	(2.0) *	-3.8	(2.0) #	-3.5	(2.0) #	-2.9	(2.0)
Mother is 17 - 24 years old									-0.4	(3.9)	0.5	(4.2)	-1.1	(4.3)
Mother is 25 - 29 years old									-1.0	(2.0)	-0.8	(2.0)	-1.5	(1.9)
Mother is 35 - 39 years old									-2.0	(1.5)	-1.7	(1.4)	-1.9	(1.5)
Mother is 40 - 44 years old									-1.4	(2.1)	-1.1	(1.9)	-1.2	(1.8)
Mother is 45 or older									3.0	(2.6)	3.0	(2.5)	1.7	(2.6)
Mother's reading comp score											0.2	(0.1) ***	0.2	(0.1) ***
Child is female													3.5	(1.1) **
Child is black													-2.1	(1.9)
Child is Hispanic													2.3	(2.2)
Child is other race													-3.5	(3.3)
Mother employed													-3.4	(1.4) *
Number of children in household													-2.5	(0.5) ***
Child's birthweight													1.3	(0.4) **
R-squared	0.11		0.11		0.13		0.14		0.14		0.17		0.23	
N	1100		1100		1100		1100		1100		1100		1100	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.12. OLS Regression Coefficients of Letter-Word Comprehension on Hours Per Week Reading Among Children Aged 6-12 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	106.7	(1.2) ***	105.8	(1.3) ***	101.4	(1.8) ***	102.7	(2.0) ***	103.8	(2.5) ***	82.7	(6.0) ***	83.6	(6.4) ***
Mother has less than h.s. degree	-15.5	(1.9) ***	-14.7	(1.9) ***	-11.9	(2.1) ***	-11.8	(2.1) ***	-12.3	(2.3) ***	-9.0	(2.3) ***	-7.8	(2.2) ***
Mother attained a h.s. degree	-9.7	(1.6) ***	-9.3	(1.6) ***	-7.8	(1.7) ***	-7.7	(1.7) ***	-7.6	(1.9) ***	-5.4	(1.8) **	-5.4	(1.7) **
Mother has some college	-5.3	(1.8) **	-4.9	(1.8) **	-4.1	(2.0) **	-4.1	(2.0) *	-4.0	(2.1) #	-3.0	(1.9)	-3.2	(1.7) #
Imputation flag for education	-1.3	(2.9)	-1.4	(2.8)	-1.1	(2.9)	-0.5	(2.9)	-1.1	(3.2) 1	-0.4	(3.3)	-0.9	(3.1)
<i>Hours/week reading</i>			0.5	(0.3) #	0.5	(0.3) #	0.5	(0.3) #	0.4	(0.3)	0.4	(0.3)	0.4	(0.2)
Family income \$75,000 or more					5.2	(1.9) **	4.1	(2.1) #	3.8	(2.1) #	2.8	(2.1)	2.7	(2.0)
Family income \$50,000 - \$75,000					3.5	(1.8) *	2.4	(2.0)	2.1	(2.0)	1.3	(1.9)	1.0	(1.9)
Family income \$30,000 - \$50,000					4.7	(1.5) **	3.8	(1.7) *	3.8	(1.7) *	2.5	(1.7)	1.7	(1.7)
Imputation flag for family income					11.0	(2.2) ***	10.7	(2.2) ***	10.4	(2.3) ***	13.0	(2.6) ***	20.5	(4.0) ***
Single-mother family							-1.9	(1.7)	-2.2	(1.7)	-1.2	(1.7)	0.2	(1.7)
Biological mother and stepfather							-3.7	(2.0) #	-3.6	(2.0) #	-3.3	(2.0)	-2.8	(2.0)
Mother is 17 - 24 years old									-0.4	(3.5)	0.5	(3.9)	-1.2	(3.9)
Mother is 25 - 29 years old									-1.0	(2.0)	-0.9	(2.0)	-1.7	(1.9)
Mother is 35 - 39 years old									-1.9	(1.5)	-1.7	(1.4)	-1.9	(1.5)
Mother is 40 - 44 years old									-1.2	(2.1)	-0.9	(1.9)	-1.1	(1.8)
Mother is 45 or older									2.8	(2.6)	2.9	(2.6)	1.6	(2.6)
Mother's reading comp score											0.2	(0.1) ***	0.2	(0.0) ***
Child is female													3.4	(1.1) **
Child is black													-1.6	(1.9)
Child is Hispanic													2.2	(2.5)
Child is other race													-3.0	(3.3)
Mother employed													-3.3	(1.4) *
Number of children in household													-2.6	(0.5) ***
Child's birthweight													1.2	(0.4) **
R-squared	0.11		0.12		0.13		0.14		0.14		0.17		0.22	
N	1100		1100		1100		1100		1100		1100		1100	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.13. OLS Regression Coefficients of Letter-Word Comprehension on Indicator for Playing with Parents Among Children Aged 6-12 in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)
Intercept	106.7 (1.2) ***	106.3 (1.4) ***	101.8 (1.9) ***	103.4 (2.2) ***	104.3 (2.8) ***	82.8 (6.1) ***	83.9 (6.5) ***
Mother has less than h.s. degree	-15.5 (1.9) ***	-15.3 (1.9) ***	-12.4 (2.2) ***	-12.3 (2.2) ***	-12.7 (2.4) ***	-9.2 (2.3) ***	-8.2 (2.3) ***
Mother attained a h.s. degree	-9.7 (1.6) ***	-9.6 (1.6) ***	-8.1 (1.8) ***	-8.0 (1.8) ***	-7.8 (1.9) ***	-5.5 (1.8) **	-5.6 (1.7) **
Mother has some college	-5.3 (1.8) **	-5.1 (1.8) **	-4.3 (1.9) *	-4.3 (2.0) *	-4.1 (2.1) *	-3.1 (1.9)	-3.3 (1.7) #
Imputation flag for education	-1.26 (2.9)	-1.28 (2.8)	-0.9 (3.0)	-0.4 (2.9)	-1.1 (3.2)	-0.4 (3.4)	-0.89 (3.3)
<i>Child played games with parent</i>		<i>1.1 (1.2)</i>	<i>0.8 (1.2)</i>	<i>0.6 (1.2)</i>	<i>0.7 (1.2)</i>	<i>0.7 (1.2)</i>	<i>-0.1 (1.1)</i>
Family income \$75,000 or more			5.3 (1.9) **	4.0 (2.2) #	3.7 (2.1) #	2.7 (2.1)	2.6 (2.0)
Family income \$50,000 - \$75,000			3.7 (1.8) *	2.5 (2.0)	2.2 (2.0)	1.4 (1.9)	1.0 (1.9)
Family income \$30,000 - \$50,000			4.6 (1.6) **	3.6 (1.8) *	3.7 (1.8) *	2.4 (1.7)	1.5 (1.7)
Imputation flag for family income			10.9 (2.2) ***	10.6 (2.3) ***	10.3 (2.3) ***	13.0 (2.6) ***	20.1 (3.9) ***
Single-mother family				-2.1 (1.7)	-2.3 (1.7)	-1.3 (1.7)	0.1 (1.7)
Biological mother and stepfather				-3.7 (2.0) #	-3.4 (2.0) #	-3.1 (2.0)	-2.8 (2.0)
Mother is 17 - 24 years old					-0.7 (3.6)	0.2 (3.9)	-1.4 (3.9)
Mother is 25 - 29 years old					-1.2 (2.0)	-1.0 (2.0)	-1.8 (1.9)
Mother is 35 - 39 years old					-2.0 (1.4)	-1.8 (1.4)	-1.9 (1.5)
Mother is 40 - 44 years old					-1.2 (2.1)	-0.9 (1.9)	-1.1 (1.8)
Mother is 45 or older					3.2 (2.6)	3.2 (2.5)	1.8 (2.6)
Mother's reading comp score						0.2 (0.1) ***	0.2 (0.1) ***
Child is female							3.5 (1.1) **
Child is black							-1.7 (1.9)
Child is Hispanic							2.3 (2.5)
Child is other race							-3.2 (3.4)
Mother employed							-3.3 (1.4) *
Number of children in household							-2.6 (0.5) ***
Child's birthweight							1.3 (0.4) **
R-squared	0.11	0.11	0.13	0.13	0.14	0.16	0.22
N	1100	1100	1100	1100	1100	1100	1100

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.14. OLS Regression Coefficients of Letter-Word Comprehension on Hours per Week Children Watch TV Among Children Aged 6-12 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	106.7	(1.2) ***	107.2	(1.4) ***	102.7	(2.1) ***	104.1	(2.3) ***	105.0	(2.7) ***	83.4	(6.1) ***	84.2	(6.6) ***
Mother has less than h.s. degree	-15.5	(1.9) ***	-15.2	(1.9) ***	-12.3	(2.2) ***	-12.2	(2.2) ***	-12.6	(2.4) ***	-9.3	(2.3) ***	-8.1	(2.3) ***
Mother attained a h.s.degree	-9.7	(1.6) ***	-9.6	(1.6) ***	-8.1	(1.8) ***	-7.9	(1.8) ***	-7.8	(1.9) ***	-5.6	(1.8) **	-5.5	(1.7) **
Mother has some college	-5.3	(1.8) **	-5.2	(1.8) **	-4.4	(2.0) *	-4.4	(2.0) *	-4.2	(2.1) *	-3.2	(1.9) #	-3.3	(1.7) #
Imputation flag for education	-1.26	(2.9)	-1.0	(2.8)	-0.7	(2.9)	-0.2	(2.9)	-0.9	(3.2)	-0.3	(3.4)	-0.81	(3.2)
<i>Hrs/wk watching TV</i>			<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>
Family income \$75,000 or more					5.3	(1.9) **	4.0	(2.2) #	3.7	(2.1) #	2.7	(2.1)	2.5	(2.0)
Family income \$50,000 - \$75,000					3.7	(1.8) *	2.4	(2.0)	2.1	(2.0)	1.3	(1.9)	1.0	(1.9)
Family income \$30,000 - \$50,000					4.6	(1.6) **	3.6	(1.8) *	3.7	(1.8) *	2.4	(1.7)	1.5	(1.7)
Imputation flag for family income					10.7	(2.2) ***	10.4	(2.2) ***	10.1	(2.3) ***	12.8	(2.6) ***	20.2	(3.9) ***
Single-mother family							-2.1	(1.7)	-2.4	(1.7)	-1.4	(1.6)	0.1	(1.7)
Biological mother and stepfather							-3.7	(2.0) #	-3.5	(2.0) #	-3.2	(2.0)	-2.7	(2.0)
Mother is 17 - 24 years old									-0.7	(3.6)	0.2	(3.9)	-1.5	(3.9)
Mother is 25 - 29 years old									-1.2	(2.0)	-1.1	(2.1)	-1.9	(2.0)
Mother is 35 - 39 years old									-1.9	(1.5)	-1.7	(1.4)	-1.9	(1.5)
Mother is 40 - 44 years old									-1.2	(2.1)	-1.0	(2.0)	-1.1	(1.8)
Mother is 45 or older									3.1	(2.6)	3.2	(2.6)	1.8	(2.6)
Mother's reading comp score											0.2	(0.1) ***	0.2	(0.1) ***
Child is female													3.5	(1.1) **
Child is black													-1.7	(1.9)
Child is Hispanic													2.2	(2.5)
Child is other race													-3.1	(3.5)
Mother employed													-3.3	(1.4) *
Number of children in household													-2.6	(0.5) ***
Child's birthweight													1.3	(0.4) **
R-squared	0.11		0.11		0.13		0.13		0.14		0.16		0.22	
N	1100		1100		1100		1100		1100		1100		1100	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.15. OLS Regression Coefficients of Letter-Word Comprehension on Children Aged 6-12's Participation in Structured Activities in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	106.7	(1.2) ***	105.2	(1.4) ***	101.6	(1.9) ***	103.0	(2.1) ***	103.8	(2.6) ***	81.2	(6.0) ***	82.2	(6.4) ***
Mother has less than h.s. degree	-15.5	(1.9) ***	-14.3	(1.9) ***	-12.1	(2.2) ***	-12.0	(2.2) ***	-12.3	(2.3) ***	-8.6	(2.3) ***	-7.7	(2.2) ***
Mother attained a h.s.degree	-9.7	(1.6) ***	-9.0	(1.6) ***	-7.9	(1.7) ***	-7.8	(1.7) ***	-7.6	(1.9) ***	-5.2	(1.8) **	-5.3	(1.7) **
Mother has some college	-5.3	(1.8) **	-5.0	(1.8) **	-4.3	(1.9) *	-4.3	(2.0) *	-4.1	(2.1) *	-3.1	(1.9)	-3.2	(1.7) #
Imputation flag for education	-1.26	(2.9)	-0.91	(2.8)	-0.7	(2.9)	-0.2	(2.9)	-0.8	(3.2)	0.0	(3.4)	-0.66	(3.3)
<i>Child did structured activity</i>			3.7	(1.3) **	2.9	(1.4) *	2.8	(1.4) *	2.8	(1.4) *	3.2	(1.4) *	2.2	(1.2) #
Family income \$75,000 or more					4.6	(2.0) *	3.3	(2.2)	3.0	(2.1)	1.9	(2.2)	2.0	(2.1)
Family income \$50,000 - \$75,000					3.3	(1.8) #	2.1	(2.0)	1.8	(2.0)	0.9	(2.0)	0.7	(1.9)
Family income \$30,000 - \$50,000					4.1	(1.5) **	3.2	(1.7) #	3.2	(1.7) #	1.8	(1.7)	1.1	(1.7)
Imputation flag for family income					11.6	(2.3) ***	11.3	(2.3) ***	11.1	(2.4) ***	14.1	(2.7) ***	21.0	(3.9) ***
Single-mother family							-2.0	(1.7)	-2.3	(1.7)	-1.2	(1.6)	0.1	(1.6)
Biological mother and stepfather							-3.6	(2.0) #	-3.4	(2.0) #	-3.1	(2.0)	-2.7	(2.0)
Mother is 17 - 24 years old									0.0	(3.7)	1.0	(4.1)	-0.9	(4.0)
Mother is 25 - 29 years old									-0.9	(2.0)	-0.7	(2.0)	-1.6	(1.9)
Mother is 35 - 39 years old									-1.6	(1.5)	-1.4	(1.4)	-1.7	(1.5)
Mother is 40 - 44 years old									-1.1	(2.0)	-0.8	(1.9)	-1.0	(1.8)
Mother is 45 or older									3.5	(2.6)	3.5	(2.5)	2.1	(2.6)
Mother's reading comp score											0.2	(0.1) ***	0.2	(0.1) ***
Child is female													3.4	(1.1) **
Child is black													-1.4	(1.9)
Child is Hispanic													2.1	(2.4)
Child is other race													-3.0	(3.3)
Mother employed													-3.1	(1.4) *
Number of children in household													-2.5	(0.5) ***
Child's birthweight													1.2	(0.4) **
R-squared	0.11		0.12		0.13		0.14		0.14		0.17		0.22	
N	1100		1100		1100		1100		1100		1100		1100	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.16. OLS Regression Coefficients of Letter-Word Comprehension on Children Aged 6-12's Playing, Reading, TV Viewing, and Participation in Structured Activities in 1997

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)
Intercept	106.7 (1.2) ***	104.1 (1.7) ***	100.8 (2.0) ***	102.0 (2.2) ***	102.7 (2.6) ***	80.3 (6.3) ***	82.1 (6.8) ***
Mother has less than h.s. degree	-15.5 (1.9) ***	-13.2 (2.0) ***	-11.2 (2.1) ***	-11.1 (2.1) ***	-11.5 (2.3) ***	-8.1 (2.3) ***	-7.3 (2.3) **
Mother attained a h.s.degree	-9.7 (1.6) ***	-8.5 (1.6) ***	-7.5 (1.7) ***	-7.4 (1.7) ***	-7.2 (1.9) ***	-4.9 (1.8) **	-5.1 (1.8) **
Mother has some college	-5.3 (1.8) **	-4.5 (1.7) *	-3.9 (1.9) *	-4.0 (1.9) *	-3.8 (2.0) #	-2.8 (1.9)	-3.1 (1.7) #
Imputation flag for education	-1.26 (2.9)	-0.9 (2.7)	-0.8 (2.8)	-0.3 (2.8)	-0.9 (3.1)	-0.2 (3.3)	-0.7 (3.1)
<i>Indicator for playing with parents</i>		0.8 (1.2)	0.7 (1.2)	0.5 (1.2)	0.6 (1.2)	0.6 (1.1)	-0.1 (1.1)
<i>Hours/week reading</i>		0.5 (0.3) #	0.5 (0.3) #	0.5 (0.3) #	0.4 (0.3)	0.4 (0.3)	0.4 (0.2)
<i>Hours/week watched TV</i>		0.0 (0.1)	0.0 (0.1)	0.0 (0.1)	0.0 (0.1)	0.0 (0.1)	0.0 (0.1)
<i>Indicator for structured activities</i>		3.6 (1.3) **	2.8 (1.3) *	2.8 (1.4) *	2.7 (1.4) *	3.2 (1.3) *	2.2 (1.2) #
Family income \$75,000 or more			4.3 (2.0) *	3.3 (2.2)	3.1 (2.1)	2.0 (2.1)	2.1 (2.1)
Family income \$50,000 - \$75,000			3.1 (1.8) #	2.1 (2.0)	1.8 (2.0)	1.0 (1.9)	0.8 (1.9)
Family income \$30,000 - \$50,000			4.2 (1.5) **	3.4 (1.7) *	3.4 (1.7) *	2.0 (1.7)	1.3 (1.7)
Imputation flag for family income			12.1 (2.4) ***	11.7 (2.4) ***	11.5 (2.5) ***	14.5 (2.8) ***	21.4 (3.9) ***
Single-mother family				-1.7 (1.7)	-2.0 (1.7)	-0.9 (1.6)	0.2 (1.7)
Biological mother and stepfather				-3.4 (2.1)	-3.2 (2.1)	-2.9 (2.1)	-2.7 (2.1)
Mother is 17 - 24 years old					0.1 (3.6)	1.2 (4.0)	-0.7 (3.9)
Mother is 25 - 29 years old					-0.8 (2.0)	-0.6 (2.0)	-1.5 (1.9)
Mother is 35 - 39 years old					-1.6 (1.5)	-1.4 (1.4)	-1.6 (1.5)
Mother is 40 - 44 years old					-1.0 (2.1)	-0.7 (1.9)	-1.0 (1.8)
Mother is 45 or older					3.1 (2.6)	3.2 (2.6)	1.8 (2.6)
Mother's reading comp score						0.2 (0.1) ***	0.2 (0.1) ***
Child is female							3.4 (1.1) **
Child is black							-1.2 (1.9)
Child is Hispanic							2.0 (2.4)
Child is other race							-2.8 (3.5)
Mother employed							-3.1 (1.4) *
Number of children in household							-2.5 (0.5) ***
Child's birthweight							1.2 (0.4) **
R-squared	0.11	0.13	0.14	0.14	0.15	0.18	0.23
N	1100	1100	1100	1100	1100	1100	1100

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.17. OLS Regression Coefficients of Letter-Word Comprehension on Indicator for Parent-Teacher Conferences Among Children Aged 6-12 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	106.7	(1.2) ***	105.9	(2.0) ***	101.4	(2.3) ***	103.2	(2.7) ***	104.0	(3.0) ***	82.7	(6.3) ***	83.1	(6.6) ***
Mother has less than h.s. degree	-15.5	(1.9) ***	-15.4	(1.9) ***	-12.6	(2.2) ***	-12.5	(2.2) ***	-12.8	(2.4) ***	-9.4	(2.3) ***	-8.2	(2.3) ***
Mother attained a h.s.degree	-9.7	(1.6) ***	-9.4	(1.6) ***	-8.0	(1.7) ***	-7.9	(1.7) ***	-7.7	(1.9) ***	-5.5	(1.8) ***	-5.4	(1.7) ***
Mother has some college	-5.3	(1.8) **	-4.9	(1.8) **	-4.2	(2.0) *	-4.2	(2.0) *	-4.0	(2.1) #	-2.9	(1.9)	-3.0	(1.7) #
Imputation flag for education	-1.26	(2.9)	-1.66	(3.0)	-1.3	(3.1)	-0.7	(3.1)	-1.4	(3.4)	-0.5	(3.6)	-1.05	(3.4)
<i>Indicator for parent-teacher mtg</i>			0.8	(1.8)	0.9	(1.8)	0.9	(1.8)	1.0	(1.8)	0.4	(1.7)	0.4	(1.5)
Family income \$75,000 or more					5.0	(1.9) **	3.5	(2.2)	3.2	(2.1)	2.1	(2.1)	1.9	(2.1)
Family income \$50,000 - \$75,000					4.0	(1.8) *	2.5	(2.0)	2.2	(2.0)	1.3	(2.0)	1.0	(1.9)
Family income \$30,000 - \$50,000					4.5	(1.6) **	3.3	(1.8) #	3.4	(1.8) #	2.0	(1.8)	1.2	(1.8)
Imputation flag for family income					10.9	(2.2) ***	10.6	(2.2) ***	10.4	(2.3) ***	13.2	(2.6) ***	20.5	(3.8) ***
Single-mother family							-2.4	(1.7)	-2.7	(1.7)	-1.7	(1.7)	-0.2	(1.7)
Biological mother and stepfather							-3.9	(1.9) *	-3.7	(2.0) #	-3.3	(2.0) #	-2.7	(2.0)
Mother is 17 - 24 years old									-0.7	(3.6)	0.2	(4.0)	-1.5	(4.0)
Mother is 25 - 29 years old									-1.2	(2.0)	-1.1	(2.0)	-1.8	(1.9)
Mother is 35 - 39 years old									-1.7	(1.5)	-1.4	(1.4)	-1.7	(1.5)
Mother is 40 - 44 years old									-1.3	(2.1)	-1.0	(2.0)	-1.1	(1.8)
Mother is 45 or older									3.2	(2.6)	3.3	(2.6)	2.0	(2.6)
Mother's reading comp score											0.2	(0.1) ***	0.2	(0.1) ***
Child is female													3.6	(1.1) ***
Child is black													-1.8	(1.9)
Child is Hispanic													2.2	(2.4)
Child is other race													-3.2	(3.4)
Mother employed													-3.3	(1.4) *
Number of children in household													-2.5	(0.5) ***
Child's birthweight													1.3	(0.4) **
R-squared	0.11		0.11		0.13		0.13		0.14		0.16		0.22	
N	1086		1086		1086		1086		1086		1086		1086	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 5.18. OLS Regression Coefficients of Letter-Word Comprehension on Indicator for Parental Attendance at PTA Meetings Among Children Aged 6-12 in 1997

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	106.7	(1.2) ***	106.0	(1.4) ***	101.6	(2.1) ***	103.2	(2.3) ***	104.1	(2.8) ***	81.4	(6.2) ***	82.0	(6.6) ***
Mother has less than h.s. degree	-15.5	(1.9) ***	-15.1	(1.9) ***	-12.3	(2.2) ***	-12.1	(2.2) ***	-12.5	(2.4) ***	-8.8	(2.3) ***	-7.7	(2.3) ***
Mother attained a h.s.degree	-9.7	(1.6) ***	-9.4	(1.6) ***	-8.0	(1.8) ***	-7.9	(1.8) ***	-7.8	(2.0) ***	-5.4	(1.9) **	-5.4	(1.8) **
Mother has some college	-5.3	(1.8) **	-5.0	(1.8) **	-4.2	(2.0) *	-4.2	(2.0) *	-4.1	(2.1) #	-3.0	(1.9)	-3.1	(1.7) #
Imputation flag for education	-1.26	(2.9)	-1.41	(3.1)	-1.1	(3.3)	-0.5	(3.2)	-1.1	(3.6)	-0.2	(3.8)	-0.79	(3.6)
<i>Indicator for parent-teacher mtg</i>			<i>1.4</i>	<i>(1.2)</i>	<i>1.2</i>	<i>(1.1)</i>	<i>1.3</i>	<i>(1.1)</i>	<i>1.4</i>	<i>(1.2)</i>	<i>1.8</i>	<i>(1.1)</i>	<i>1.6</i>	<i>(1.1)</i>
Family income \$75,000 or more					5.1	(1.9) **	3.7	(2.2) #	3.4	(2.1)	2.2	(2.1)	2.0	(2.1)
Family income \$50,000 - \$75,000					4.1	(1.8) *	2.7	(2.0)	2.4	(2.0)	1.6	(1.9)	1.1	(1.9)
Family income \$30,000 - \$50,000					4.6	(1.6) **	3.5	(1.8) #	3.5	(1.8) #	2.1	(1.8)	1.2	(1.7)
Imputation flag for family income					10.0	(2.3) ***	9.7	(2.3) ***	9.4	(2.4) ***	11.9	(2.6) ***	19.1	(4.1) ***
Single-mother family							-2.3	(1.7)	-2.6	(1.7)	-1.6	(1.7)	-0.1	(1.7)
Biological mother and stepfather							-3.7	(2.0) #	-3.5	(2.0) #	-3.2	(2.0)	-2.7	(2.0)
Mother is 17 - 24 years old									-0.7	(3.6)	0.2	(3.9)	-1.4	(3.9)
Mother is 25 - 29 years old									-1.1	(2.0)	-0.9	(2.0)	-1.6	(1.9)
Mother is 35 - 39 years old									-1.7	(1.4)	-1.5	(1.4)	-1.7	(1.4)
Mother is 40 - 44 years old									-1.4	(2.1)	-1.2	(2.0)	-1.2	(1.8)
Mother is 45 or older									3.2	(2.6)	3.2	(2.6)	1.9	(2.6)
Mother's reading comp score											0.2	(0.1) ***	0.2	(0.1) ***
Child is female													3.6	(1.1) ***
Child is black													-2.1	(1.9)
Child is Hispanic													2.0	(2.6)
Child is other race													-3.3	(3.4)
Mother employed													-3.0	(1.4) *
Number of children in household													-2.4	(0.5) ***
Child's birthweight													1.3	(0.5) **
R-squared	0.11		0.11		0.13		0.14		0.14		0.17		0.23	
N	1087		1087		1087		1087		1087		1087		1087	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 1997 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 6.1. OLS Regression Coefficients for Adolescents' Hours per Week with Parents, 2002

	Time with mother		Time with father		TV w/ parents - participants		Eating w/ parents - participants		Conversations - participants		Time with extended family	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	17.1	(4.2) ***	14.9	(4.5) ***	12.0	(3.6) ***	2.5	(1.2) *	2.2	(2.4)	1.7	(2.2)
Mother has less than a high school degree	1.2	(2.3)	-1.8	(1.7)	1.3	(1.4)	0.1	(0.5)	-0.5	(0.7)	0.4	(1.3)
Mother attained a high school degree	1.6	(1.9)	0.2	(1.7)	1.1	(1.2)	0.5	(0.5)	-0.1	(0.5)	1.6	(0.8) *
Mother has some college	-0.7	(1.4)	-0.3	(1.2)	-2.2	(0.9) *	0.3	(0.3)	0.4	(0.6)	0.1	(0.7)
Mother's age is 17 - 34 years old	3.5	(1.9) #	1.5	(1.6)	-0.1	(1.7)	-0.3	(0.5)	-1.5	(0.7) *	2.8	(1.7)
Mother's age is 35 - 39 years old	1.6	(1.6)	3.2	(1.4) *	-1.9	(1.5)	-0.2	(0.4)	0.0	(0.8)	-1.3	(0.7) #
Mother's age is 40 - 44 years old	0.6	(1.3)	-0.2	(1.1)	-2.3	(1.3) #	-0.1	(0.4)	-0.3	(0.5)	1.4	(0.7) *
Child is female	4.1	(1.0) ***	-1.5	(0.9) #	-0.7	(0.8)	0.4	(0.2) #	0.7	(0.6)	0.0	(0.6)
Child is black	-5.8	(1.3) ***	-5.3	(1.1) ***	-1.5	(1.2)	-0.1	(0.4)	0.6	(0.5)	3.1	(1.0) **
Child is Hispanic	-5.2	(2.3) *	-2.9	(1.8)	-3.5	(1.5) *	0.0	(0.7)	-0.5	(0.8)	1.4	(2.0)
Child is other race	-0.5	(2.7)	-2.7	(1.9)	-3.1	(1.0) **	0.2	(0.5)	3.8	(2.1) #	3.5	(1.9) #
Single-mother family in 1997	-2.0	(1.5)	-8.1	(1.1) ***	0.6	(1.1)	-0.8	(0.3) **	0.4	(1.0)	0.6	(0.8)
Biological mother and stepfather in 1997	-2.3	(2.5)	-3.0	(1.9)	3.2	(3.1)	0.1	(0.4)	-0.7	(0.6)	3.3	(1.8) #
Mother employed in 1997	-1.5	(1.7)	-0.9	(1.4)	-1.1	(1.1)	0.4	(0.3)	0.2	(0.7)	0.1	(1.0)
Family income was \$75,000 or more	-2.6	(1.9)	-2.0	(1.5)	-2.7	(1.3) *	0.0	(0.4)	-0.1	(0.9)	-1.3	(1.0)
Family income is \$50,000 - \$75,000	1.7	(2.3)	1.4	(1.8)	0.0	(1.4)	0.0	(0.5)	-0.1	(0.9)	-0.5	(1.0)
Family income is \$30,000 - \$50,000	-1.7	(1.6)	0.8	(1.5)	0.9	(1.4)	-0.2	(0.4)	-0.4	(0.8)	-0.8	(1.1)
Number of children in the household	-1.2	(0.5) *	-0.4	(0.4)	-0.2	(0.4)	0.1	(0.2)	0.0	(0.3)	0.8	(0.4) #
Child's birth weight	-0.1	(0.4)	0.0	(0.5)	0.0	(0.3)	0.0	(0.1)	0.0	(0.2)	-0.3	(0.2)
Season of the diary is spring	4.2	(2.7)	2.0	(2.5)	1.1	(1.3)	1.0	(0.7)	0.9	(1.1)	1.1	(1.2)
Season of the diary is fall	-1.3	(1.2)	-1.3	(1.1)	-0.4	(1.0)	0.0	(0.3)	-0.2	(0.5)	0.7	(0.7)
N	786		786		396		443		134		786	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is winter in 2002.

Appendix Table 6.2. OLS Regression Coefficients of Adolescent's Hours per Week in Structured Activities and Selected Family Activities, 2002

	Structured activities - participants		Sports - participants		Organizational activities - participants		Other active sports - participants		Visiting w/ others - participants		Time spent Alone	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	9.5	(9.7)	23.4	(12.6) #	8.6	(7.8)	6.3	(3.9)	5.1	(4.0)	22.1	(4.9) ***
Mother has less than a high school degree	-5.7	(6.8)	-7.1	(9.0)	10.2	(7.9)	0.9	(2.0)	1.6	(2.6)	-1.1	(2.8)
Mother attained a high school degree	-2.0	(3.5)	2.0	(4.0)	-1.0	(2.1)	1.1	(1.5)	2.5	(1.3) #	-1.6	(2.1)
Mother has some college	-2.6	(3.3)	0.1	(3.5)	-4.2	(2.6)	2.2	(1.5)	-1.3	(1.3)	1.1	(2.0)
Mother's age is 17 - 34 years old	-0.8	(6.5)	-3.4	(6.0)	7.6	(5.0)	2.6	(1.7)	-1.3	(2.0)	-5.1	(2.6) #
Mother's age is 35 - 39 years old	-0.5	(3.1)	-1.3	(4.2)	1.6	(1.7)	3.3	(1.3) *	2.1	(1.7)	-2.0	(1.9)
Mother's age is 40 - 44 years old	5.2	(3.4)	3.8	(3.7)	5.6	(3.3) #	0.6	(1.3)	1.4	(1.3)	-0.7	(1.8)
Child is female	3.6	(2.5)	3.4	(2.7)	0.9	(1.7)	-2.3	(1.2) #	-1.9	(1.1) #	-1.6	(1.3)
Child is black	0.7	(3.3)	4.6	(4.8)	-4.7	(3.0)	-1.1	(1.6)	1.5	(1.8)	2.7	(1.8)
Child is Hispanic	10.6	(8.1)	9.8	(10.5)	0.0	(0.0)	-5.7	(1.8) **	-0.7	(2.2)	1.6	(2.6)
Child is other race	-13.9	(5.1) **	-8.2	(6.5)	-7.7	(3.9) #	-3.9	(1.9) *	1.5	(3.0)	4.5	(3.8)
Single-mother family in 1997	4.4	(3.7)	-0.5	(4.0)	3.1	(3.0)	-1.9	(1.6)	2.5	(1.6)	-2.4	(1.8)
Biological mother and stepfather in 1997	3.9	(8.5)	7.6	(8.8)	-7.6	(5.5)	-0.7	(2.7)	-1.8	(1.2)	1.1	(3.6)
Mother employed in 1997	-3.2	(4.1)	-1.9	(4.9)	-2.5	(2.7)	-1.4	(1.4)	-0.4	(1.5)	1.8	(1.9)
Family income was \$75,000 or more	-0.5	(4.7)	-5.2	(5.6)	0.0	(2.3)	-4.3	(2.7)	0.0	(1.9)	-0.5	(2.3)
Family income is \$50,000 - \$75,000	-1.1	(4.4)	-3.9	(5.4)	-1.7	(2.5)	-2.4	(2.6)	0.2	(1.9)	-2.3	(2.3)
Family income is \$30,000 - \$50,000	-3.5	(4.7)	-6.5	(5.8)	0.7	(3.2) 0.8	1.1	(2.3)	0.2	(2.2)	-2.7	(2.2)
Number of children in the household	0.8	(1.7)	1.5	(2.2)	-1.6	(1.1)	0.4	(0.5)	0.1	(0.7)	-1.3	(0.8) #
Child's birth weight	1.0	(1.1)	-0.2	(1.2)	-0.2	(0.9)	0.4	(0.5)	-0.2	(0.4)	0.8	(0.5)
Season of the diary is spring	2.7	(3.7)	-1.5	(3.8)	8.2	(3.8) *	1.5	(1.8)	-0.3	(1.4)	-3.4	(1.7) #
Season of the diary is fall	-2.5	(2.7)	-3.5	(2.7)	1.9	(2.2)	2.9	(2.6)	3.2	(1.4) *	1.2	(1.8)
N	199		137		72		197		204		786	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is winter in 2002.

Appendix Table 6.3. Logistic Regression Coefficients for Adolescents' Time Spent in Selected Activities (Diary Estimates), 2002

	Did Structured Activities		Did Lessons		Did Sports		Did org Activities		Did other active sports	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	-1.0	(0.8)	-2.4	(4.4)	-2.0	(0.8) *	-1.9	(1.3)	0.0	(0.8)
Mother has less than a high school degree	-1.1	(0.5) *	-1.4	(2.1)	-1.5	(0.6) *	0.0	(0.6)	-0.1	(0.4)
Mother attained a high school degree	-0.8	(0.3) *	0.0	(1.6)	-0.9	(0.4) *	-0.5	(0.4)	-0.3	(0.4)
Mother has some college	-0.8	(0.3) **	0.5	(0.9)	-0.9	(0.3) **	-0.6	(0.4)	0.0	(0.3)
Mother's age is 17 - 34 years old	0.2	(0.4)	-16.7	(0.9) ***	0.0	(0.5)	0.4	(0.6)	0.4	(0.5)
Mother's age is 35 - 39 years old	0.4	(0.3)	-0.2	(0.9)	0.1	(0.4)	0.6	(0.5)	0.3	(0.4)
Mother's age is 40 - 44 years old	0.0	(0.3)	-0.7	(0.9)	0.0	(0.3)	-0.5	(0.4)	0.2	(0.3)
Child is female	-0.2	(0.2)	-0.4	(0.9)	-0.2	(0.2)	0.0	(0.3)	-1.1	(0.2) ***
Child is black	-0.1	(0.3)	-2.3	(1.3)	-0.2	(0.3)	0.1	(0.4)	-0.3	(0.3)
Child is Hispanic	-0.8	(0.6)	-16.5	(1.3) ***	-0.1	(0.6)	-16.3	(0.6) ***	-0.1	(0.4)
Child is other race	-0.4	(0.7)	1.7	(0.8) *	-1.5	(1.0)	-0.3	(0.9)	-0.8	(0.6)
Single-mother family in 1997	-0.4	(0.3)	-0.4	(0.4)	-0.3	(0.3)	-0.9	(0.6)	0.2	(0.3)
Biological mother and stepfather in 1997	-0.2	(0.5)	-16.6	(1.4) ***	-0.3	(0.6)	0.0	(0.7)	-1.5	(0.8) #
Mother employed in 1997	0.3	(0.3)	0.6	(1.6)	0.1	(0.4)	0.8	(0.5)	0.0	(0.3)
Family income was \$75,000 or more	0.6	(0.4)	-1.6	(1.3)	0.9	(0.5) #	0.2	(0.6)	-0.3	(0.4)
Family income is \$50,000 - \$75,000	0.5	(0.4)	-4.2	(1.5) **	0.8	(0.5)	0.2	(0.6)	-0.3	(0.4)
Family income is \$30,000 - \$50,000	0.2	(0.4)	-1.5	(1.1)	0.3	(0.5)	0.3	(0.6)	-0.7	(0.4) #
Number of children in the household	0.0	(0.1)	0.1	(0.8)	0.1	(0.1)	-0.2	(0.2)	0.1	(0.1)
Child's birth weight	0.0	(0.1)	-0.1	(0.2)	0.1	(0.1)	0.0	(0.1)	0.0	(0.1)
Season of the diary is spring	0.0	(0.4)	-2.4	(1.3) #	0.34	(0.4)	-1.4	(0.5) *	0.3	(0.3)
Season of the diary is fall	-0.1	(0.3)	0.9	(0.8)	-0.12	(0.3)	-0.3	(0.4)	-0.5	(0.3)
N	786		786		786		786		786	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is winter in 2002.

Appendix Table 6.4. Logistic Regression Coefficients for Adolescents' Hours per Week with Parents (Diary Estimates), 2002

	Watch TV w/ parents		Had Conversation w/ parents		Ate Meals w/ parents		Visited others	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	1.4	(0.7) *	-1.9	(0.8) *	0.9	(0.7)	-0.6	(0.8)
Mother has less than a high school degree	0.4	(0.4)	0.9	(0.5) #	-0.6	(0.4)	-0.6	(0.5)
Mother attained a high school degree	0.3	(0.3)	-0.3	(0.4)	-0.1	(0.3)	0.1	(0.3)
Mother has some college	0.3	(0.3)	0.5	(0.3)	0.3	(0.3)	-0.2	(0.3)
Mother's age is 17 - 34 years old	0.9	(0.4) *	-0.6	(0.6)	0.0	(0.4)	-0.1	(0.4)
Mother's age is 35 - 39 years old	0.2	(0.3)	-0.1	(0.4)	0.2	(0.3)	0.3	(0.3)
Mother's age is 40 - 44 years old	0.2	(0.3)	0.0	(0.3)	-0.1	(0.3)	0.4	(0.3)
Child is female	-0.1	(0.2)	0.6	(0.3) *	0.1	(0.2)	0.2	(0.2)
Child is black	-0.5	(0.2) *	-0.4	(0.3)	-1.3	(0.3) ***	-0.6	(0.3) *
Child is Hispanic	-0.6	(0.4)	-0.6	(0.6)	-0.2	(0.4)	0.5	(0.5)
Child is other race	-0.7	(0.5)	-1.3	(0.7) #	-0.4	(0.5)	-0.7	(0.6)
Single-mother family in 1997	-0.7	(0.3) **	0.0	(0.3)	-0.1	(0.3)	0.8	(0.3) *
Biological mother and stepfather in 1997	-1.0	(0.4) *	0.8	(0.4) #	-0.3	(0.5)	1.3	(0.5) **
Mother employed in 1997	-0.4	(0.3)	0.3	(0.4)	0.0	(0.3)	-0.2	(0.3)
Family income was \$75,000 or more	0.0	(0.3)	0.2	(0.4)	-0.2	(0.3)	0.0	(0.4)
Family income is \$50,000 - \$75,000	0.1	(0.3)	-0.3	(0.4)	-0.1	(0.3)	-0.3	(0.4)
Family income is \$30,000 - \$50,000	0.1	(0.3)	-0.1	(0.4)	0.1	(0.3)	0.0	(0.4)
Number of children in the household	-0.2	(0.1) *	-0.4	(0.1) **	0.0	(0.1)	-0.4	(0.1) **
Child's birth weight	-0.1	(0.1)	0.1	(0.1)	0.0	(0.1)	0.0	(0.1)
Season of the diary is spring	-0.1	(0.3)	-0.2	(0.4)	0.0	(0.3)	0.0	(0.3)
Season of the diary is fall	-0.3	(0.2)	-0.6	(0.4) #	-0.1	(0.3)	0.5	(0.3) *
N	786		786		786		786	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is winter in 2002.

Appendix Table 6.5. Logistic Regression Coefficients for Parental Involvement in Adolescents' Schooling with Adolescents (Survey Estimates), 2002

	Parent volunteered w/ school		Parent met with teachers		Parent attended event		Parent attended PTA	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	-0.81	(0.9)	0.20	(0.8)	0.30	(0.8)	0.00	(0.7)
Mother has less than a high school degree	0.17	(0.5)	-0.24	(0.4)	-1.74	(0.4) ***	-1.12	(0.4) **
Mother attained a high school degree	0.51	(0.4)	0.31	(0.3)	-0.97	(0.3) **	-0.82	(0.3) *
Mother has some college	0.60	(0.4) #	0.19	(0.3)	-0.63	(0.3) #	-0.64	(0.3) #
Mother's age is 17 - 34 years old	-0.49	(0.5)	-0.05	(0.4)	0.38	(0.4)	-0.72	(0.5)
Mother's age is 35 - 39 years old	-0.09	(0.4)	0.13	(0.3)	0.31	(0.3)	-0.29	(0.3)
Mother's age is 40 - 44 years old	0.14	(0.3)	0.17	(0.3)	-0.04	(0.3)	-0.22	(0.3)
Child is female	-0.48	(0.3)	-0.34	(0.2) #	0.43	(0.2) #	0.04	(0.2)
Child is black	0.54	(0.4)	0.73	(0.3) *	-0.48	(0.3)	1.05	(0.3) **
Child is Hispanic	-0.42	(0.6)	1.14	(0.5) *	0.20	(0.4)	0.57	(0.5)
Child is other race	0.13	(0.6)	0.30	(0.5)	-0.32	(0.5)	-0.38	(0.6)
Single-mother family in 1997	-0.77	(0.4)	0.17	(0.3)	-0.26	(0.3)	-0.99	(0.3) **
Biological mother and stepfather in 1997	-0.93	(0.6) #	-0.37	(0.5)	-0.24	(0.4)	-0.54	(0.5)
Mother employed in 1997	0.23	(0.4)	0.45	(0.3)	0.69	(0.3) *	-0.03	(0.3)
Family income was \$75,000 or more	0.33	(0.4)	0.57	(0.4)	0.54	(0.4)	0.13	(0.4)
Family income is \$50,000 - \$75,000	-0.12	(0.4)	0.22	(0.4)	-0.05	(0.3)	-0.57	(0.4)
Family income is \$30,000 - \$50,000	-0.93	(0.5)	-0.14	(0.4)	-0.44	(0.3)	-0.38	(0.4)
Number of children in the household	0.14	(0.1)	-0.01	(0.1)	-0.07	(0.1)	0.08	(0.1)
Child's birth weight	-0.19	(0.1) #	-0.04	(0.1)	0.09	(0.1)	0.04	(0.1)
N	786		786					

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father.

Appendix Table 6.6. Logistic Regression Coefficients for Parental Warmth and Mothers' Routine Interactions with Children Aged 6 to 12 (Survey Estimates), 2002

	Parent said "I love you" daily		Parent voiced appreciation daily		Parent talked of interests daily		Ate w/ family "several" times a week		Parent always aware of child's whereabouts	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	0.56	(0.8)	-0.87	(0.9)	0.21	(0.7)	1.62	(0.7) *	0.55	(0.8)
Mother has less than a high school degree	0.55	(0.4)	0.17	(0.5)	-0.03	(0.4)	0.63	(0.4)	-0.17	(0.4)
Mother attained a high school degree	0.69	(0.3) *	-0.40	(0.5)	-0.25	(0.4)	-0.01	(0.3)	-0.26	(0.3)
Mother has some college	0.48	(0.3)	0.15	(0.5)	-0.05	(0.3)	0.40	(0.3)	0.17	(0.3) #
Mother's age is 17 - 34 years old	-0.25	(0.4)	-1.05	(0.5) *	-0.06	(0.5)	-1.11	(0.5) *	-0.75	(0.4)
Mother's age is 35 - 39 years old	-0.15	(0.3)	-0.19	(0.4)	0.24	(0.3)	-0.75	(0.3) *	0.22	(0.3)
Mother's age is 40 - 44 years old	0.37	(0.3)	0.03	(0.3)	-0.07	(0.3)	-0.42	(0.3)	0.10	(0.3)
Child is female	0.20	(0.2)	0.06	(0.3)	-0.34	(0.2)	-0.34	(0.2) #	0.82	(0.2) ***
Child is black	-0.50	(0.3) #	0.16	(0.3)	-0.77	(0.3) **	-0.62	(0.3) *	-0.25	(0.3)
Child is Hispanic	-0.65	(0.4)	-0.30	(0.5)	-0.92	(0.5) #	0.72	(0.5)	0.09	(0.4)
Child is other race	0.31	(0.5)	0.11	(0.5)	-0.29	(0.5)	0.52	(0.5)	1.10	(0.7) #
Single-mother family in 1997	0.57	(0.4)	-0.54	(0.3)	0.21	(0.3)	0.42	(0.3)	-0.08	(0.3)
Biological mother and stepfather in 1997	0.16	(0.4)	-0.23	(0.5)	0.56	(0.5)	0.03	(0.5)	0.28	(0.4)
Mother employed in 1997	0.11	(0.3)	-0.22	(0.4)	-0.19	(0.3)	0.07	(0.3)	0.07	(0.3)
Family income was \$75,000 or more	0.41	(0.4)	-1.06	(0.5) *	-0.26	(0.4)	-0.84	(0.4) *	-0.49	(0.4)
Family income is \$50,000 - \$75,000	0.46	(0.4)	-0.93	(0.4) *	-0.40	(0.4)	-0.31	(0.4)	-0.14	(0.4)
Family income is \$30,000 - \$50,000	0.46	(0.4)	-0.09	(0.4)	-0.51	(0.4)	-0.31	(0.4)	-0.67	(0.3) *
Number of children in the household	-0.06	(0.1)	0.12	(0.1)	0.04	(0.1)	-0.02	(0.1)	0.21	(0.1) #
Child's birth weight	-0.13	(0.1) #	0.02	(0.1)	-0.08	(0.1)	-0.16	(0.1) *	-0.04	(0.1)
N	786		786		786		785		786	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father.

Appendix Table 6.7. Comparison of OLS and Tobit Regression Coefficients for Children Aged 6 to 12's Hours per Week Spent in Structured Leisure Activities, 2002

	Total structured activities		Sports		Organizational activities		Other active sports	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	3.7	-18.8 #	3.2	-40.0 **	0.5	-10.3 *	3.5 *	-1.7
Mother has less than a high school degree	-4.0 #	-15.6 **	-4.5 *	-25.4 **	0.5	1.6	0.0	-0.4
Mother attained a high school degree	-3.4 *	-11.4 **	-3.3 *	-14.5 **	-0.2	-2.7	-0.3	-1.6
Mother has some college	-3.6 *	-11.4 ***	-3.3 *	-15.0 **	-0.3	-3.1 #	0.7	1.1
Mother's age is 17 - 24 years old	0.4	1.7	0.1	-1.3	0.3	2.6	1.5 #	4.3 #
Mother's age is 25 - 29 years old	0.7	4.6	0.6	1.2	0.2	2.7	1.4 *	3.6 *
Mother's age is 35 - 39 years old	1.1	1.5	1.1	1.0	0.0	-1.9	0.4	1.2
Child is female	0.0	-2.3	0.0	-2.5	0.1	0.3	-2.1 ***	-8.3 ***
Child is black	0.1	0.0	0.2	-0.3	-0.1	-0.1	-0.4	-2.3
Child is Hispanic	-0.6	-8.1	0.1	-0.3	-0.7 *	-55.8	-1.5 *	-3.1
Child is other race	-4.1 **	-8.7	-3.6 **	-22.0 *	-0.5 *	-3.1	-1.7 ***	-6.4 *
Single-mother family in 1997	-1.0	-5.3	-0.9	-4.4	-0.1	-3.6 #	-0.7	-0.3
Biological mother and stepfather in 1997	-0.1	-1.4	-0.1	-2.2	0.0	-0.2	-1.9 **	-9.8 **
Mother employed in 1997	-0.2	1.7	0.1	0.7	-0.3	1.5	-0.3	-0.8
Family income was \$75,000 or more	2.2 #	9.1 #	2.2	14.9 *	0.0	0.8	-1.5	-3.7 #
Family income is \$50,000 - \$75,000	2.0 #	8.2 #	2.1 #	13.8 *	-0.1	0.8	-1.2	-2.8
Family income is \$30,000 - \$50,000	0.7	3.5	0.4	4.2	0.3	2.1	-1.0	-4.7 *
Number of children in the household	0.3	0.2	0.4	1.8	-0.1	-1.2 #	0.2	0.7
Child's birth weight	0.2	0.6	0.2	1.4	0.1	0.0	0.0	-0.2
Season of the diary is summer	0.9	1.9	1.0	6.9	-0.1	-4.9 #	0.8	2.7
Season of the diary is fall	-1.0	-2.0	-1.1	-3.0	0.0	-0.6	-0.2	-2.2
N	786	786	786	786	786	786	786	786

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college-educated, mother is age 45 or older; child is non-Hispanic white; family income is less than \$30,000; child was in a two-parent family with a biological father; the season of the diary is winter in 2002.

Appendix Table 6.8. Comparison of OLS and Tobit Regression Coefficients for Adolescents' Hours per Week with Parents, 2002

	TV with parents		TV without parents		Conversations with parents		Ate meals with parents		Visits with others	
	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit	OLS	Tobit
Intercept	9.3 ***	9.3 **	4.1	0.5	0.0	-5.4 **	1.8 *	1.2	0.6	-6.4 #
Mother has less than a high school degree	1.8	3.0 #	3.3 #	4.0 *	0.4	2.2 *	-0.4	-1.0 #	0.3	-1.8
Mother attained a high school degree	1.4	2.1 #	0.1	0.8	0.0	-0.5	0.3	0.2	1.2 *	1.9
Mother has some college	-0.5	0.0	1.8	2.5 *	0.2	1.1 #	0.5	0.7 #	-0.2	-1.2
Mother's age is 17 - 24 years old	1.9	4.1 **	-2.0	-2.2	-0.3	-1.6	-0.2	-0.2	-0.3	-0.9
Mother's age is 25 - 29 years old	-0.5	-0.2	-2.4 #	-2.9 **	-0.1	-0.3	0.1	0.2	0.9 #	2.7 #
Mother's age is 35 - 39 years old	-0.6	-0.1	-0.9	-0.9	0.0	0.0	-0.1	-0.2	1.1 *	3.5 *
Child is female	-0.5	-1.0	-1.1	-1.2	0.3 *	1.6 ***	0.4 #	0.5 #	-0.3	0.2
Child is black	-1.8 *	-3.4 **	4.7 ***	5.7 ***	0.0	-0.6	-1.1 ***	-2.3 ***	-0.1	-2.5
Child is Hispanic	-3.1 **	-4.9 **	0.2	0.7	-0.2	-1.6	-0.2	-0.3	0.5	1.5
Child is other race	-3.0 **	-5.3 **	-0.9	-1.1	-0.1	-2.2 #	-0.2	-0.4	0.3	-3.0
Single-mother family in 1997	-1.2 #	-3.1 **	-1.6	-2.3 *	0.1	0.1	-0.6 *	-0.7 *	1.7 *	5.6 ***
Biological mother and stepfather in 1997	-0.8	-3.5 #	0.7	0.7	0.1	1.3	-0.3	-0.5	0.6	5.4 **
Mother employed in 1997	-1.4	-2.5 *	3.2 **	4.6 ***	0.2	0.8	0.3	0.4	-0.2	-1.2
Family income was \$75,000 or more	-1.5 #	-1.8	-2.9 #	-3.4 *	0.2	0.6	-0.2	-0.3	0.4	0.6
Family income is \$50,000 - \$75,000	0.1	0.4	-1.8	-2.5 #	0.0	-0.4	-0.1	-0.1	0.0	-1.2
Family income is \$30,000 - \$50,000	0.7	1.1	-1.1	-1.6	-0.1	-0.2	-0.1	0.0	0.4	0.4
Number of children in the household	-0.5 *	-1.1 **	0.8	1.0 *	-0.1 *	-0.9 **	0.0	0.0	-0.2	-1.8 **
Child's birth weight	-0.2	-0.4	0.5	0.6 *	0.0	0.3	0.0	0.0	0.0	-0.1
Season of the diary is summer	0.0	-0.2	-0.3	-0.5	0.2	0.0	0.6	0.7	-0.1	-0.2
Season of the diary is fall	-0.8	-1.6	1.2	1.0	-0.3 *	-1.4 *	-0.1	-0.1	1.9 **	4.9 ***
N	786	786	786		786	786	786	786	786	786

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: primary caregiver's age was 30 - 39; child is non-Hispanic white; family income was less than \$30,000; child was in a two-parent family with a biological father; the season of the diary was winter.

Appendix Table 6.9. OLS Regression Coefficients of Letter-Word Comprehension in 2002 on Adolescent's Hours per Week Spent with Extended Family in 2002

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.1	(1.4) ***	105.2	(1.4) ***	102.8	(2.3) ***	104.2	(2.5) ***	105.7	(2.7) ***	88.8	(6.8) ***	86.6	(7.9) ***
Mother has less than h.s. degree	-12.3	(2.2) ***	-12.3	(2.2) ***	-10.1	(2.6) ***	-9.9	(2.6) ***	-9.8	(2.6) ***	-7.5	(2.7) **	-6.8	(2.7) *
Mother attained a h.s.degree	-6.9	(1.8) ***	-6.8	(1.7) ***	-5.3	(1.9) **	-4.9	(1.9) *	-4.6	(2.0) *	-3.3	(2.0) #	-3.2	(2.1)
Mother has some college	-4.0	(2.0) *	-3.9	(2.0) #	-3.2	(2.0)	-2.7	(2.0)	-2.5	(2.1)	-2.0	(2.0)	-1.9	(1.9)
<i>Hours/week with extended family</i>			<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.0</i>	<i>(0.1)</i>	<i>0.1</i>	<i>(0.1)</i>	<i>0.1</i>	<i>(0.1)</i>
Family income \$75,000 or more					3.4	(2.1) #	2.6	(2.2)	1.8	(2.1)	0.7	(2.1)	0.5	(2.2)
Family income \$50,000 - \$75,000					0.7	(2.4)	-0.5	(2.3)	-0.9	(2.3)	-1.7	(2.3)	-2.5	(2.2)
Family income \$30,000 - \$50,000					-0.8	(2.0)	-1.3	(1.9)	-1.7	(1.9)	-2.1	(1.9)	-2.7	(1.8)
Single-mother family							-3.0	(1.6) #	-3.1	(1.5) *	-2.7	(1.6) #	-2.0	(1.6)
Biological mother and stepfather							-6.9	(3.2) *	-6.6	(3.0) *	-6.8	(3.1) *	-7.3	(2.9) *
Mother's age is 17 - 24 years old									-4.1	(2.9)	-4.2	(2.7)	-2.1	(2.6)
Mother's age is 25 - 29 years old									-0.4	(2.0)	-0.2	(2.0)	1.0	(1.7)
Mother's age is 35 - 39 years old									-2.2	(1.9)	-2.2	(1.9)	-2.5	(1.7)
Mother's reading comp score											0.2	(0.1) **	0.1	(0.1) #
Child is female													3.1	(1.2) **
Child is black													-4.9	(1.9) **
Child is Hispanic													0.6	(2.3)
Child is other race													1.6	(4.0)
Mother employed													0.5	(1.5)
Number of children in household													-2.0	(0.6) **
Child's birthweight													1.5	(0.5) ***
R-squared	0.07		0.07		0.08		0.09		0.10		0.12		0.17	
N	754		754		754		754		754		754		754	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 6.10. OLS Regression Coefficients of Letter-Word Comprehension in 2002 on Adolescents' Hours per Week Spent Visiting in 2002

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.1	(1.4) ***	105.1	(1.4) ***	102.8	(2.4) ***	104.2	(2.5) ***	105.8	(2.7) ***	89.1	(6.7) ***	86.8	(8.0) ***
Mother has less than h.s. degree	-12.3	(2.2) ***	-12.3	(2.2) ***	-10.1	(2.6) ***	-9.9	(2.6) ***	-9.8	(2.6) ***	-7.5	(2.7) **	-6.8	(2.7) *
Mother attained a h.s.degree	-6.9	(1.8) ***	-6.9	(1.8) ***	-5.3	(2.0) **	-4.9	(1.9) *	-4.6	(2.0) *	-3.3	(2.1)	-3.0	(2.1)
Mother has some college	-4.0	(2.0) *	-4.0	(2.0) *	-3.2	(2.0)	-2.7	(2.0)	-2.5	(2.1)	-2.0	(2.0)	-1.9	(2.0)
<i>Hours/week visiting others</i>			0.0	(0.1)	0.0	(0.2)	0.0	(0.2)	0.0	(0.2)	0.0	(0.1)	0.0	(0.1)
Family income \$75,000 or more					3.4	(2.1) #	2.5	(2.2)	1.7	(2.1)	0.6	(2.2)	0.3	(2.2)
Family income \$50,000 - \$75,000					0.7	(2.5)	-0.5	(2.3)	-0.9	(2.3)	-1.8	(2.3)	-2.5	(2.2)
Family income \$30,000 - \$50,000					-0.8	(2.0)	-1.4	(2.0)	-1.8	(1.9)	-2.2	(1.9)	-2.9	(1.8)
Single-mother family							-3.0	(1.6) #	-3.1	(1.6) #	-2.7	(1.6) #	-1.9	(1.6)
Biological mother and stepfather							-6.9	(3.2) *	-6.5	(3.0) *	-6.6	(3.1) *	-7.0	(2.9) *
Mother's age is 17 - 24 years old									-4.0	(2.8)	-4.1	(2.7)	-1.9	(2.6)
Mother's age is 25 - 29 years old									-0.5	(2.0)	-0.2	(2.0)	0.9	(1.8)
Mother's age is 35 - 39 years old									-2.2	(2.0)	-2.1	(1.9)	-2.3	(1.7)
Mother's reading comp score											0.2	(0.1) **	0.1	(0.1) #
Child is female													3.2	(1.2) **
Child is black													-4.5	(1.9) *
Child is Hispanic													0.7	(2.3)
Child is other race													1.8	(4.1)
Mother employed													0.5	(1.5)
Number of children in household													-1.9	(0.6) **
Child's birthweight													1.5	(0.5) **
R-squared	0.07		0.07		0.08		0.09		0.10		0.12		0.17	
N	754		754		754		754		754		754		754	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 6.11. OLS Regression Coefficients of Letter-Word Comprehension in 2002 on Indicator for Parent-Teacher Conferences in 2002

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.1	(1.4) ***	102.3	(2.0) ***	100.5	(2.5) ***	102.0	(2.7) ***	103.5	(3.0) ***	88.6	(6.8) ***	86.7	(8.0) ***
Mother has less than h.s. degree	-12.3	(2.2) ***	-11.0	(2.3) ***	-9.1	(2.6) ***	-9.0	(2.6) ***	-8.8	(2.6) ***	-6.9	(2.8) *	-6.4	(2.8) **
Mother attained a h.s.degree	-6.9	(1.8) ***	-6.4	(1.8) ***	-5.0	(2.0) *	-4.6	(1.9) *	-4.2	(2.0) *	-3.1	(2.1)	-3.0	(2.2)
Mother has some college	-4.0	(2.0) *	-3.8	(2.0) #	-3.1	(1.9)	-2.7	(1.9)	-2.5	(2.0)	-2.0	(2.0)	-2.0	(2.0)
<i>Parent-teacher conferences</i>			3.7	(1.5) *	3.3	(1.5) *	3.1	(1.5) ~	3.2	(1.5) ~	2.8	(1.4) ~	2.0	(1.4)
Family income \$75,000 or more					3.1	(2.1)	2.3	(2.2)	1.4	(2.1)	0.5	(2.2)	0.3	(2.2)
Family income \$50,000 - \$75,000					0.5	(2.4)	-0.6	(2.3)	-1.0	(2.3)	-1.8	(2.3)	-2.5	(2.2)
Family income \$30,000 - \$50,000					-0.7	(2.0)	-1.2	(1.9)	-1.7	(1.9)	-2.1	(1.9)	-2.7	(1.8)
Single-mother family							-2.8	(1.6) #	-2.9	(1.6) #	-2.5	(1.6)	-1.8	(1.6)
Biological mother and stepfather							-6.8	(3.3) *	-6.4	(3.1) *	-6.5	(3.2) *	-6.9	(2.9) *
Mother's age is 17 - 24 years old									-4.2	(2.8)	-4.1	(2.7)	-2.0	(2.6)
Mother's age is 25 - 29 years old									-0.6	(2.0)	-0.4	(1.9)	0.8	(1.7)
Mother's age is 35 - 39 years old									-2.0	(1.9)	-1.9	(1.8)	-2.1	(1.7)
Mother's reading comp score											0.1	(0.1) *	0.1	(0.1) #
Child is female													3.0	(1.2) *
Child is black													-4.5	(1.8) *
Child is Hispanic													0.6	(2.3)
Child is other race													1.6	(4.1)
Mother employed													0.3	(1.5)
Number of children in household													-1.9	(0.6) **
Child's birthweight													1.5	(0.5) **
R-squared	0.07		0.08		0.09		0.10		0.11		0.13		0.18	
N	754		754		754		754		754		754		754	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 6.12. OLS Regression Coefficients of Letter-Word Comprehension in 2002 on Parents' Attendance at PTA Meetings in 2002

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)
Intercept	105.1 (1.4) ***	104.8 (1.6) ***	102.6 (2.3) ***	104.4 (2.6) ***	106.1 (2.9) ***	89.0 (7.2) ***	85.8 (8.1) ***
Mother has less than h.s. degree	-12.3 (2.2) ***	-12.1 (2.2) ***	-10.0 (2.6) ***	-9.9 (2.6) ***	-9.8 (2.6) ***	-7.3 (2.7) **	-6.4 (2.8) *
Mother attained a h.s. degree	-6.9 (1.8) ***	-6.7 (1.8) ***	-5.3 (2.0) **	-4.9 (1.9) *	-4.6 (2.0) *	-3.2 (2.1)	-2.8 (2.1)
Mother has some college	-4.0 (2.0) *	-3.8 (2.0) #	-3.2 (2.0)	-2.7 (2.0)	-2.5 (2.1)	-2.0 (2.0)	-1.8 (2.0)
<i>PTA meetings</i>		0.6 (1.4)	0.2 (1.4)	-0.2 (1.4)	-0.4 (1.5)	-0.1 (1.5)	0.7 (1.5)
Family income \$75,000 or more			3.4 (2.1)	2.5 (2.2)	1.6 (2.1)	0.4 (2.2)	0.2 (2.2)
Family income \$50,000 - \$75,000			0.7 (2.4)	-0.6 (2.3)	-1.1 (2.3)	-1.9 (2.3)	-2.6 (2.2)
Family income \$30,000 - \$50,000			-0.8 (2.0)	-1.4 (2.0)	-1.9 (1.9)	-2.4 (1.9)	-3.0 (1.8) #
Single-mother family				-3.1 (1.7) #	-3.2 (1.6) #	-2.7 (1.7)	-1.8 (1.7)
Biological mother and stepfather				-6.9 (3.2) *	-6.5 (3.0) *	-6.6 (3.1) *	-6.9 (2.9) *
Mother's age is 17 - 24 years old					-4.2 (2.9)	-4.2 (2.8)	-2.0 (2.7)
Mother's age is 25 - 29 years old					-0.5 (2.1)	-0.4 (2.0)	0.8 (1.8)
Mother's age is 35 - 39 years old					-2.2 (2.0)	-2.2 (1.9)	-2.4 (1.7)
Mother's reading comp score						0.2 (0.1) **	0.1 (0.1) #
Child is female							3.3 (1.2) **
Child is black							-4.6 (1.9) *
Child is Hispanic							1.0 (2.4)
Child is other race							1.9 (4.1)
Mother employed							0.5 (1.5)
Number of children in household							-1.9 (0.6) **
Child's birthweight							1.5 (0.5) **
R-squared	0.07	0.07	0.08	0.09	0.10	0.12	0.17
N	754	754	754	754	754	754	754

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 6.13. OLS Regression Coefficients of Letter-Word Comprehension in 2002 on Indicator for Adolescents' Participation in Structured Leisure Activities in 2002

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.1	(1.4) ***	104.8	(1.6) ***	102.6	(2.3) ***	104.2	(2.5) ***	105.8	(2.7) ***	89.1	(6.8) ***	86.6	(8.1) ***
Mother has less than h.s. degree	-12.3	(2.2) ***	-12.1	(2.2) ***	-10.0	(2.6) ***	-9.9	(2.6) ***	-9.8	(2.6) ***	-7.5	(2.8) **	-6.7	(2.8) *
Mother attained a h.s.degree	-6.9	(1.8) ***	-6.7	(1.8) ***	-5.2	(2.0) **	-4.8	(1.9) *	-4.5	(2.0) *	-3.2	(2.1)	-2.9	(2.2)
Mother has some college	-4.0	(2.0) *	-3.8	(2.0) *	-3.1	(1.9)	-2.7	(2.0)	-2.5	(2.1)	-2.0	(2.0)	-1.8	(2.0)
<i>Indicator for structured leisure</i>			0.8	(1.5)	0.4	(1.5)	0.2	(1.5)	0.2	(1.5)	0.2	(1.5)	0.5	(1.5)
Family income \$75,000 or more					3.4	(2.1)	2.5	(2.2)	1.7	(2.1)	0.6	(2.2)	0.3	(2.2)
Family income \$50,000 - \$75,000					0.7	(2.5)	-0.6	(2.4)	-1.0	(2.3)	-1.8	(2.3)	-2.5	(2.2)
Family income \$30,000 - \$50,000					-0.8	(2.0)	-1.4	(2.0)	-1.8	(1.9)	-2.2	(1.9)	-2.9	(1.8)
Single-mother family							-3.0	(1.6) #	-3.1	(1.6) #	-2.6	(1.6)	-1.9	(1.6)
Biological mother and stepfather							-6.8	(3.2) *	-6.4	(3.0) *	-6.6	(3.2) *	-6.9	(2.9) *
Mother's age is 17 - 24 years old									-4.1	(2.9)	-4.1	(2.7)	-1.9	(2.6)
Mother's age is 25 - 29 years old									-0.5	(2.0)	-0.2	(2.0)	0.9	(1.8)
Mother's age is 35 - 39 years old									-2.1	(2.0)	-2.1	(1.9)	-2.3	(1.7)
Mother's reading comp score											0.2	(0.1) **	0.1	(0.1) #
Child is female													3.2	(1.2) **
Child is black													-4.5	(1.9) *
Child is Hispanic													0.8	(2.3)
Child is other race													1.8	(4.1)
Mother employed													0.5	(1.5)
Number of children in household													-1.9	(0.6) **
Child's birthweight													1.5	(0.5) **
R-squared	0.07		0.07		0.08		0.09		0.10		0.12		0.17	
N	754		754		754		754		754		754		754	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

Appendix Table 6.14. OLS Regression Coefficients of Letter-Word Comprehension in 2002 on Indicator for Adolescents' Participation in Organized Sports in 2002

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)	Beta	(SE)
Intercept	105.1	(1.4) ***	105.4	(1.6) ***	103.0	(2.3) ***	104.7	(2.5) ***	106.2	(2.7) ***	89.5	(6.8) ***	87.0	(8.1) ***
Mother has less than h.s. degree	-12.3	(2.2) ***	-12.5	(2.2) ***	-10.3	(2.6) ***	-10.2	(2.6) ***	-10.1	(2.6) ***	-7.8	(2.7) **	-7.0	(2.8) *
Mother attained a h.s.degree	-6.9	(1.8) ***	-7.0	(1.9) ***	-5.5	(2.0) **	-5.1	(1.9) **	-4.8	(2.0) *	-3.5	(2.1) #	-3.2	(2.2)
Mother has some college	-4.0	(2.0) *	-4.1	(2.0) *	-3.4	(2.0) #	-2.9	(2.0)	-2.7	(2.1)	-2.2	(2.0)	-2.1	(2.0)
<i>Indicator for organized sports</i>			<i>-0.8</i>	<i>(1.6)</i>	<i>-1.2</i>	<i>(1.6)</i>	<i>-1.6</i>	<i>(1.7)</i>	<i>-1.5</i>	<i>(1.7)</i>	<i>-1.4</i>	<i>(1.6)</i>	<i>-1.0</i>	<i>(1.6)</i>
Family income \$75,000 or more					3.6	(2.1) #	2.7	(2.2)	1.8	(2.2)	0.7	(2.2)	0.4	(2.3)
Family income \$50,000 - \$75,000					0.8	(2.5)	-0.5	(2.4)	-0.9	(2.3)	-1.7	(2.3)	-2.5	(2.2)
Family income \$30,000 - \$50,000					-0.8	(2.0)	-1.3	(2.0)	-1.8	(1.9)	-2.2	(1.9)	-2.9	(1.8)
Single-mother family							-3.1	(1.6) #	-3.2	(1.6) *	-2.7	(1.6) #	-2.0	(1.6)
Biological mother and stepfather							-7.0	(3.2) *	-6.6	(3.0) *	-6.8	(3.1) *	-7.1	(2.9) *
Mother's age is 17 - 24 years old									-4.0	(2.9)	-4.0	(2.7)	-1.9	(2.6)
Mother's age is 25 - 29 years old									-0.4	(2.0)	-0.2	(2.0)	0.9	(1.7)
Mother's age is 35 - 39 years old									-2.1	(2.0)	-2.0	(1.9)	-2.3	(1.7)
Mother's reading comp score											0.2	(0.1) **	0.1	(0.1) #
Child is female													3.1	(1.2) **
Child is black													-4.5	(1.9) *
Child is Hispanic													0.7	(2.3)
Child is other race													1.6	(4.3)
Mother employed													0.5	(1.5)
Number of children in household													-1.9	(0.6) **
Child's birthweight													1.5	(0.5) **
R-squared	0.07		0.07		0.08		0.09		0.10		0.12		0.17	
N	754		754		754		754		754		754		754	

***p < 0.001, **p < 0.01, *p < 0.05, #p < 0.10

Source: 2002 Child Development Supplement to the Panel Study of Income Dynamics

Note. Omitted categories are: mother is college educated, mother is 30 - 34; child is non-Hispanic white; family income is less than \$30,000; child is in a two-parent family with a biological father.

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