Inequality Begins at Home: The Role of Parenting in the Diverging Destinies of Rich and Poor Children

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Abstract

Children face very different chances of getting ahead in life depending on the circumstances of their birth. Parenting and its role in the diverging destinies of rich and poor children are discussed in this chapter. Inequality begins at home. It develops from the myriad differences in the ways advantaged and disadvantaged parents interact with their children. Traditional policy interventions fail to attack the root cause of achievement gaps. To equalize the playing field, governments may need to invest in parents so parents can better invest in their children. Unfortunately, large-scale parenting interventions typically yield modest effect sizes at best and often do not even change children's skills in the long term. Understanding what motivates parents to invest in their children could have a major impact on the design of policies to reduce inequality in children's skill development. Insights from the field of behavioral economics can inform this question.

Introduction

In the US and in many other countries, children face very different chances of getting ahead in life depending on the circumstances of their birth. Children growing up in more advantaged families have better achievement and higher attainment on average, than low-SES children. They have fewer behavior problems and are less likely to become pregnant or have a child as a teenager. They also have higher rates of college enrollment and completion. As adults, they are more likely to be employed, have higher earnings, avoid participation in welfare programs, and enjoy better health and longer lives (Duncan, Ziol-Guest, & Kalil, 2010; Duncan, Magnuson, Kalil, & Ziol-Guest, 2012; Knudsen, Heckman, Cameron, & Shonkoff, 2006). According to scholars at the Brookings Institution, 42 percent of children who grew up in households in the bottom quintile of the income distribution ended up in the bottom quintile themselves as adults, whereas only 6 percent of such children reached the top quintile of the income distribution as adults (Isaacs, Sawhill, & Haskins, 2008).

Gaps in educational attainment between rich and poor children open up early in life and remain largely constant through the school years (Duncan & Magnuson, 2011). This suggests that schools in general do not do much to reduce (or exacerbate) the effect of family background on children's life chances. As the Coleman report (1966) showed, family characteristics explain most of the variability in student test scores across schools. This is perhaps not surprising given that by age 18 children will have spent only about 15% of their time in schools.

At present, social policy for fostering the skills of children largely focuses on education intervention--improving young children's access to preschool programs and

increasing the quality of their primary and secondary schools with more qualified teachers and smaller class sizes. This strategy is palatable politically because it avoids charges of "blaming the victim" and avoids a hint of intrusion into the private sphere of family life – a deeply held American Value (Heckman, 2011). Model early childhood intervention programs and other school-based efforts can narrow the gap between low-income children and their middle-class counterparts (Currie, 2001; Deming, 2009; Chetty et al., 2011). Even as such interventions have demonstrated long-term success (albeit for the relatively few children who have participated in them) family background remains an important correlate of US children's educational achievement and attainment (Belley & Lochner, 2007; Bailey & Dynarski, 2011; Reardon, 2011).

The importance of family background is thrown into high relief when one looks to outcomes for children in strong welfare states such as those in Scandinavia. There, high-quality basic services (like health care and child care) and educational opportunities are publicly provided and utilized by low- and high-income families alike. One might reasonably expect such a welfare model to mitigate the economic constraints imposed by childhood socioeconomic disadvantage. However, a puzzling finding is the persistent influence of family background in these countries. In Norway, Sweden, and Denmark, for example, the share of economically disadvantaged children characterized as academically "resilient" – i.e., their PISA (Program for International Student Assessment) scores are substantially higher than predicted given their economic background – is below the OECD (Organization for Economic Cooperation and Development) average (OECD, 2010). By way of comparison, the countries with the highest share of "academically resilient" children include Shanghai-China, Hong Kong-China, and Singapore. Further,

despite generous social spending, Norwegian children's average performance on the PISA reading test (503) is comparable with those of US children (500), as is the share of students in those two countries who score below a proficient level in reading (15% and 18%, respectively).

One explanation for the persistent (and increasing) importance of family background rests in the growing body of evidence showing that advantaged parents parent their children differently compared to their disadvantaged counterparts. For example, highly-educated parents not only spend more time with their children than do less-educated parents, they spend that time differently. Parents' investments of time in enriching activities are important predictors of children's success (Waldfogel & Washbrook, 2011; Price, 2008, 2010). As Esping-Andersen (2004) put it, "the imprint of social origins is…already firmly established before the welfare state plays any major role in our life" (p. 2).

What happens within the family plays a key role in accounting for intergenerational correlations in economic status. Family effects may take the form of money investments, time investments, or the culture of learning (e.g., number of books in the home). Traditional education policy approaches may not be able to fully compensate for lack of parental investment.

This chapter discusses parenting and its role in the diverging destinies of rich and poor children. By understanding socioeconomic differences in parenting, we gain insight into the potential limitations of traditional social policies in mitigating the role of family background in children's life chances. Despite their demonstrable benefits, such programs might not be reaching their full potential. For example, income transfers may

not be sufficiently large. Or, the quality of preschool programs may not be sufficiently high. The other possibility is that such traditional policy interventions fail to attack the root cause of achievement gaps.

Inequality begins at home (Heckman, 2011). It develops from the myriad differences in the ways advantaged and disadvantaged parents interact with their children. Understanding these differences can inform government intervention to support good parenting. In doing so, one must recognize that the role of the state in trying to equalize parental behavior in family life is an important matter of philosophical debate (Swift, 2005). Governments are often reluctant to interfere in the private sphere of parent-child interactions, but parents are children's first teachers. To equalize the playing field, governments may need to invest in parents so parents can better invest in their children.

To make sound policy decisions, however, it is evident that researchers and policy makers alike need to better understand what motivates parents to invest in their children. Answers to this question could have a major impact on the design of policies to reduce inequality in children's skill development. As will be discussed in a later section of this chapter, insights from the field of behavioral economics can inform this question.

Gaps in Young Children's Cognitive and Non-Cognitive Skills

The gaps in educational outcomes between children raised in advantaged and disadvantaged families open up well before children enter school and in most cases do not close as children progress through school (Carneiro & Heckman, 2003). At age four, children from families in the poorest income quintile score on average at the 32nd percentile of the national distribution on math, the 34th percentile in a test of literacy, and the 32nd percentile on a measure of school readiness, compared to children in the richest

quintile who scored at the 69th percentile on math and literacy and at the 63rd percentile on school readiness (Waldfogel & Washbrook, 2011). Gaps in conduct problems and attention/hyperactivity are also apparent albeit less pronounced. On measures of hyperactivity, for instance, children from families in the poorest income quintile score on average at the 55th percentile of the national distribution (in this case, higher scores indicate higher levels of behavior problems) compared to children in the richest quintile who scored at the 44th percentile (Waldfogel & Washbrook, 2011).

Duncan and Magnuson (2005) used the ECLS-K (Early Childhood Longitudinal Study – Kindergarten Class) to examine teacher-reported gaps in attention and engagement in first and fifth grade across SES, race/ethnicity, and gender. The results showed that children from the top income quintile are reported by teachers to be far more engaged in school (the gap is approximately 2/3rds of a standard deviation) compared with their counterparts in the bottom income quintile. This gap grows slightly between first and fifth grade. The gap in engagement by income is larger than it is by race or by gender.

Changes in Children's Educational Performance over Time

As the incomes of affluent and poor American families have diverged over the past three decades, so too has the educational performance of the children in these families. Reardon (2011) documents substantial growth in the income-based gap on the test scores of children born since the 1950s. Among children born around 1950, test scores of low-income (10th income percentile) children lagged behind those of their better-off (90th income percentile) peers by a little over half a standard deviation, or about 50 points on an SAT-type test. Fifty years later, this gap was twice as large. Family

income is now a better predictor of children's success in school than race (Reardon, 2011; Magnuson & Waldfogel, 2008).

Using data from the 1979 and 1997 National Longitudinal Surveys of Youth, Bailey and Dynarski (2011) show that college graduation rates for children born into high-income families jumped twenty-one percentage points (from 33 to 54 percent) between the early 1960s and the early 1980s. The corresponding increase for children born into low-income families was only four percentage points (from 5 to 9 percent). A little less than half of the gap between rich and poor in college graduation rates can be explained by differences in college enrollment rates, with the rest explained by differences in students' persistence in completing their degrees. Belley and Lochner (2007) also used these data to show that high family income has become a substantially more important determinant of college attendance and college quality in recent years, particularly for those youth with the lowest skills.

Duncan, Kalil, and Ziol-Guest (2013) explored the question of how children's educational performance has changed over time by focusing on years of schooling attained. They used data from the Panel Study of Income Dynamics (PSID) and concentrated on the cohorts for which adolescent family income was measured between the late 1960s and late 1990s. In line with the Bailey and Dynarski (2011) analysis of college graduation rates and Reardon's (2011) analysis of test scores, Duncan et al. found that gaps in the completed schooling of children in the top and bottom quintiles of the family income distribution increased by about half a year (about one-quarter standard deviation) across the entire period.

Disparities in Parental Investment across Social Class Background

What accounts for the gaps in children's skills across rich and poor children? The answer, perhaps surprisingly, is not income alone. Across all 31 cohorts in the PSID, Duncan et al., (2013) found that increases in the income gap between high and low income children account for about three-quarters of the increasing schooling gap. Reardon (2011) estimates that about half of the rising income gap in test scores can be attributed to rising income inequality.

Part of the answer may lie in parental behavior. Economically advantaged parents display more optimal parenting behaviors across a range of domains, including more authoritative (vs. authoritarian) parenting styles (Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000), more sensitive and responsive mother-child interactions (NICHD ECCRN, 2004), greater language stimulation (Hart & Risley, 1995; Phillips, 2011), and greater levels of parental management and advocacy (Lareau, 1989).

A famous example is the study by Betty Hart and Todd Risley (1995), who intensively observed the language patterns of 42 families throughout Kansas City. They recorded one full hour of every word spoken at home between parent and child in 42 families with children ages seven months to 36 months. Households were divided into three different types: 1) professional families; 2) working class; and 3) welfare families. In professional families, children heard an average of 2,153 words per hour, while children in working class families heard an average of 1,251 words per hour, and children in welfare-recipient families heard an average of 616 words per hour. Extrapolated out, this means that in a year children in professional families heard an average of 11 million words, while children in working class families heard an average of 6 million words, and children in welfare families heard an average of 3 million words. By age four, a child

from a welfare-recipient family could have heard 32 million fewer words than a classmate from a professional family.

One of the most important parenting differences between advantaged and disadvantaged parents is in how much time the parent spends with the child. Annette Lareau's (2003) qualitative study of family life reported that middle-class parents target their time with children toward developmentally enhancing activities. In her study, middle-class families (whose jobs by her definition require college-level skills) engage in a pattern of "concerted cultivation" to actively develop children's talents and skills. By contrast, in lower-class families, Lareau identified a pattern that she calls "the accomplishment of natural growth," wherein parents attend to children's material and emotional needs but presume that their talents and skills will develop without concerted parental intervention.

Numerous quantitative studies not only show large differences in the time investments of advantaged and disadvantaged parents but also that these gaps remain large even when other differences across families, such as employment and family size, are accounted for (Guryan, Hurst, & Kearney, 2008; Sayer, Gauthier, & Furstenberg, 2004). Using data from the American Time Use Survey, Guryan et al. (2008) reported that maternal time with children increases steeply with education for working and non-working mothers. Working mothers in the ATUS with a college education or greater spend roughly six hours more per week in child care than working mothers with a high school degree or less. Because the education gradient for child-care time differs from the education gradients for leisure and housework (which decrease with education), Guryan and colleagues argued that parental time investments in children reflect a

fundamentally distinct phenomenon. Highly educated parents (more so than less-educated parents), the authors posited, view time with children as an investment behavior with which to increase children's human capital (for either altruistic or selfish reasons) and do not view market-purchased child care as a highly effective substitute for their own time investments.

Highly-educated mothers were also shown to be more efficient in their parental time investments, meaning that mothers tailor their specific activities to children's developmental stage (Kalil, Ryan, & Corey, 2012). A developmental gradient was identified showing that highly educated mothers shift the composition of their time in ways that specifically promote children's development at different developmental stages. Specifically, the education gradient in basic care and play is greatest when youngest children are infants and toddlers (0 to 2 years), which is precisely when children most require parents' time on such basic activities as bathing and feeding and also precisely the age when parent-child play is most developmentally appropriate. The education gradient for parental teaching is greatest when youngest children are preschool aged (3 to 5), which is precisely when time spent in learning activities (such as reading and problem solving) best prepare children for school entry. Conversely, the education gradient in parental management is greatest when youngest children are between the ages of 6 and 13—precisely the ages when parental management is a key, developmentally appropriate input.

Most of the significant results in Kalil et al. (2012) emerged in the comparison between mothers with a college education and those with only a high school education; the differences between mothers with some college and those with only a high school

education were positive but were seldom statistically significant. This pattern suggests the developmental gradient, as in the educational gradient, may be particularly pronounced among college-educated mothers.

Finally, with respect to total child care time, the educational gradient is most apparent in households with the youngest children, a point also made by Hurst (2010) and Sacks and Stevenson (2010). College-educated mothers, more so than their less educated counterparts, may have learned the message that parental investments in early childhood are key ingredients in children's long-run success (Carneiro & Heckman, 2003).

Research on the so called summer setback also illustrates the importance of parents and the home environment. The Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) was used to measure the decline in reading and math scores over the summer among children of varying socioeconomic levels (Downey, von Hippel, & Broh, 2004). The kindergarten learning rate, the summer learning rate, and the first grade learning rate were estimated. The summer learning rate was the lowest, which the researchers argued was likely a function of different family and neighborhood experiences during the summer. These data also show that over the summer, first grade children from the bottom of the income distribution engaged in fewer dance and music activities, team and individual sports, swimming lessons, and scouting than their higher-SES counterparts. Relatedly, low-SES children watched twice as much television each week as high-SES children (20 v. 10 hours) in the summer (Burkam, Ready, Lee, & LoGerfo, 2004)

Children from disadvantaged families were also found to experience larger summer learning losses than more advantaged children in a study by Chin and Phillips

(2004). However, they argue that activities such as visiting museums or participating in sports lessons were not associated with summer learning. Instead, they found that the quality of the home literacy environment, including whether the home had more than fifty books, daily newspapers, or magazine subscriptions, as well as the amount that children read or were read to by parents or visited the library were significantly related to children's summer learning losses and gains.

Changes in Parents' Behaviors Over Time

High-income parents appear to be increasingly focusing parenting on their children's cognitive development and educational success (Schaub, 2010). This may indicate high-skilled parents are responding to the increased returns of having high-skilled children (Cunha & Heckman, 2008).

Time diary data was used to illustrate rising levels of time spent by parents on childcare in the US, especially for college-educated parents and in particular from the mid-1990's (Ramey & Ramey, 2010). College-educated mothers increased their childcare time by over nine hours per week, whereas less-educated mothers increased their childcare time by less than half that amount. The authors attribute part of this phenomenon to an increase in the perceived return of attending a good college. Other studies concur with the Rameys' report of an increasing class divergence in parental time investments but disagree with their explanation by showing that all of the increase in child care time between 1985 and 2003 has come from households with children ages 5 and younger (Hurst, 2010; Sacks & Stevenson, 2010). Specifically, whereas college-educated mothers with young children spent 18 weekly hours in childcare in 1985 (compared to 16.2 hours for less-educated households), the two figures in 2003 were 25.6

and 18.9, respectively (Hurst, 2010). In a different study, the growing education gap in time with young children was shown to be driven by time spent in educationally enriching activities (Altintas, 2012).

These increasing time investments have also been accompanied by increased parental spending targeted at children's achievement. The rich have sharply increased the resources they spend on promoting their children's development.. Spending on child-enrichment goods and services jumped for families in the top quintiles but increased much less–in both absolute and relative terms–for families in bottom income quintiles, as reflected in four large consumer expenditure surveys conducted between the early 1970s and 2005-2006 (Kornrich & Furstenberg, 2013. In 1972-1973, high-income families spent about $2,700 more per year on child enrichment than did low-income families. By 2005-2006, this gap had nearly tripled, to $7,500 (Kornrich & Furstenberg, 2013).

Children's participation in extracurricular activities, which typically require parental investment of time and money, also changed between 1972 and 2004 in ways that favored more advantaged youth (Putnam, Frederick, & Snellman, 2012). During this time, higher-SES children were increasingly more likely to participate in clubs and team sports and to hold leadership roles in these activities compared to their lower-SES counterparts.

The Role of Parenting in Producing Disparities

Does parenting matter for children's development, or are rich parents caught up in a "perfect madness" of concerted cultivation (Warner, 2005). Observational research suggests that the amount of parent-provided cognitive stimulation and emotional support in children's home environments accounts for up to half of the relationship between

socioeconomic status and disparities in children's cognitive test scores (Klebanov, Brooks-Gunn, McCarton, & McCormick, 1998; Smith, Brooks-Gunn, & Klebanov, 1997).

In a descriptive analysis of US data from the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B), Waldfogel and Washbrook (2011) conclude that compared with a number of other factors (i.e. mother's education, mothers' health, preschool enrollment, child health, and a set of demographics including race/ethnicity, family structure, nativity, family member disability, maternal age at birth, number of children in the household, and child gender), parenting style, in particular, mothers' sensitivity and responsiveness, is the most important factor explaining the poorer cognitive performance of low-income children relative to middle-income children. Parenting style accounted for 21% of the gap in literacy, 19% of the gap in mathematics, and 33% of the gap in language. The authors also showed that the home learning environment is the second most important factor explaining income-related gaps in school readiness. It includes parents' teaching behaviors in the home as well as their provision of learning materials and literacy activities, such as books and CDs, computer access, TV watching, library visits, and classes. The home learning environment accounts for between 16 and 21 percent of the gap between low and middle-income children in cognitive school readiness. In contrast, differential enrollment in child care or pre-school (other than Head Start) accounts for between 4% and 6% of the cognitive gaps between low and middle-income children, and differential enrollment in Head Start is associated with a 6% to 9% reduction in the gap between low and middle-income children. All told, these findings suggest that what happens in the home is more important to children's

cognitive achievement than what happens in preschool.

Interactive play between children and adults may be especially beneficial for children's verbal development (Dickinson & Tabors, 2001). Moreover, more hours spent in places outside of school and home appears associated with higher test scores compared to demographically similar children who watch more television (Hofferth & Sandberg, 2001). Estimates suggest that high-income children spent nearly 1,300 more hours in places other than home or school between birth and age six than their low-income counterparts (Phillips, 2011).

Only a handful of studies have specifically examined how parental time with children relates to children's cognitive test scores using large-scale time-diary surveys. The studies largely support the conclusion that simply increasing the quantity of time that parents spend with their children is not likely to improve their child's achievement. Instead, the evidence seems to suggest that the returns of time investments depend on the amount of cognitive stimulation parents provide during that time (Booth, Clarke-Stewart, Vandell, McCartney, & Owen, 2002; Hsin, 2009; Huston & Aronson, 2005; Price, 2010). Most of these studies use standard OLS (ordinary least squares) estimation models. When Villena-Rodán and Ríos-Aguilar (2011) use various instruments for parent's time with their children (local labor market conditions, estimated childcare price, and overtime hours), they find that total parental time has a small positive effect on children's cognitive test scores and that the effect is greater for younger children. However, they also find that maternal educational time with a child has a direct causal effect on their children's math scores that is eight times the direct causal effect of the overall amount of maternal time with the child (Villena-Rodán & Ríos-Aguilar, 2011).

Using an instrumental variables model, Price (2010) found that an additional year of daily mother–child reading would increase children's reading tests score by 41% of a standard deviation. Alternatively, if the mother increased the frequency of reading to her child by one day per week during the first ten years of the child's life, the child's reading test scores increased by about half of a standard deviation. Economically advantaged parents' increasing engagement in cognitively stimulating activities seems to reflect this understanding.

Can Parenting Interventions Change Behavior?

Gaps in children's skills could be narrowed if less-advantaged parents adopted the parenting practices of their more-advantaged peers. Many parenting interventions aim to do just that. Yet, large-scale parenting interventions yield modest effect sizes at best and rarely result in any long term change in children's cognitive skills (Furstenberg, 2011). An important challenge facing such programs is the very low academic skills of economically disadvantaged parents. Parents' low academic skills may make it difficult for them to support their children's literacy and numeracy. For example, parents with low literacy skills may find it challenging to increase the time they spend reading books with their children. The U.S. Department of Education (2007) reported that 50% of the US adult population who did not graduate from high school has "below basic" prose literacy skills, meaning they can perform no more than the most simple and concrete literacy skills. In contrast, only 13% of high school graduates and only 3% of college graduates are at that same level of prose literacy skills. Quantitative literacy (i.e., numeracy) is even more compromised in the US population: 64% of the US adult population who did not

graduate from high school has “below basic” quantitative literacy skills, whereas 24% of high school graduates and 4% of college graduates, respectively, meet this definition.

Very low academic skills of economically disadvantaged parents presents a challenge to parenting interventions because parents’ literacy is highly related to the literacy environment their children experience: 19 percent of parents with “below basic” prose literacy skills did not try to teach their preschool age children the letters of the alphabet during the previous month; 41 percent of this group did not read to their children (under age 8) during the previous week; 11 percent never talked to their school-age children about things they studied in school; and 25 percent never worked with their school-age children on homework. Nineteen percent of this group reported having no reading materials in the home, and 15 percent were not involved in any way at their children’s school (U.S. Department of Education, 2007). These figures are substantially higher than those for parents deemed proficient in prose literacy skills. Exacerbating the low literacy environment in the homes of economically disadvantaged children, adults with lower levels of education also spend far more time watching television and far less time reading for pleasure compared to their higher-educated counterparts (U.S. Department of Labor, 2011).

Another challenge facing parenting interventions is the high rates of non-participation and low rates of engagement among those who participate at all. Interventions to improve parenting generally fall into those with a home visiting component and those with no home visiting component. Home visiting is believed to provide advantages over other programs such as opportunities to work with families directly in their own environment, to individualize services for families, and to reach

families with transportation challenges (McWilliam, Winton, & Crais, 1996; Powell, 1993). Major early childhood interventions with a home visiting parenting component include Early Head Start, Even Start, HIPPY, and the Nurse-Family Partnership.

The typical Early Head Start program achieved only modest impacts on parenting behavior with effect sizes in the range of .10 to .22 (Love et al., 2005). More disappointing were the consistently weak results from the U.S. Department of Education's Even Start program, which began in 1989. Even Start provided participating families with an integrated program of early childhood education, adult literacy or basic skills training, parenting education, and joint parent-child literacy activities. The underlying philosophy of this program is that families need to receive all types of services in order to bring about lasting improvement in children's school success (U.S. Department of Education, 2003). The program, which cost approximately $10,366 (in 2005 dollars) per family during the 2000–2001 program year, produced no meaningful effects on a range of child cognitive and behavioral outcomes, nor on parental behavior or literacy, based on a randomized trial of 463 families in 18 programs sites (Ricciuti, St. Pierre, Lee, Parsad, & Rimdzius, 2004).

Why are the impacts so modest? An important problem with many of these interventions is a lack of parental engagement. In fact, in some home visiting programs more than half of enrolled families drop out early (Wagner & Clayton, 1999) with attrition rates generally ranging from 35% to 50% (Gomby, Larson, Lewit, & Behrman, 1993). Lack of participation and low intensity of participation have also been a problem in Early Head Start. For example, almost half the families left the home-based Early Head Start programs before their child was 30 months old (the program was designed to

last until the child was 36 months old), and more than a third dropped out before they had been enrolled for 18 of the 36 months (Roggman, Boyce, & Innocenti, 2008). According to parental reports in their exit interviews, only 40% stayed enrolled in Early Head Start home-based programs until graduation or transition. When the families who moved away, as reported by either staff or the parents, were not included as dropouts, 28% remained enrolled for less than 18 months and only 55% remained enrolled at least until the child was 30 months old.

Similar problems were reported in the Home Instruction for Parents of Preschool Youngsters (HIPPY), a two-year home-based early education intervention program intended to help parents with limited formal education prepare their preschool children for formal schooling. HIPPY has operated in the US since 1984 and has sites in more than half the states. HIPPY was developed to enhance the home literacy environment, the quality of parent-child verbal interaction, and parents' ability to help their children learn through approximately 30 annual bi-weekly home visiting sessions and supplementary out of home group sessions for parents. One randomized trial of 69 HIPPY participants revealed significant increases in children's test scores but these results could not be replicated in a randomized trial of similar families who entered the program the following year (Baker, Piotrkowski, & Brooks-Gunn, 1998). Interviews with parents and home visitors suggest that many parents failed to do the recommended activities with their children, and parents reported relatively low levels of involvement with means ranging from 2.2 to 2.9 on a scale of one (low involvement) to five (regular and enthusiastic involvement) (Baker, et al., 1998).

Even the Nurse-Family Partnership (NFP) program, which is touted as the leading family intervention for low-income children, produced modest improvements in parenting behavior. Specifically, when children were about three years old, there were only small differences between those who received the intervention and those in the control group on measures of parent's stimulation of the child's language skills and parents' provision of toys, games, and reading materials (Olds, Henderson, & Kitzman, 1994).

Thus, in addition to the observation that advantaged parents invest substantially more time in their children than disadvantaged parents it is evident that many disadvantaged parents do not take up programs offered to them that are designed to help them increase and improve their investments in their children. Most of these programs go to extraordinary lengths to encourage parents' participation: meetings are held at putatively convenient times; free transportation, child care, food, and the like are provided. Yet many parents enrolled in the intervention never show up or participate very little. Although this puzzle has long vexed researchers and program administrators, the standard model for parenting interventions has changed little over time.

What Motivates Parents to Invest in their Children?

There are many potential explanations for the generally weak benefits of programs that try to change parenting behaviors. One problem could be that the duration of the treatment is not long enough to produce sustained changes in entrenched parenting practices, or that the treatment targets parenting practices that do not have large independent effects on child outcomes. However, attrition and lack of persistence in the program is likely to be an important explanation for the weak results. It would be

tempting to conclude from the results of US parenting intervention programs that policy makers are unable to empower parents with the necessary tools for optimal engagement with their children. But it is perhaps more accurate to conclude that policy makers do not know how to motivate parents to do the things the programs are intended to encourage.

As such, we need to better understand parental motivation to participate in programs to which they are invited to participate. As Wagner, Spiker, and Linn (2002) argue, there is much conventional wisdom that attributes lack of participation and engagement to parents' stress and complicated lives, but there is little empirical data to support these assumptions. Parenting interventions are primarily based on developmental theories about how parents influence children through biological and psychological mechanisms. The interventions are almost never based on knowledge about what motivates parents to change their behavior. Acquiring this knowledge could have a major impact on the design of policies to reduce inequality in children's skill development.

What could explain the low levels of parent participation and engagement in parenting interventions? First, most programs that have tried to increase the time parents spend with their children are based on an "information model" that assumes that disadvantaged parents are less likely to engage with their children because they either do not know how important it is or they do not know how to do it. However, we know from many experiences that information alone is not always sufficient to motivate people to change their behavior.

Most home-visiting programs follow the informational model design of the Nurse-Family Partnership and other health-oriented interventions in which an "expert" or other authoritative person provides guidance about what behaviors are helpful. The NFP

has been shown to successfully improve many health outcomes but it has had much less success at changing parenting behaviors. One reason for limited impacts might be that for health advice parents listen to experts but that for parenting advice they are more inclined to listen to peers and family members. It is common to seek advice on health care from professionals, and the high cost of visiting the doctor confirms its importance. Parents seldom turn to professionals though for parenting advice. In fact, the opposite seems to be true. Almost two-thirds of parents in one survey *disagreed* that, "All parents need professional advice and guidance to help them to bring up their children." On the other hand, 86 percent agreed that, "Family and friends are the most appropriate source of support for parents" (Edwards & Gillies, 2004).

Moreover, there is a strong consensus about most health practices, and the same health care advice applies to almost everyone (e.g. when to get prenatal care, what vitamins to take, when children should get various immunizations and so on). Health care advice is regulated and often paid for by government. In contrast, it is widely believed by parents that each child is unique with unique needs and that only the parent can understand her child's needs. Not only is parenting advice not regulated or paid for by government, there is a general social prohibition against "interfering in the family." In addition, there is much less consensus on how to parent children than on how to meet a child's health care needs. These beliefs can pose challenges to the success of large-scale parenting interventions.

Participants in parenting interventions may also differ in their willingness to adjust their views on parenting in light of new contradictory information. As an example of how the provision of information affects behavior change differently for those with

different levels of education, Aizer and Stroud (2010) found that economically disadvantaged parents were much slower than their advantaged peers to curb their smoking following the release of the Surgeon General's Report of 1960 outlining the health hazards of pre-natal smoking. Highly educated parents may be more willing to adjust their views because schooling makes people open to new ideas. In addition, the chance of exposure to new information may vary by parental advantage if for example disadvantaged parents are more isolated.

Research in behavioral science offers insights into the difficulty of behavior change. For example, a key tenet from behavioral economics is that people are ineffective at computation when making decisions, especially those decisions that involve tradeoffs between costs and benefits occurring at different times (i.e., intertemporal choices). Undue weight is placed on recent events and too little weight on far-off ones (i.e., present bias). From a behavioral economics perspective, the lack of a behavioral response to information arises from discounting the future. It is well-known that future outcomes are under-valued (discounted) relative to immediate outcomes. This means that it is hard for people to give up things they enjoy today for the (under-valued) future (Frederick, Loewenstein, & O'Donoghue, 2002). In the context of parenting, it may be hard to give up leisure (or work) today in order to invest time and effort for a distant return in children's human capital. However, other research has shown that certainty plays a role in generating present bias (Andreoni & Sprenger, 2012). In other words, for low-income parents a tendency to discount the future may arise from uncertainty or even hopelessness about whether the time and effort they spend on their children will help their child succeed.

Another way to think about the challenges of behavior is that it is hard to change habits that have been developed and reinforced over time. Parenting behaviors are correlated across generations and shaped by the beliefs and preferences of influential relatives and neighbors in our social networks (Duncan, Kalil, Mayer, Tepper, & Payne, 2005). Successful actions in a parenting program, therefore, can mean "unlearning" a set of parenting practices that may be deeply rooted in one's culture and community (Wagner et al., 2002).

Cognitive behavioral science offers a complementary perspective on parent engagement by highlighting the problem of "cognitive scarcity" among low-income parents stemming from their past and current exposure to "toxic stress" (Mani, Mullainathan, Shafir, & Zhao, 2013). One potentially important source of income-based differences in parenting is the repercussions of the financial strain typically experienced by low-income parents on their decision-making. The daily stressors of low-income parents' lives place cognitive and emotional demands on parents' attention and self-control in the present. Parents' focus and energy needed to meet the demands of today leaves little room to follow through on decisions that can affect the future of their children (Mani et al., 2013; Mullainathan & Shafir, 2013; Shah, Mullainathan & Shafir, 2012). Accordingly, the possibilities for purposeful, goal-directed parenting are greatly diminished. These studies provide important insights into the contexts of poverty that give rise to the behavioral response.

Interventions designed to promote health and financial behavior change offer compelling experimental evidence that may be useful in designing interventions to change parental behavior. In these arenas, a variety of programs for which the design is

based on principles from behavioral science have proven effective for, among other outcomes, weight loss, smoking cessation, financial savings, and health behavior (see Ashraf, Karlan, & Yin, 2006; Charness & Gneezi, 2009; Kamenica; 2012; Milkman, Beshears, Choi, Laibson, & Madrian, 2011; Stockwell et al., 2012). Elements common to many of these interventions include commitment devices, which work by formalizing a pledge to do something or achieve an objective; incentives, which work by offering financial or non-financial rewards or recognition for changing behavior; and planning prompts, which provide reminders designed to overcome problems of forgetfulness and procrastination.

For example, individuals who write down (commit) how many fewer cigarettes they will smoke actually reduce the number more than those who just plan to cut down. Commitment devices can be even more effective when people make a commitment not to themselves but to others (e.g. a support group or a trusted friend or relative). Research has found that commitment devices can change health and finance behavior to a meaningful degree (Ashraf et al., 2006; Thaler & Benartzi, 2004).

Forgetfulness and procrastination frequently prevent individuals from engaging in beneficial behaviors. Planning prompts are designed to overcome these problems. Parents may know that spending educational time with their children is a good idea and they may want to spend more time, but they need assistance in implementing these good intentions. Research in public health has shown that text message reminders to low-income, urban parents helped to increase the rate of flu vaccinations among their children (Stockwell et al., 2012). Simple techniques like designating a time and place for a new behavior can also increase the likelihood of engaging in the new behavior. Having individuals write

down the date and time of a planned action has increased both voter turnout (Nickerson & Rogers, 2010) and vaccination rates for influenza (Milkman et al., 2011). Planning prompts encourage people to generate solutions to practical challenges that often get in the way of their goals. For example, prompted people will set a time and date for the activity and they may also block off time on their calendar or arrange for necessary coverage for other tasks at home while they will be unavailable. By creating specific, actionable plans, parents can make their future seem nearer and their parenting investments more relevant.

Conclusion

As a nation, we have made little progress toward narrowing the achievement gap between advantaged and disadvantaged children. Disadvantaged children arrive at school with significant skills deficits and they rarely catch up to their more advantaged peers. Preschool is often viewed as a way of creating greater opportunity for such children, but preschool has been shown to be much less important than parenting practices and in particular parents' engagement with children in educational activities. However, interventions that have tried to change parenting have had limited success in large part because parents fail to participate in such programs and when they do they participate with little enthusiasm or follow through, despite the fact that just like advantaged parents disadvantaged parents want to help their children succeed. The Nobel Laureate James Heckman, himself a champion of early childhood academic intervention, has written "The true measure of child poverty is parenting, and an effective skills policy bolsters the parenting resources of the disadvantaged" (Heckman, 2011).

A discussion of parenting helps us focus on the mechanisms that account for the intergenerational persistence of economic status and may help to decide, as a society, the state's role in blocking or preventing these mechanisms. Few people believe that there should be complete independence between parents' and children's economic success. An important philosophical and practical question is whether the state should play a role in mitigating circumstances whereby disadvantaged children are unable to realize their potential, not simply because their parents lack the economic means but also because their parents lack the abilities, mental health, or knowledge to help them maximize their chances for success (Swift, 2005).

Three interrelated goals can help to guide our thinking on this issue. First, from an empirical perspective, the relative importance of different mechanisms in generating persistence across generations in economic status must be better understood. Clearly, family income alone is not the only dimension of family background that matters. Parents' active involvement and time investment in enriching activities are key ingredients in children's skill development. Second, from a philosophical perspective, the lines between freedom of familial association and state intervention in the pursuit of equality of opportunity must continue to be debated. Third, from a policy perspective, the plausibility and practicability of different modes of state intervention must be assessed. Research in behavioral science offers fresh insights to consider in the development of new programs and policies to support parents' investments in their children.

Public-sector investments have the potential to affect the long-run influence of family background in the more private spheres of family preferences and behavior. For example, in the case of Head Start, early childhood educational intervention and

improved parental behavior are complements (Gelber & Isen, 2011). As a society we should consider a variety of strategies to shore up parenting skills with the same degree of effort that has been mounted to increase public supports to disadvantage children via channels that operate largely outside of their families.

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References

Aizer, A. & Stroud, L. (2010). *Education, medical knowledge and the evolution of disparities in health.* National Bureau of Economic Research Working Paper No. 15840. Cambridge, MA: NBER.

Altintas, E. (2012). *Parents' time with children: Micro and macro perspectives*. Unpublished doctoral dissertation, Nuffield College, University of Oxford.

Andreoni, J. & Sprenger, C. (2012). Risk preferences are not time preferences. *American Economic Review, 102*, 3357-3376.

Ashraf, N., Karlan, D., & Yin, W. (2006). Tying Odysseus to the mast: Evidence from a commitment savings product in the Philippines. *Quarterly Journal of Economics, 121*, 635-672.

Bailey, M. & Dynarski, S. (2011). Inequality in postsecondary education. In G. Duncan and R. Murnane (Eds.). *Wither opportunity: Rising inequality, schools, and children's life chances* (pp. 117-132). New York: Russell Sage Foundation and Spencer Foundation.

Baker, A., Piotrkowski, C., & Brooks-Gunn, J. (1998). The effects of the Home Instruction Program for Preschool Youngsters (HIPPY) on children's school performance at the end of the program and one year later. *Early Childhood Research Quarterly, 13*, 571-588.

Belley, P., & Lochner, L. (2007). The changing role of family income and ability in determining educational achievement. *Journal of Human Capital*, *1*, 37-89.

Booth, C. Clarke-Stewart, K., Vandell, D., McCartney, K., & Owen, M. (2002). Child-care usage and mother – infant 'quality time.' *Journal of Marriage and Family 64*, 16-26.

Burkam, D., Ready, D., Lee, V. & LoGerfo, L. (2004) Social-class differences in summer learning between kindergarten and first grade: Model specification and estimation. *Sociology of Education*, *77*, 1-31.

Carneiro, P. & Heckman, J. J. (2003). Human capital policy. In J. J. Heckman, A. B. Krueger, & B. Friedman (Eds.), *Inequality in America: What role for human capital policies?* Cambridge, MA: MIT Press.

Charness, G., & Gneezi, U. (2009). Incentives to exercise. *Econometrica, 77*, 909-931.

Chetty, R., Friedman, J., Hilger, N., Saez, E., Schanzenbach, D. & Yagan, D. (2011). How does your kindergarten classroom affect your earnings? Evidence from Project STAR. *Quarterly Journal of Economics, 126*, 1593-1660

Chin, T. & Phillips, M. (2004). Social reproduction and child-rearing practices: Social class, children's agency, and the summer activity gap. *Sociology of Education*, *77*, 185-210.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). *Equality of Educational Opportunity*. Washington, DC: Government Printing Office.

Cunha, F., & Heckman, J. J. (2008). Formulating, identifying and estimating the technology of cognitive and noncognitive skill formation. *Journal of Human Resources*, *43,* 738-782.

Currie, J. (2001). Early childhood intervention programs. *Journal of Economic*

Perspectives, *15,* 213-238.

Deming, D. (2009). Early childhood intervention and life-cycle skill development: Evidence from Head Start. *American Economic Journal: Applied Economics, 1,* 111-34.

Dickinson, O. K., & Tabors, P. O. (Eds.). (2001). *Beginning literacy with language: Young children learning at home and school*. Baltimore: Paul H. Brookes.

Downey, D., von Hippel, P. & Broh, B. (2004). Are schools the great equalizer? Cognitive inequality during the summer months and the school year. *American Sociological Review*, *69*, 613-635.

Duncan, G., Kalil, A., Mayer, S., Tepper, R., & Payne, M. R. (2005). The apple does not fall far from the tree. In S. Bowles, H. Gintis & M. Osborne Groves (Eds.), *Unequal chances: Family background and economic success* (pp. 23-79). Princeton, NJ: Princeton University Press.

Duncan, G., Kalil, A., & Ziol-Guest, K. (2013, April). *Increasing inequality in parent incomes and children's completed schooling: Correlation or causation?* Paper presented at the Annual Meeting of the Population Association of America, New Orleans, LA.

Duncan, G., & Magnuson, K. (2005). Test score gaps: The contributions of family economic and social conditions. *The Future of Children*, *15*, 35- 52.

Duncan, G. & Magnuson, K. (2011). The nature and impact of early achievement skills, attention skills, and behavior problems. In G. Duncan and R. Murnane (Eds.). *Whither opportunity: Rising inequality, schools, and children's life chances* (pp. 47-69). New York: Russell Sage and Spencer Foundation.

Duncan, G., Magnuson, K., Kalil, A., & Ziol-Guest, K. (2012). The importance of early childhood poverty. *Social Indicators Research, 108,* 87-98.

Duncan, G., Ziol-Guest, K., & Kalil, A. (2010). Early childhood poverty and adult attainment, behavior, and health. *Child Development, 81,* 292-311.

Dynan, K. (2000). Habit formation in consumer preferences: Evidence from panel data. *The American Economic Review, 90*, 391-406.

Edwards, R. & Gillies, V. (2004) Support in parenting: Values and consensus concerning who to turn to. *Journal of Social Policy 33*, 623-643

Esping-Andersen, G. (2004). Unequal opportunities and the mechanisms of social inheritance. In M. Corak (Ed.), *Generational income mobility in North America and Europe* (pp. 289-314). Cambridge, UK: Cambridge University Press.

Frederick, S., Loewenstein, G., & O'Donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of Economic Literature, 40*, 351-401.

Fudenberg, D., & Levine, D. K. (2006). A dual-self model of impulse control. *American Economic Review, 96*, 1449-1476.

Furstenberg, F. (2011). The challenges of finding causal links between family educational practices and schooling outcomes. In G. Duncan and R. Murnane (Eds.). *Whither opportunity: Rising inequality, schools, and children's life chances* (pp. 465-482). New York: Russell Sage Foundation.

Gelber, A. & Isen, A. (2011). *Children's schooling and parents' investment in children: Evidence from the Head Start Impact Study*. National Bureau of Economic Research Working Paper No. 17704. Cambridge, MA: NBER.

Gomby, D., Larson, C., Lewit, E., & Behrman, R. (1993). Home visiting: Analysis and

recommendations. *The Future of Children, 3,* 6-22.

Guryan, J., Hurst, E., & Kearney, M. (2008). Parental education and parental time with children. *Journal of Economic Perspectives, 22*, 23-46.

Hart, B. & Risley, T. (1995). *Meaningful differences in the everyday experience of young American children.* Baltimore, MD: Paul H. Brooks.

Heckman, J. (2011). *The American family in black and white: A post-racial strategy for improving skills to promote equality.* National Bureau of Economic Research Working Paper No. 16841. Cambridge, MA: National Bureau of Economic Research.

Hofferth, S. & Sandberg, J. (2001). How American children spend their time. *Journal of Marriage and Family*, *63*, 295-308.

Hsin, A. (2009). Parent's time with children: Does time matter for children's cognitive achievement? In J. Robinson (Ed.) *Social indicator research: Time use and qualities of life*, pp. 123-126. New York: Springer.

Hurst, E. (2010, Spring). Comments and discussion. *Brookings papers on economic activity* (pp. 177-184). Washington, DC: The Brookings Institution.

Huston, A. & Rosenkrantz Aronson, S. (2005). Mothers' time with infant and time in employment as predictors of mother-child relationships and children's early development. *Child Development, 76*, 467-482.

Isaacs, J., Sawhill, I., & Haskins, R. (2008). *Getting ahead or losing ground: Economic mobility in America*. Washington D.C., The Brookings Institution.

Kalil, A., Ryan, R., & Corey, M. (2012). Diverging destinies: Maternal education and the developmental gradient in time with children. *Demography, 49*, 1361-1383.

Kamenica, E. (2012). Behavioral economics and the psychology of incentives. *Annual Review of Economics, 4*, 427-452.

Klebanov, P., Brooks-Gunn, J., McCarton, C., & McCormick, M. C. (1998). The contribution of neighborhood and family income to developmental test scores over the first three years of life. *Child Development, 69*, 1420-1436.

Knudsen E., Heckman, J. J., Cameron, J., Shonkoff, J. (2006). Economic, neurobiological, and behavioral perspectives on building America's future workforce. *Proceedings of the National Academy of Sciences, 103,* 10155-10162.

Kornrich, S., & Furstenberg, F. (2013). Investing in children: Changes in spending on children, 1972 to 2007. *Demography*, *50*, 1-23.

Laibson, D. (1997). Golden eggs and hyperbolic discounting. *Quarterly Journal of Economics, 112*, 443-477.

Lareau, A. (1989). *Home advantage: Social class and parental intervention in elementary education.* New York: The Falmer Press.

Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkeley, CA: University of California Press.

Love, J., Kisker, E., Ross, C., Raikes, H., Constantine, J., Boller, K.,…Vogel, C. (2005). The effectiveness of Early Head Start for 3-year-old children and their parents: Lessons for policy and programs. *Developmental Psychology, 41*, 885-901.

Magnuson, K. & Waldfogel, J. (2008). *Steady gains and stalled progress: Inequality and the Black-White test score gap*. New York: Russell Sage.

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science, 30,* 976-980.

Milkman, K., Beshears, J., Choi, J., Laibson, D., & Madrian, B. (2011). Using implementation intentions prompts to enhance influenza vaccination rates. *Proceedings of the National Academy of Sciences, 108*, 10415–10420.

Mullainathan, S., & Shafir, E. (2013). Decision making and policy in the context of poverty. In E. Shafir (Ed.), *Behavioral foundations of public policy* (pp. 281-300). Princeton, NJ: Princeton University Press.

NICHD Early Child Care Research Network. (2004). Father's and mother's parenting behavior and beliefs as predictors of children's social adjustment in the transition to school. *Journal of Family Psychology, 18*, 628–638.

Nickerson, D., & Rogers, T. (2010). Do you have a voting plan? Implementation intentions, voter turnout, and organic plan making. *Psychological Science*, 194-199.

OECD (2010). *PISA 2009 results: Overcoming social background – equity in learning opportunities and outcomes (Volume II)* *http://dx.doi.org/10.1787/9789264091504-en*

Olds, D., Henderson, C., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 to 50 months of life? *Pediatrics, 93*, 89–98.

Phillips, M. (2011). Parenting, time use, and disparities in academic outcomes. In G. Duncan and R. Murnane (Eds.). *Whither opportunity: Rising inequality, schools, and children's life chances* (pp. 207-228). New York: Russell Sage Foundation and Spencer Foundation.

Pinderhughes, E., Dodge, K., Bates, J., Pettit, G. & Zelli, A. (2000). Discipline responses: Influences of parents' socioeconomic status, ethnicity, beliefs about parenting, stress, and cognitive-emotional processes. *Journal of Family Psychology, 14,* 380-400.

Powell, D. (1993). Inside home visiting programs. *The Future of Children, 3*, 23-38.

Price, J. (2008). Parent-child quality time: Does birth order matter? *Journal of Human Resources*, *43*, 240–265.

Price, J. (2010). *The effect of parental time investments: Evidence from natural within-family variation*. Unpublished manuscript, Brigham Young University.

Putnam, R., Frederick, C., & Snellman, K. (2012). *Growing class gaps in social connectedness among American youth*. Unpublished manuscript, John F. Kennedy School of Government, Harvard University.

Ramey, G., & Ramey, V. (2010). The rug rat race. *Brookings Papers on Economic Activity*, 129–176.

Reardon, S. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. Duncan & R. Murnane (Eds.). *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 91-116). New York: Russell Sage Foundation and Spencer Foundation.

Ricciuti, A., St. Pierre, R., Lee, W., Parsad, A. & Rimdzius, T. (2004). *Third national Even Start evaluation: Follow-up findings from the experimental design study*. Washington, DC: U.S. Department of Education, Institute of Education Sciences,

National Center for Education Evaluation and Regional Assistance. http://www.ed.gov/ies/ncee

Roggman, L., Boyce, L., & Innocenti, M. (2008). *Developmental parenting: A guide for early childhood practitioners*. Baltimore: Paul H. Brookes.

Sacks, D. & Stevenson, B. (2010, Spring). Comments and discussion. *Brookings papers on economic activity* (pp. 184-196). Washington, D.C.: The Brookings Institution.

Sayer, L., Gauthier, A., & Furstenberg, F. (2004). Educational differences in parents' time with children: Cross-national variations. *Journal of Marriage and Family, 66*, 1152-1169.

Schaub, M. (2010). Parenting for cognitive development from 1950 to 2000: The institutionalization of mass education and the social construction of parenting in the United States. *Sociology of Education, 83*, 46-66.

Shah, A., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science, 338*, 682-685.

Smith, J., Brooks-Gunn, J., & Klebanov, P. (1997). Consequences of living in poverty for young children's cognitive and verbal ability and early school achievement. In G. Duncan & J. Brooks-Gunn (Eds.), *Consequences of growing up poor* (pp. 132-189). New York: Russell Sage Foundation.

Stockwell, M., Kharbanda, E., Martinez, R., Vargas, Y., Vawdrey, D., & Camargo, S. (2012). Effect of a text messaging intervention on influenza vaccination in an urban, low-income pediatric and adolescent population: A randomized controlled trial. *Journal of the American Medical Association, 307*, 1702-1708.

Swift, A. (2005). Justice, luck, and the family. In S. Bowles, H. Gintis, & M. Osborne Groves (Eds). *Unequal chances: Family background and economic success* (pp. 256-276). Princeton, NJ: Princeton University Press.

Thaler, R. (1991). Some empirical evidence on dynamic inconsistency. In R. Thaler (Ed.), *Quasi rational economics* (pp. 127-133): New York: Russell Sage Foundation.

Thaler, R., & Benartzi, S. (2004). Save more tomorrow: Using behavioral economics to increase employee saving. *Journal of Political Economy, 112*, S164.

U. S. Department of Education, Planning and Evaluation Service, Elementary and Secondary Education Division (2003). Third National Even Start Evaluation: Program Impacts and Implications for Improvement, Washington, D.C., 20202.

U.S. Department of Education (2007). *National assessment of adult literacy*. Washington, DC: Institute of Education Sciences, National Center for Education Statistics.

U.S. Department of Labor (2011). Economic news release: American time use survey-2010 results. Available at http://www.bls.gov/news.release/pdf/atus.pdf

Villena-Rodán, B. & Ríos-Aguilar, C. (2011). *Causal effects of maternal time investment on children's cognitive outcomes*. Documentos de Trabajo 285, Centro de Economía Aplicada, Universidad de Chile.

Wagner, M., & Clayton, S. (1999). The Parents as Teachers program: Results from two demonstrations. *Future of Children, 9*, 91-115.

Wagner, M., Spiker, D., & Linn, M. (2002). The effectiveness of the Parents as Teachers program with low-income parents and children. *Topics in Early Childhood Special Education, 22*, 67-81.

Waldfogel, J., & Washbrook, E. (2011). Early years policy. *Child Development Research*. *2011*, Article ID 343016, doi: 10.1115/2011/343016

Warner, J. (2005). *Perfect madness: Motherhood in the age of anxiety*. New York: