1-1-2017

Maternal Employment, Quality Time And Children Outcomes

Ahlam El Yaman
Wayne State University,

MATERNAL EMPLOYMENT, QUALITY TIME AND CHILDREN OUTCOMES

by

AHLAM EL YAMAN

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSPOHY

2017

MAJOR: ECONOMICS

Approved By:

Advisor	Date

DEDICATION

I dedicate this dissertation to the memory of my grandfather Khodor.

Although it has been years since you have passed. I still take your lessons with me,

every day.

ACKNOWLEDGMENTS

I am most grateful to Dr. Allen Goodman for his help and support through my dissertation research and for his guidance and encouragement during the Ph.D. program.

I would like to express the deepest gratitude to Dr. Jennifer Ward-Batts for her help and ongoing support to finish this dissertation.

I would like to express the deepest appreciation to Dr. Li way Lee who pushed me to make this dissertation a well-done achievement. Many thanks to Dr. Janet Hankins for her time and insightful comments.

Above all, I am indebted to my family; to my mother Maha and my sisters Rola and Souad for their moral support. Last but not the least, special thanks go to my son Jad who was my companion in this journey.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1. INTRODUCTION

Time investment in children is an important input into human capital formation (Becker 1991). It is also critical to the development of children who will become productive adults. The time children spend with their parents helps in establishing emotional bonds (Amato and Riviera 1999). It also serves as a way through which socio-economic status is transmitted from generation to generation (Yeung et al. 2002, Davis-Kean 2005). Prior research has shown that children's achievement by age seven is a strong predictor of future success (Keane and Wolpin 1997, Cunha and Heckman 1998, Heckman et al. 2006, Cameron and Heckman 2007, 2008). In addition, the factors that determine individuals' labor market outcomes are in place by age sixteen.

Despite the increase in women's labor force participation over the last few decades, time-use research provides evidence that the amount of time mothers spend with their children has increased (Sandberg and Hofferth 2001). Sayer et al. (2004) use time diary data to examine trends in parents' childcare time in the U.S. during the time period 1960-1990. They find that both mothers and fathers spent more time with their children in the 1990s compared to the 1960s.

Gauthier et al. (2004) use the Multinational Time Use Study (MTUS) to examine historical trends in parental time in 16 industrialized countries. They find that employed parents spend slightly less time with their children than non-employed parents but this difference disappears when they adjust for the difference by employment status.

Fox et al. (2013) use data from the Current Population Survey (CPS) for the time period 1967-2009 and find that both working and non-working parents spend more time with children in 2003-2008 than in 1975. Their results show that employed parents spend

less time with their children than non-employed parents but more than employed parents in previous cohorts. According to them, mothers protect the quality of time invested in children despite the increase in employment.

Zick and Bryant (1996) find that the negative effect of mothers' employment is limited to indirect child care with only three minutes reduction per day in direct childcare for each extra hour of maternal work. In addition, Bianci (2000) finds that employed parents preserve their time with children by reducing their time devoted to personal leisure and household work.

Craig (2007) confirms the above by investigating how working mothers avoid a one to one trade-off between work and childcare. Using the Australian Time Use data, he finds that employed mothers reschedule activities from weekdays to weekends or to earlier or later in the day and spend less time than other mothers in personal leisure, housework and personal care.

Using data from the American Time Use Survey (ATUS), Gautier et al. (2008) find that highly educated parents spend more time with their children compared to their less educated counterparts. According to them, those parents view the time spent with their children as an investment and different than any other home production. Using the same dataset, Stewart (2010) finds that working mothers shift quality time activities from workdays to non-workdays or sometimes to later in the evening for some workdays.

Maternal employment may have both negative and positive effects on the child's development. On one hand, it can be harmful if working reduces childcare time. On the other hand, it can improve child development if it increases the resources available for enriching types of activities. In addition, working mothers can be role models for their

children, which may have spillover effects on the children's future labor market outcomes. Working mothers may also have higher self-esteem and feeling of self-worth and children may pick up on that. However, maternal employment might not adequately capture the amount of time that mothers devote to their children. It is reasonable to believe that it is not only the total amount of time that parents spend with their children that matters, but also the quality of time that is devoted to a given child.

In this study, I first estimate the effect of maternal employment on total time and active time spent with the child. I find that working 40 hours per week reduces mother-child total time by 4.8 hours where half of the reduction (2.4 hours) comes in active time spent with the child. Second, I examine whether the amount of time children spent with their mothers is positively associated with children's behavioral and cognitive development. I estimate child-quality production functions using the rich longitudinal data in the PSID-CDS. I model the production function by an augmented value added specification where cognitive (non-cognitive) ability depends on a set of contemporaneous and lagged inputs and on a lagged cognitive (non-cognitive) ability (Todd and Wolpin 2003, 2007).

I estimate my models using two different measures of quality time. In my first measure, I follow much of the existing literature (Bianci 2000, Stafford and Yeung 2004, Kalenkoski et al. 2007, Kalenkoski and Foster 2008), and define high-quality mother-child time as time when the mother is actively participating with the child (active time) and low-quality time as time when the mother is present but not participating in the activity with the child (passive time), using the children's time diaries of the PSID-CDS.

My second quality of time measure is one of this study's contributions to the literature. I postulate that the quality of mother-child time is multi-dimensional, and construct a novel measure of that latent quality using a factor technique (Multiple Correspondence Analysis). For each activity spell, I take into account the type of the activity (primary vs secondary, enriching vs non-enriching), whether the mother is actively engaged or simply present, whether other adults and children are present and participating, the time of the day and whether the child gets enough sleep during the day the activity is performed. I take advantage of the richness of the CDS data, including both the primary and secondary activities of the child, in constructing this quality measure. I then calculate a quality-weighted sum of mother-child time, which enters as an input in the child production function. I compare results using the two approaches to measuring quality of time.

Overall, I do not find a significant association between time inputs and child outcomes. Among the major findings, past test score is always a major predictor of child's current score. Both non-cognitive outcomes – the BPI (Behavioral Problem Index) and the PBS (Positive Behavior Scale) – are mainly shaped by the mother's warmth and psychological distress. In addition, neighborhood safety has a strong negative effect on the child's BPI. In both non-cognitive tests, white children perform lower than other children and boys worse than girls. The child's scores in both cognitive outcomes – the LW (Letter Word test) and the AP (Applied Problem test) – are significantly affected by the mother's educational attainment (especially for the LW test). The higher the mother's educational attainment, the higher the child's score. Moreover, results show a modest effect of the mother's distress and employment status. Children of non-working mothers

tend to score higher than those whose mothers are full-time employed. Moreover, the household cognitive scale index is a major factor affecting the child's performance in the AP test. I also find some differences by child gender and race.

This study is organized as follows. Chapters 2 and 3 contain the literature review and the theoretical background of this study. Chapter 4 describes the data used in this study. Chapter 5 presents my analysis of the effect of maternal employment on mother-child time. In chapter 6, I estimate the effect of mother-child time on child's development using the active-passive measure. This part is followed by some robustness checks in chapter 7. Chapter 8 presents the effect of the time a mother spends with her child on child's outcomes using my novel quality time index measure. Results are summarized in chapter 9 and chapter 10 concludes.

CHAPTER 2. LITERATURE REVIEW

Time diary studies suggest that links between mothers' time and children's well-being depend on the activity. Existing research suggests that the quantity of parents' time with children matters less than the quality. The evidence provided by the literature in assessing the effects of maternal employment on child outcomes is inconclusive. The diversity in findings is related to the wide range of specifications that are estimated and the fact that many studies fail to control for the endogeneity of employment and child care.

Ruhm (2004) find that maternal employment affects negatively the reading ability of children. This effect is larger for children 5 and 6 years old compared to children 3 and 4 years old. Using fixed effect models and data from the National Longitudinal Survey of Youth (NLSY), James Burdumy's (2005) results suggest that the effects of maternal employment vary depending on the particular cognitive measure used and the timing of employment.

Waldfogel et al. (2002) use data from the NLSY on 1,872 children followed from birth to 8 years old. They find mixed results when analyzing the effect of maternal employment on children's cognitive outcomes. However, significant effects are limited to white children with a negative effect of the first year of maternal employment and some positive effects of the second and third year of maternal employment on cognitive outcomes.

Ruhm (2008) analyzes the impact of maternal employment on children's outcomes age 10 and 11 years old. The results suggest that mother's employment has a negative effect only in the case of long maternal hours worked. In contrast, when employment is less intensive, he finds a positive effect on the outcome of children 3 years old and

younger. This effect disappears when children are older than 3 years. In the case of adolescent children, maternal labor supply is only harmful for "advantaged" adolescents given the reduction in the time spent in home enriching activities.

Using a Danish data set that follows 135,000 Danish children from birth through 9th grade, Dunifon et al. (2013) examine the effect of maternal employment on child's grade point average in 9th grade. They find that maternal employment has a positive effect on children's academic performance particularly when women work part-time. Heiland et al. (2014) use data from the PSID and the ATUS to examine the effect of mothers' hours worked on the time spent with children. Their results suggest that maternal employment reduces the time spent in quality mother-child interaction.

It is reasonable to believe that it is not only the total amount of time that parents spend with their children that matters, but also the quality of time that is devoted to a given child. Carneiro and Rodriguez (2009) find that more time with mothers leads children (especially those aged 3 to 6 years) to perform better in cognitive tests. Carneiro et al. (2011) use data from the NLSY to study the effect of maternal education on children's cognitive and non-cognitive outcomes. They address the endogenity of mother's educational attainment and instrument maternal schooling by the variation in schooling costs during the mother's adolescence. Their results suggest that mother's education increases the child's performance on the math test and reduces the incidence of behavioral problems.

Several papers examine different measures of parent-child time and its effect on the child's development. Using data from the Australian Time Use Survey, Kalenkoski and Foster (2008) construct 4 measures of the quality of time spent in childcare and find

different conclusions when using different measures of quality. The first measure defines high quality when child care is the sole task versus low quality for multi-tasked child care. The second measure assigns high quality when childcare is the primary activity being performed versus low quality when it is the secondary activity. The third measure considers high quality the time spent in a development-oriented activity (teaching, playing, etc.), and lower quality the time spent in a non-development oriented activity. The last measure considers a high quality when the parent is participating with the child in the activity versus being present and not engaged as a lower quality.

Moro-Edigo (2012) examines how mothers in the U.S. during 1981-1997 allocate their time with children and what factors determine this allocation. The author uses two data sets: the "Family Interaction, Social capital and Trends in Time use" and the "Time Use Longitudinal Panel Study". She finds that active time with children has increased for the group of educated working mothers with young children.

Using the first wave of the PSID-CDS, Folbre et al. (2005) present new measures of passive and active care time. Their analyses focus on "care density" which is the "ratio of adults to young children participating in an activity, per unit of time". According to them, it is more demanding to care for more than one child in an activity and less stressful when more adults are participating in the activity.

Bernal et al. (2011) use data from a Colombian survey to estimate the effect of the quantity and the quality of maternal time on children's outcomes. They define the quantity of time as the total amount of maternal time devoted to childcare and the quality as the fraction of this time spent in teaching-learning activities. They use instrumental variable estimation and find that both quantity and quality of time have a positive effect on cognitive

outcomes. As for non-cognitive outcomes, the quality of maternal time has a positive effect versus a negative effect associated with the quantity of time.

Fiorini and Keane (2014) analyze time use diary from the Longitudinal Study of Australian Children (LSAC) and divide child time into nine different categories. Their findings indicate that children's time spent in educational activities with parents has a positive effect on the development of cognitive skills. However non-cognitive skills are not affected by parental time. These skills are shaped by parenting style such as mother's affection, warmth and discipline.

Using large longitudinal survey data from the UK Millennium Cohort Study, Del Bono et al. (2014) estimate the effect of maternal time inputs on early child development. They find that the quantity of maternal time is an important determinant of skill formation. However, its effect declines with the child's age.

Important findings are suggested using data from the PSID-CDS. Del Boca et al. (2012) estimate adolescents' production function of cognitive skills. Their results suggest that child's own time investment is more important than mother's time investment during adolescence. They also find that maternal time inputs are more important when children are 6 to 10 years old.

Del Boca and Mancini (2013) find that mothers spend more time with children than fathers but this time decreases with the age of the child and is greater with daughters. However, fathers' time increases with the child's age and is greater with sons. The paper shows also that the impact of parents' time is different among the three cognitive tests used in the study, but it is always greater in the case of highly educated parents.

Milkie et al. (2015) examine the impact of the amount of time mothers spent with children age 3 to 11 and adolescents age 12 to 18 on their cognitive and behavioral outcomes. They find that mother's time matters only when children are adolescent. Hsin and Felfe (2014) suggest that not all types of maternal time benefit children. In particular, time in unstructured activities (like watching TV or playing video games) is detrimental to child development.

This study complements the existing time use literature that studies the effect of maternal time on children's outcome, by analyzing time diaries data from the PSID-CDS. In my first model, I use child and mother fixed effects specifications to analyze the impact of maternal employment on the quantity and quality of mother-child time. In my second model, I analyze the effects of the time a mother spends with her child on a set of cognitive test scores as well as behavioral outcomes. For this purpose, I use two measures of quality of time. The first measure consists of an active- passive classification that captures intensity. The second measure relies on estimating a quality time index in order to calculate a quality adjusted mother-child time.

CHAPTER 3. THEORETICAL FRAMEWORK

The theoretical model follows a standard framework from Becker and Tomes (1986), where a representative household maximizes a utility function subject to a child production function and a budget and a time constraints. In my model, I consider a household whose members are at least the mother and her child and I assume that the mother is the decision maker regarding child's quality.

In each period, the mother decides her own labor supply and time allocation. The mother's total time can be divided into time at work, child caregiving time and time alone[1]. As the purpose of this study is to analyze the effect of maternal time devoted to the child and for the simplicity of the analysis, I ignore the time when the mother is alone. I also ignore any non-maternal income or good inputs in the child production function. Thus, the model is reduced to the following maximization problem:

$$\max_{T,A,C,H} U(Y,C,H,A) \qquad (1)$$

subject to:

$$wH = C \qquad\qquad (2)$$

$$\bar{T} = T + H \qquad\qquad (3)$$

$$Y = Y(T,A) \qquad\qquad (4)$$

where Y is the child's outcome (cognitive and non-cognitive) and C is the mother's consumption. The mother faces a budget constraint (2) where the price of C is normalized to one, and w is the mother's wage rate. The constraint on the mother's time is given by (3), where $\bar{T}$ is the total amount of time available to the mother, H is hours of work and T represents mother's time available to the child. The production process of child's

---

[1] Not working and not with her child.

achievement is represented by (4). Here, maternal time is an input in the child production function for cognitive and non-cognitive skills.

I also assume that maternal time devoted to the child T is divided into two components: passive time "P" and active time "A". Given A is the portion of time the mother spends actively engaged with the child, it is considered the high quality component. It is assumed to affect the child development at a higher degree than the passive time. Moreover, time devoted to active care is more costly than the time when the mother is simply present and not engaged.

When the mother is participating in an activity with the child, she devotes energy and effort to help the child. If the mother derives utility from her child's outcome Y, she faces a disutility from the active time spent with the child. If total maternal time contributes to children's outcome, active time might have an additional effect given it is a higher quality time and enters the production function as an additional input.

I assume a utility function that is twice differentiable and strictly concave. I also assume a twice differentiable, increasing and strictly concave production function .The mother maximizes her utility function (1) subject to the constraints (2-4) in order to choose consumption, hours of work, total maternal time available to the child and also the amount of active time (high quality) to invest in the child .

By substituting the restrictions in the utility function (1), the maximization problem is reduced to only choosing T and A spent with the child.

$$\underset{T,A}{\text{Max}}\, U(Y(T,A), w(\bar{T} - T), (\bar{T} - T), A) \quad (1')$$

First order conditions:

$$\frac{\partial U}{\partial T}: Y_T U_T - w U_C - U_H = 0 \qquad (a)$$

$$\frac{\partial U}{\partial A}: U_Y Y_A + U_A = 0 \qquad (b)$$

I assume that the second order conditions are satisfied. By solving equations (a)

and (b), I get the demand functions of the total time devoted to the child T^* *(w)* and the

active time the mother spends engaged with the child A^* *(w)*. In order to analyze the effect

of wage on total time T and active time A spent with the child, I apply the implicit function

theorem to equations (a) and (b). For the ease of interpretation, I borrow Bernal (2008)

and Bernal et al. (2011) assumptions and I assume separability in the utility function.

Thus, the cross partial marginal utilities are equal to zero, and I get the following:

$$\frac{dT}{dw} = -\frac{-[U_C + w(\bar{T} - T)U_{CC}]}{[Y_{TT}U_Y + Y_T^2 U_{YY} + w^2 U_{CC} + U_{HH}]} \qquad (c)$$

If I assume the case when the substitution effect is greater than the income effect,

an increase in wage will make the mother work more by reducing the amount of time

spent with her children. Given that the denominator of equation (c) is negative, a crucial

assumption to get $\frac{dT}{dw} < 0$ is to have $[U_C + w(\bar{T} - T)U_{CC}]$ >0. This implies that

$w(\bar{T} - T)$ must be greater than $-\frac{U_C}{U_{CC}}$ (the absolute coefficient of risk aversion).

Following this scenario, the mother faces a trade-off between spending active time

versus passive time with the child. In order to investigate if the mother- by reducing the

total amount of time with the child- compensates by spending more time actively engaged,

I solve for:

$$\frac{dA}{dw} = \frac{dA}{dT} \times \frac{dT}{dw} \qquad (d)$$

where:

$$\frac{dA}{dT} = \frac{-[U_Y Y_{AT} + Y_A Y_T U_{YY}]}{[U_Y Y_{AA} + Y_T^2 U_{YY} + w U_{CC} + U_{HH}]} \qquad (e)$$

In addition to previous assumptions, and for $\frac{dA}{dw} > 0$, Y_{AT} should be ≤ 0.

The empirical section of this study consists of first testing the effect of maternal employment on the quantity and the quality time spent with the child. Second, it provides estimates of the skills production function (cognitive and non-cognitive) of the ith child in the jth family at period t according to the following equation:

$$Y_{ijt} = \beta_0 A_{ijt} + \beta_1 P_{ijt} + \beta_3 G_{ijt} + \beta_4 X_{ijt} + \beta_4 Z_{it} + \mu_{ij} + \alpha_j + \varepsilon_{ijt} \qquad (5)$$

where Y is the child's outcome, A corresponds to the active maternal time and P is the passive maternal time. G refers to goods and services invested in the child (e.g. family income). X is a vector of child characteristics (e.g. age, gender, race, weight and health at birth…). Z is a vector of household and mother characteristics (such as the mother's education level, employment status, family structure…). μ_{ij} and α_i represent the child's and the mother's unobserved endowments, and ε_{ijt} is the random error tem.

By estimating the above production function, I risk an endogeneity bias related to the correlation of maternal time, maternal employment and family income with the unobserved error terms μ_{ij} and α_i. On one side, a mother who decides to spend more time with her child might be different than a mother who devotes less time. On the other side, how a mother allocates her time might be related to some unobserved endowment of the child. A mother might choose to spend more time with a child experiencing some behavioral or emotional problems. At the same time, children of high-skilled mothers might inherit a higher ability.

The failure to control for unobservable characteristics will result in a biased estimate of the parameter of the production function. One way to eliminate the potential bias resulting from unobserved time invariant characteristics is to employ child fixed-

effects regression. Another strategy is to control for the lagged dependent variable. The child's past achievement is an important predictor of current achievement. By adding the lagged child's outcome as an explanatory variable in the model, I estimate an augmented value-added approach as in Todd and Wolpin (2007).

CHAPTER 4. DATA

The data used in this study are from the three waves of the Child Development Supplement of the Panel Study of Income Dynamics (PSID-CDS). The PSID is a nationally representative longitudinal survey of a representative sample of U.S. families, conducted by the University of Michigan since 1968. It provides annual information on economic, demographic and sociological background of these families up to 1997 and bi-annually after.

In 1997, the PSID conducted the CDS in order to provide a better understanding of the child development process. The focus of the CDS is centered on collecting information on physical health, emotional well-being, intellectual achievement, and social relationships of the children with their families and peers. Eligibility of the CDS is based on the age of the PSID family's children.

1997 PSID families are selected to participate in the first wave of the CDS if they have at least one child aged between 0 and 12. The CDS-I includes up to two children per household and interviews 2,394 families providing information on 3,563 children.[2] Subsequent waves of data are collected on the same children during the 2002-2003 and the 2007-2008 years. CDS-II re-interviews 2,019 families who provide data on 2907 children aged 5-18 years.[3] During 2007 and 2008, 1,506 children aged 10-19 are again re-interviewed for CDS-III.[4]

I use child level weights from the CDS demographic file to adjust for family selection. Some children are dropped from the survey for several reasons such as unable

---

[2] 88 percent of eligible families in the PSID sample participate at CDS-I

[3] 82 percent of children from CDS-I participate in CDS-II

[4] The number of successful re-interviews is 91 percent in CDS-I and 90 percent in CDS-III

to locate, refused to answer, or their family are not active in the main PSID data collection. In addition, children who reach the age of 18 leave the sample. All the household and parental variables included in the PSID survey are also available from the CDS children.[5]

4.1. Time Diaries.

The availability of detailed information of child's time use is crucial to my study. The PSID-CDS includes time diary data for one random weekend day and one random weekday. Time diaries are typically completed by the primary caregiver alone (usually the child's mother), or by the primary caregiver and the child together, and some are completed by older children alone.

Activities are reported from the midnight of one day (00:00) to the midnight of the following day (24:00). Reporters record the start and end of each activity. The ending time of an activity coincides with the starting time of the following activities (so there are no gaps in time). In addition to recording the type of each activity, the respondent is asked to report the duration of that activity, the location, who is participating in the activity and who is present. The diary records also if the child is engaged in any secondary activity at the same time.

The child time diary allows me to construct the two measures of the mother-child quality time. Details on how to construct the quality time index is presented in chapter 9 of this study. As for the active-passive time measure[6], I refer to the question whether the mother is participating with the child in an activity or simply present and I define "Active" time (high quality) as the total time when the mother is actively engaged with the child during an activity. The "Passive" time (low quality) is when the mother is only present but

---

[5] CDS data are linked to PSID individual and family level
[6] Moro Edigo (2012), Kolenkoski & Foster (2008)

not engaged. Time is reported in seconds in the public use data file, I convert time to hours for ease of interpretation. To get weekly estimate of passive and active time, I multiply by five the weekday time and sum the result with the weekend day time multiplied by two. This technique has been used in all studies using PSID-CDS.

Interviewers visited the household and reviewed and edited the time diaries. The survey was not administered during July and August because of the summer vacation. For some activity of child time, the mother is coded as "participating" but also as "available but not participating". I believe that this represents a coding error,[7] and I recode these activities as "participating". For the present analysis, my sample consists of children who live with their biological mother and have completed both weekday and weekend time diaries. The observed ranges in my sample are 0 to 143.5 hours for mother's active time and 0 to 86 hours for mother's passive time.

A caveat when using such time diaries data is to rely on the mother's report of children's time use. Thus, the time the child spends with another person when the mom is not present might be reported with noise or underreported. Unfortunately, there is in no way to address this issue. Another issue is that I only rely on two days in order to capture child's daily life. From one side, assigning a random diary to a representative sample might be an indication of what the population does in general. From another side, it could be the case that the assigned day is a vacation day or the child is sick. In this situation, I might get statistically inefficient estimate when looking at the effect of mother-child time on child's development. Fortunately, the time dairy data indicates if the day was typical or not. Controlling for the typicality of the day could help in dealing with this issue.

---

[7] Folbre et al.(2005)

4.2. Child's Development Measures.

The CDS provides information on both children's cognitive and non-cognitive development for the three waves. Cognitive performance is measured using two subtests from the Woodcock-Johnson Revised Test of Achievement (WJ-R). The WJ-R is a widely recognized test of cognitive ability that provides normative scores and show the target's person cognitive abilities in relation to the national average for the person's age. The WJ-R contains nine subtests measuring different aspects of academic achievements. The test scores are available in raw or in standardized format. Using the WJ-R standardized score allow the comparison of the child cognitive abilities to the national average for child's age.[8]

To test reading ability, I use child's score on the Letter-Word (LW) subtest. The LW assessment is used to assess verbal skills as well as reading and word-identification skills. It starts from the easiest items (identification of letters and pronunciation of sample words), progressing to the more difficult items.

Analytical and math skills are tested using the Applied Problem (AP) subtest. The AP assessment measures analytical and mathematical skills by solving practical math problems. Both tests are administered to children aged three years and older by adjusting the difficulty of the test according to the respondent's age. A higher value signifies a better performance. The empirical analysis of this study relies on the standardized version of these two test scores.

---

[8] The raw scores are charted on normative tables based on the child's age and what percentile the child falls into. Then the standardization technique consists on matching the raw score to a number known the W-score.

To analyze children's non-cognitive development, I rely on two measures: the Behavioral Problem index (BPI) and the Positive Behavioral Scale (PBS). The BPI is derived from the Achenbach child Behavior Checklist from the NLSY. The BPI captures negative aspect of children's development. It is constructed using the primary caregiver's answer to a set of question covering the internalizing and externalizing behavior of the child. The internalizing behavior captures if the child feels withdrawn, fearful, sad, anxious or confused. The externalizing behavior indicates if the child exhibits a disruptive or aggressive behavior. It captures if the child lies, cheat or bullies, has difficulty concentrating, is restless or overly active. A higher value of the BPI implies a greater level of behavioral problems.

In contrast, the PBS measures the positive aspects of the child's behavior such as self-esteem, social and emotional competence. The PBS also relies on the primary caregiver's answers to a questionnaire. It assesses things such as if the child is happy and admired by others. Higher scores imply fewer behavioral problems. Both non-cognitive assessments are administered for children who are three years or older. They are age adjusted which makes the comparison with other same age children easier.

4.3.   Control Variables.

I control for the child's and mother's characteristics. I also control for the family structure as well as the home and social environment. Four dummy variables are constructed to measure child's race (non-Hispanic white, non-Hispanic black, Hispanic, or other race). Child's age at his/ her interview (and its square) is measured in years. Child's gender is a dummy variable (1=male, 0=female). I also control for the child's

weight at birth and created a dummy variable "low birth weight" (1= weight <5.5 pounds, 0= weight is ≥ 5.5 pounds).

With respect to the mothers' characteristics, I consider mothers' educational attainment, employment status and hours worked. I link CDS data to the main questionnaire of the PSID 1997, 2002 and 2007 and I construct a continuous measure of mother's worked hours, which indicates the average weekly work hours at all jobs in the previous year. I also construct an indicator of maternal employment status (not working, working part-time, and working full-time). I define part time work as any amount of work greater than 0 and less than 30 hours a week. Mother's educational attainment is illustrated by a four-category measure: high school dropout (fewer than 12), high school completion (12 years), some college education (13 to 15 years), college degree or higher (16 years or more).

The mother's psychological distress is measured by responses to six questions of the K-6 Non-Specific Psychological Distress Scale (developed by Ronald Kessler at Harvard Medical School). It is an indicator on how stressed was the mother during the preceding four weeks. It shows feelings of sadness and stress. The parental warmth scale measures the warmth of the relationship between the primary caregiver and the child. It is constructed based on the mother's responses to six questions. It indicates how frequent the mother shows physical and verbal expression of affection. It also addresses how often she plays and jokes with the child.

For family structure, I control for the number of children in the household and if the child lives with both parents versus living in a single-mother family. The home

environment characteristics include the log of family income[9] that captures the material resources available to the household. I also include an index to measure the cognitive support a child experiences at home (such as the number of toys, books at home, frequency of theater, museum visits, etc.). As for the social environment, I consider the child's neighborhood by including a measure of the neighborhood safety.[10]

4.4.   Summary Statistics.

Descriptive statistics for all the variables-illustrating the demographic and socioeconomic characteristics-in the analysis are provided in Tables 1 and 2. Table 1-A shows the mean values of the children sample by CDS wave as well as for all the waves combined. The sample has an almost identical number of girls and boys. 49 percent of the children are white versus 39 percent are black. 91.5 percent of the kids were born with a normal weight (≥ 5.5 pounds) and 60 percent live with both parents. The data shows that 16 percent of mothers work less than 30 hours a week while 63.4 percent are working full time. 19.2 percent of mothers are highly educated (4-year college degree or more), while 28.6 percent have some college education. 38 percent of the mothers have only a high school diploma. Each household has 2 children on average. Summary statistics on the cognitive and non-cognitive measures are reported in Table 1-C. The average score of the BPI (Behavioral problem Index) is 8.09 with a standard deviation of 6.16. The average score on the PBS (Positive behavior Scale) is 4.18 with a standard deviation of 0.58. The average test score for LW (Letter Word test) is 103.1 with a standard deviation of 18.26 and the average score for AP (Applied Problem test) is 103.2 with a standard deviation of 16.79.

---

[9] Income of previous year.
[10] Missing data on all variables was random.

Table 1: Summary Statistics

	A- Control Variables											
	All Years			**CDSI (1997)**			**CDSII (2002-2003)**			**CDSIII (2007-2008)**		
Variables	**N**	**Mean**	**Std**	**N**	**Mean**	**Std**	**N**	**Mean**	**Std**	**N**	**Mean**	**Std**
Child age (years)	6,358	10.28	4.767	2,622	6.560	3.801	2,483	12.12	3.715	1,253	14.44	2.176
Child birth weight (ounces)	6,334	116.9	22.51	2,613	116.9	22.43	2,471	116.8	22.79	1,250	117.1	22.16
Low birth weight	6,334	0.0849		2,613	0.0869	0.282		0.0834		1,250	0.0840	
Normal birth weight	6,334	0.915		2,613	0.913	0.282		0.917		1,250	0.916	
White (child)	6,358	0.488		2,622	0.500	0.500		0.475		1,253	0.488	
Black (child)	6,358	0.390		2,622	0.373	0.484		0.408		1,253	0.388	
Hispanic (child)	6,358	0.0783		2,622	0.0748	0.263		0.0789		1,253	0.0846	
Other race (child)	6,358	0.0440		2,622	0.0515	0.221		0.0383		1,253	0.0399	
Male (child)	6,358	0.505		2,622	0.511	0.500		0.497		1,253	0.509	
Female (child)	6,358	0.495		2,622	0.489	0.500		0.503		1,253	0.491	
Both biol. parent	6,358	0.598		2,622	0.661	0.473		0.562		1,253	0.536	
Biol. Mother only	6,358	0.402		2,622	0.339	0.473		0.438		1,253	0.464	
# of children in the family	6,358	2.222	1.072	2,622	2.285	1.066	2,483	2.159	1.070	1,253	2.217	1.082
Neighborhood safety	5,328	2.289	1.117	1,895	2.377	1.108	2,470	2.281	1.137	963	2.138	1.063
HH Cognitive scale	6,352	4.276	4.629	2,622	9.513	2.270	2,483	0.612	0.173	1,247	0.560	0.173
Parental warmth (mother)	6,327	4.149	0.690	2,598	4.507	0.567	2,482	3.919	0.641	1,247	3.861	0.687
Distress (mother)	5,270	3.956	3.661	1,840	3.674	3.625	2,468	4.113	3.732	962	4.094	3.515
High school dropout (mother)	6,085	0.141		2,545	0.156	0.363		0.130		1,194	0.132	
High school (mother)	6,085	0.381		2,545	0.385	0.487		0.390		1,194	0.353	
Some college (mother)	6,085	0.286		2,545	0.277	0.448		0.287		1,194	0.305	
College and more (mother)	6,085	0.192		2,545	0.181	0.385		0.194		1,194	0.209	
Not working (mother)	6,177	0.206		2,480	0.249	0.432		0.178		1,242	0.177	
Part time working (mother)	6,177	0.160		2,480	0.165	0.371		0.157		1,242	0.157	
Full time working (mother)	6,177	0.634		2,480	0.586	0.493		0.666		1,242	0.666	
Typical WD	5,861	2.043	1.240	2,541	1.974	1.215	2,129	2.080	1.274	1,191	2.123	1.223
Typical WE	5,816	2.332	1.226	2,520	2.300	1.227	2,104	2.333	1.230	1,192	2.396	1.215
Family income (log)	6,358	10.56	1.103	2,622	10.33	1.086	2,483	10.67	1.127	1,253	10.83	0.993

B- Maternal time inputs*			
Mean (Standard deviation in parenthesis)			
Active/ week	19.92	24.99	17.00	14.00
	(0.26)	(0.39)	(0.34)	(0.44)
Passive/ week	19.44	21.14	17.24	19.69
	(0.25)	(0.36)	(0.35)	(0.51)
Observations	**6081**	**2622**	**2206**	1253

C- Outcome Measures (All years)				
	N	**mean**	**Std**	**min**	**max**
LW	5,932	103.1	18.26	35	197
AP	5,915	103.2	16.79	2	168
BPI	6,264	8.091	6.160	0	30
PBS	6,369	4.175	0.579	1.100	5

Active and Passive time are measured in hours

Detailed description of the mother-child time by child's gender and age as well as by mother's employment status are presented in Table 2. Table 2-A reports maternal time according to child's gender. On average, mothers spend approximately one additional hour with their daughters compared to their sons (39.82 h versus 38.9 h). Moreover,

mothers allocate more active time per week to daughters than sons (20.69 h versus 19.13 h) and more passive time to their sons than daughters (20.34 h versus 18.56 h). Not surprisingly, both active and passive amount of mother-child time drop as children get older.

Table 2-B presents the average number of hours per week mothers spend in childcare by employment status. Non-employed mothers spend more time in child care than employed mothers but with active time less than passive time (22.47 h versus 23.12 h). While working mothers (both part-time and full-time working) have less total time with their children, they protect the quality time by spending on average more time actively engaged than passive (18.35 h versus 17.55 h for mothers working full-time and 21.04 h versus 20.83 h for part-time working mothers).

In Table 2-C, I split the results based on the age of the child with age groups: less than 3, 3-5, 6-9, 10-12, 12-15 and 16 years and older. As expected, mothers with younger children spend significantly more time being actively involved with their children. On average, mothers spend 29 hours actively engaged with their children aged 3 to 5 years, but only 15 hours when the children are 12 to 15 years old. Moreover, when children are young, the amount of active time is greater than passive time, but as children gets older, passive time becomes more predominant. Mothers spend almost 6 hours more active time than passive time with children when the child is aged 3-5 years. However, they spend 5 hours more in passive time than active time when the children are 12 to 15 years old.

Table 2: Key summary statistics by group: Mean (Standard error in parenthesis)

	All Years		CDSI (1997)		CDSII (2002-2003)		CDSIII (2007-2008)	
A- Mother-Child Time by Gender								
Variable*	Female	Male	Female	Male	Female	Male	Female	Male
Active/ week	20.69 (0.36)	19.13 (0.36)	25.84 (0.57)	24.15 (0.53)	17.64 (0.48)	16.32 (0.48)	15.09 (0.62)	12.92 (0.63)
Passive/ week	18.56 (0.35)	20.34 (0.34)	20.35 (0.51)	21.92 (0.51)	16.82 (0.49)	17.68 (0.50)	17.87 (0.76)	21.50 (0.76)
Observations	3018	3063	1281	1341	1122	1084	615	638

B- Mother-Child Time by Employment Status											
Variable**	NW	PT	FT	NW	PT	FT	NW	PT	FT		
Active/week	22.47 (0.56)	21.04 (0.61)	18.35 (0.33)	27.48 (0.80)	25.66 (1.02)	23.21 (0.51)	18.49 (0.68)	19.90 (0.83)	15.67 (0.43)	14.35 (1.02)	13.27 (0.83)	14.17 (0.59)
Passive/week	23.12 (0.51)	20.83 (0.56)	17.55 (0.29)	25.59 (0.72)	21.64 (0.87)	18.59 (0.45)	19.16 (0.80)	19.64 (0.88)	19.64 (0.42)	22.54 (1.27)	21.38 (1.17)	18.37 (0.63)
Observations	1226	951	3725	617	409	1454	389	347	1444	827	195	220

C - Mother-Child time by Age of the Child						
Variable	Age less than 3	Age 3-5	Age 6-8	Age9-11	Age 12-15	Age 16+
All years						
Active/ week	36.10 (0.82)	28.94 (0.72)	20.75 (0.43)	18.98 (0.44)	14.98 (0.39)	10.79 (0.52)
Passive/ week	20.77 (0.81)	23.47 (0.75)	18.70 (0.47)	18.83 (0.43)	19.59 (0.47)	16.93 (0.68)
Observations	616	661	1108	1323	1578	795
Year 1997						
Active/week	36.10 (0.82)	29.24 (0.77)	20.93 (0.64)	18.37 (0.68)	14.95 (0.83)	
Passive/week	20.77 (0.81)	24.06 (0.79)	20.24 (0.70)	19.25 (0.65)	21.76 (1.39)	
Observations	616	615	564	573	254	
Year 2002-2003						
Active/week		25.26 (1.90)	20.53 (0.56)	19.62 (0.71)	15.65 (0.62)	10.80 (0.68)
Passive/week		16.37 (2.08)	16.85 (0.59)	17.67 (0.68)	17.51 (0.63)	16.82 (0.96)
Observations		46	544	538	646	432
Year 2007-2008						
Active/week			19.14 (0.84)	14.24 (0.63)	10.78 (0.80)	19.14 (0.84)
Passive/week			20.52 (1.05)	21.00 (0.72)	17.05 (0.95)	20.52 (1.05)
Observations			212	678	363	212

The basic characteristics of the outcome measures by gender, race and mother's education are summarized in Table 3. On average, girls score better than boys in all tests except for the AP test. White children are performing better than black in all tests except for the PBS. Similarly, I show the performance of all tests with respect to the mother's educational attainment. A clear pattern with few exceptions reveals a positive correlation between mother's education and better performance on both cognitive and non-cognitive tests.

I use child sample weight to correct for attrition. I also investigate whether missing data is random or systematic. To do so, I run a probit model where the dependent variable is equal to one if missing and zero otherwise. The independent variables are the remaining variables in the analysis. I find that all variables are missing at random.

Table 3 - Outcome Measures Characteristics (All years)

Variable	BPI	PBS	LW	AP
Male	8.56	4.09	104.57	107.80
	(0.20)	(0.02)	(0.66)	(0.57)
Female	7.74	4.25	106.98	105.22
	(0.19)	(0.02)	(0.57)	(0.55)
White	7.95	4.13	108.93	110.59
	(0.16)	(0.01)	(0.50)	(0.44)
Black	8.73	4.15	96.15	96.61
	(0.37)	(0.03)	(0.87)	(0.68)
Hispanic	8.34	4.39	100.95	98.32
	(0.44)	(0.04)	(1.24)	(0.99)
Other race	8.44	4.16	107.15	105.46
	(0.63)	(0.05)	(2.28)	(2.63)
Less than HS (Mom)	9.02	4.33	96.85	95.10
	(0.43)	(0.04)	(1.14)	(1.15)
Completed HS (Mom)	8.74	4.10	102.26	102.89
	(0.25)	(0.02)	(0.65)	(0.59)
Some college (Mom)	8.07	4.15	107.31	108.50
	(0.25)	(0.02)	(0.90)	(0.66)
College graduate (Mom)	6.55	4.23	112.88	115.95
	(0.28)	(0.03)	(0.90)	(0.82)
College+ (Mom)	7.34	4.19	116.70	114.78
	(0.46)	(0.04)	(1.57)	(1.26)
Observations	5609	5712	5294	5280

Mean (Standard error in parenthesis)
* Active and Passive time are measured in hours.
** NW: Not Working
  PT: Working Part time (less than 30 hours)
  FT: Working Full Time

CHAPTER 5. EFFECT OF MATERNAL EMPLOYMENT ON THE MOTHER-CHILD TIME

In order to test the relationship between mother's employment and the time spent with children, I separately estimate the following two equations:

$$T_{it} = \propto_{T0} + \alpha_{T1}H_{it} + \alpha_{T2}X_{it} + \theta_{Ti} + \epsilon_{it} \quad (6)$$

$$A_{it} = \propto_{A0} + \alpha_{A1}H_{it} + \alpha_{A2}X_{it} + \theta_{Ai} + \epsilon'_{it} \quad (7)$$

Where *T* and *A* respectively measure the total and the active hours per week that each mother spends with the child *i* at time *t*. *H* is the amount of hours a mother works per week. *X* captures observable characteristics of the child, the mother and the family. θ represents unobserved time-invariant characteristics.

Given the impossibility to control for unobservable characteristics, OLS estimates of equations (6) and (7) may be biased. The longitudinal nature of the PSID-CDS allows the use of fixed-effects (FE) estimations. This approach eliminates bias resulting from unobserved time invariant characteristics. However, it will not eliminate the bias from unobserved time-varying variables that could affect the mother's decision on how much time to spend with her child. I estimate the above equations (6) and (7) by the child and family (mother) FE regressions. Detailed results are reported in Tables 4, 5, 6 and 7.

Table 4 reports the results of the FE estimations of the effect of maternal employment on children's time with mothers. Maternal employment is illustrated by a continuous measure of the number of hours a mother worked per week. The mother and child FE are similar in magnitude to each other and show that maternal employment is negatively associated with total and active time children spend with their mother. Those results suggest that each additional 10 hours of work per week is associated with a 1.2 hour reduction in total mother-child time and a 36 min drop in active mother-child time.

More specifically, a mother deciding to work full-time per week (e.g. 40 h. per week) reduces her total time with her child by 4.8 hours per week. Similarly, she reduces quality (active) time by 2.4 hours per week.

Table 4: Effect of Maternal Employment on Mother-Child Time (N=5875)

	Child FE		Family (Mother) FE	
	(1) Total Time	(2) Active Time	(3) Total Time	(4) Active Time
Hours worked per week	-0.12***	-0.06***	-0.12***	-0.06***
	(0.02)	(0.02)	(0.02)	(0.02)
Child age (years)	-2.67***	-2.54***	-2.60***	-2.50***
	(0.26)	(0.20)	(0.22)	(0.16)
Child age^2	0.07***	0.06***	0.06***	0.06***
	(0.01)	(0.01)	(0.01)	(0.01)
# of children in the family	0.14	-0.22	-0.02	-0.18
	(0.45)	(0.32)	(0.41)	(0.30)
Female headed household	2.10	1.93*	1.71	1.62*
	(1.25)	(0.90)	(1.05)	(0.77)
Parental warmth (mother)	2.92***	1.41**	2.72***	1.36**
	(0.68)	(0.54)	(0.58)	(0.42)

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

I additionally estimate models stratified by children's age, gender and mothers' education. In Table 5, I estimate the effect of maternal employment on the mother-child time stratified by children's age. I split my results based on the age of the child into three age groups: 0-6, 6-12 and 12 years and older. Both child and mother FE show no statistical effect of maternal employment on mother-child time for children younger than 6 years old. For children aged between 6 and 12 years, only the mother FE suggests a statistically significant negative effect where a mother working additional 10 hours reduces her total time with the child by 1.2 hours. Notice also that this reduction comes mainly with a decline in the amount of active time (1.1 h less). The negative effect of maternal time on children older than 12 years old is suggested by both child and mother FE. However, this negative effect is only significant on total time. These results suggest that a mother working 40 hours per week will reduce total time with her child (12 years and older) by 9.2 hours.

Table 5: Effect of Maternal Employment on Mother-Child Time by Age of the Child

	Child FE						Family (mother) FE					
	Age 0-6		Age 6-12		Age 12 +		Age 0-6		Age 6-12		Age 12 +	
	(1) Total time	(2) Active time	(3) Total time	(4) Active time	(5) Total time	(6) Active time	(7) Total time	(8) Active time	(9) Total time	(10) Active time	(11) Total time	(12) Active time
Hours worked per week	-0.05	-0.01	-0.10	-0.09	-0.23**	-0.04	0.06	0.03	-0.12*	-0.11**	-0.24***	-0.07
	(0.19)	(0.23)	(0.08)	(0.05)	(0.09)	(0.05)	(0.18)	(0.19)	(0.06)	(0.04)	(0.07)	(0.04)
# of children in the family	-4.90	-2.66	-5.29*	-5.67***	4.69***	2.35***	-5.70	-3.49	-2.19	-1.51	2.82***	1.75***
	(4.60)	(3.91)	(2.31)	(1.60)	(1.04)	(0.68)	(4.38)	(3.51)	(1.30)	(1.02)	(0.84)	(0.49)
Female headed household	0.97	-4.21	2.16	3.51	0.97	0.90	-0.95	-4.88	2.39	1.92	-3.89	-2.23
	(6.11)	(5.99)	(4.45)	(2.55)	(5.07)	(3.32)	(5.58)	(5.14)	(3.50)	(2.23)	(3.55)	(2.15)
Parental warmth (mother)	15.16**	17.46***	2.44	1.94	5.98***	3.57**	10.69***	10.76***	1.99	0.92	4.71***	1.78*
	(5.23)	(4.24)	(2.63)	(1.65)	(1.79)	(1.10)	(3.01)	(2.45)	(1.29)	(0.90)	(1.22)	(0.75)
N	1140	1140	2385	2385	2350	2350	1140	1140	2385	2385	2350	2350

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Results in Table 6 show the effect of maternal employment on mother-child time by looking at child's gender. I find similar results in the reduction of mother-child total time for boys and girls. However, I find a slightly greater reduction for boys compared to girls when it comes to active time. A mother working 40 hours/week reduces total time by 4.8 hours/week for both boys and girls. Of this amount, a 2.8 hours/week less in active time for boys versus 2.4 hours/per week for girls.

Table 6: Effect of Maternal Employment on Mother-Child time by Child's Gender

	Child FE				Family (mother) FE			
	Boys		Girls		Boys		Girls	
	(1) Total Time	(2) Active time	(3) Total Time	(4) Active time	(1) Total Time	(2) Active time	(3) Total Time	(4) Active time
Hours worked per week	-0.12***	-0.07**	-0.12***	-0.06*	-0.12***	-0.07**	-0.12**	-0.06*
	(0.03)	(0.02)	(0.03)	(0.03)	(0.04)	(0.02)	(0.04)	(0.03)
Child age (years)	-2.29***	-2.33***	-3.06***	-2.76***	-2.19***	-2.29***	-3.02***	-2.70***
	(0.37)	(0.27)	(0.36)	(0.29)	(0.37)	(0.26)	(0.36)	(0.29)
Child age^2	0.05**	0.05***	0.09***	0.07***	0.04*	0.05***	0.08***	0.07***
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)
# of children in the family	-0.01	-0.49	0.37	0.10	-0.26	-0.52	0.37	0.11
	(0.63)	(0.42)	(0.64)	(0.48)	(0.66)	(0.43)	(0.66)	(0.50)
Female headed household	1.92	1.06	2.31	2.70	1.60	0.97	2.03	2.46
	(1.76)	(1.12)	(1.77)	(1.38)	(1.89)	(1.17)	(1.96)	(1.58)
Parental warmth (mother)	2.49*	1.94**	3.47***	0.84	2.62**	1.91**	3.28***	0.96
	(0.97)	(0.72)	(0.98)	(0.79)	(0.93)	(0.67)	(0.96)	(0.76)
N	2966	2966	2909	2909	2966	2966	2909	2909

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

I also analyze these results with respect to the mother's level of education. I estimate the effect of maternal employment on mother-child time for mothers who did not finish HS (high-school), completed HS, completed some college and with college degree and more. The reduction in both total and active time is mainly significant among mothers who have completed HS or some college education. According to Table 7, children of these mothers are the most negatively affected by maternal employment. For highly educated mothers (college degree and more), a slightly negative effect is detected on total time using child FE. This negative effect becomes insignificant when using mother FE. On the contrary, maternal employment does not have any effect on mother-child active time. For children of HS dropout mothers, the only significant effect was on quality time.[11]

Results imply that maternal employment leads to a reduction in both quantity and quality of mother-child time. However, it should be noticed that this negative relationship does not indicate a detrimental effect on child development. This effect will be explored in the following chapters by estimating child quality production functions.

---

[11] Results are based on a small sample (N=750)

Table 7: Effect of Maternal Employment on Mother-Child time, by Mother's Educational Attainment

	HS dropout		HS		Some college		College +	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Time	Active time	Total Time	Active time	Total Time	Active time	Total Time	Active time
A- Child FE								
Hours worked/ week	-0.07	-0.11**	-0.15***	-0.06*	-0.17***	-0.08*	-0.12*	-0.04
	(0.06)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.06)	(0.04)
Child age (years)	-4.98***	-4.21***	-2.87***	-2.31***	-2.43***	-2.24***	-2.16***	-1.98***
	(0.88)	(0.72)	(0.44)	(0.34)	(0.47)	(0.35)	(0.58)	(0.44)
Child age^2	0.17***	0.14***	0.07***	0.06***	0.05*	0.05**	0.05	0.04
	(0.04)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)
# of children in the family	0.51	0.28	-0.37	-0.39	0.87	-0.44	-1.00	-1.30
	(1.27)	(0.85)	(0.79)	(0.56)	(0.94)	(0.58)	(1.00)	(0.71)
Female headed household	-0.13	4.06	-0.42	0.38	3.28	1.80	-3.30	-2.17
	(4.71)	(3.02)	(2.28)	(1.58)	(2.54)	(1.62)	(4.33)	(3.12)
Parental warmth (mother)	3.72*	2.83	3.03**	1.46	1.17	0.85	4.57*	3.03*
	(1.78)	(1.46)	(1.13)	(0.92)	(1.36)	(0.91)	(1.91)	(1.30)
N	750	750	2117	2117	1636	1636	1109	1109
B- Family (mother) FE								
Hours worked/ week	-0.07	-0.11*	-0.15***	-0.06*	-0.16**	-0.07	-0.11	-0.05
	(0.07)	(0.05)	(0.04)	(0.03)	(0.05)	(0.04)	(0.06)	(0.04)
Child age (years)	-4.82***	-3.94***	-2.64***	-2.16***	-2.51***	-2.42***	-1.91**	-1.95***
	(0.88)	(0.68)	(0.42)	(0.31)	(0.45)	(0.34)	(0.60)	(0.44)
Child age^2	0.16***	0.14***	0.06**	0.05***	0.05**	0.05***	0.04	0.04
	(0.04)	(0.03)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)
# of children in the family	0.83	0.22	-0.66	-0.47	0.68	-0.17	-1.40	-1.21
	(1.40)	(0.90)	(0.84)	(0.59)	(1.01)	(0.59)	(0.99)	(0.75)
Female headed household	-0.47	4.02	-0.74	0.20	2.92	1.44	-2.90	-2.07
	(5.89)	(3.78)	(2.69)	(1.62)	(2.90)	(1.85)	(4.40)	(3.24)
Parental warmth (mother)	3.70*	2.51*	2.59*	1.24	1.42	0.71	4.90*	3.44**
	(1.54)	(1.26)	(1.07)	(0.84)	(1.25)	(0.79)	(1.96)	(1.22)
N	750	750	2117	2117	1636	1636	1109	1109

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CHAPTER 6. EFFECT OF MATERNAL EMPLOYMENT ON CHILD OUTCOMES: ACTIVE-PASSIVE MEASURE.

6.1. Empirical strategy.

In modeling the child cognitive and non-cognitive production functions, I rely on the "Value Added" (VA) approach commonly used in the field of economics of education (Cunha and Hackman 2003, Todd and Wolpin 2003, 2007). By ignoring for simplicity all other control variables, I model the production function of outcome *Y* of child *i* observed at age *t* as follow:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it-1} + \beta_3 X_{it-2} + \beta_4 X_{t-3} + \beta_5 X_{t-4} + \cdots + \theta_i + \varepsilon_{it} \ (8)$$

This illustration assumes that the production function is additive, separable and linear in its arguments. It is also invariant from a period to another. *X* comprises active and passive maternal time. According to this specification, all contemporaneous and lagged observed inputs affect child's skills. θ_i incorporates child's ability and maternal unobserved characteristics (both μ_{ij} and α_i from equation (5)) and ε is a random error term.

Given the longitudinal nature of the CDS data, each child is observed for a maximum of three periods with a 5 years gap each. Thus, outcomes and inputs measures are only available in three different points in time (CDS-I, CDS-II and CDS-III). Estimating equation (8) by OLS regression suffers from an endogenity problem related to maternal time input. In order to deal with this issue, I refer to previous work done by Todd and Wolpin (2003, 2007) and Fiorini and Keane (2012). I present below the several estimation techniques used in this study.

6.1.A.   Child Fixed Effects "FE"

I first employ child fixed-effects estimation to take care of the endogenity problem. When the child is observed for two periods only, fixed-effects estimation corresponds to first difference:

$$\Delta Y_{it} = \Delta X_{it} + \cdots + \Delta \varepsilon_{it} \quad (9)$$

When the child is observed for three periods (all CDS waves), fixed-effects estimation corresponds to subtracting child level means from both sides of the equation and regressing demeaned outcome measures on demeaned input variables. This procedure consists on cancelling out unobservable child's and mother's characteristics (θ_i). This technique relies on very strict assumptions such as assuming that observed maternal inputs are exogenous and constant by age. It also assumes that omitted inputs are constant by age. Thus, the child fixed effect is problematic because from one side, it eliminates a large amount of variation in the data. From the other side, it risks amplifying the bias in the case of a measurement error.

6.1.B.   The Value-Added Approach.

Another way to deal with the endogeneity issues is to rely on the value added approach with different specifications:

1) <u>The Cumulative (Augmented) Value Added Model "CVA":</u>

$$Y_{it} = \beta_1 X_{it} + \beta_2 X_{it-1} + \beta_3 X_{it-2} + \cdots + \gamma Y_{it-1} + \varepsilon_{it} \quad (10)$$

This specification allows for the full history of observed inputs (contemporaneous and lagged) to affect child's outcome. Lagged outcome is also included to control for unobserved ability. It also takes care of the idea that mothers usually adjust their time investment depending on the child's past achievement (Todd and Wolpin 2007).

According to data availability, all inputs and outcomes are measured at three points in the child's life, each with a 5 years gap (e.g. a child observed at the age of 3 years old is then followed when aged 8 and lastly at 13 years old).

2) The Cumulative Model "CU":

By assuming $\gamma = 0$ in equation (10), the model includes only contemporaneous and observable lagged inputs. This specification relies on the assumption that including a large number of control variables serves as a proxy for unobserved inputs and innate ability.

3) The Value-Added Model "VA":

By assuming β_2 and $\beta_3 = 0$, the specification is then known by the Value-Added model. In this case, the child's outcome is related to contemporaneous inputs and lagged outcome. Here, I assume that lagged outcome measure incorporates sufficient information for past inputs and child's ability.

4) The Restricted Value Added Model "RVA":

There might be a problem when estimating the VA model if lagged outcome is correlated with the error term. To deal with issue, I estimate a restricted value added specification. Subtracting γY_{i-1} from equation (10) and collecting terms yield to:

$$Y_{it} - \gamma Y_{it-1} = \beta_1 X_{it} + (\beta_2 - \gamma\beta_1)X_{it-1} + (\beta_3 - \gamma\beta_2)X_{it-2} + \cdots + (\varepsilon_{it} - \varepsilon_{it-1}) \quad (11)$$

Furthermore, by assuming $\gamma = 1$ and the effect of each input is independent of the child's age ($\beta_1 = \beta_2 = \beta_3$), equation (11) represents the incremental change in child's outcome as a function of contemporaneous inputs. focusing on the gain in outcome, rather than the level, eliminates the need to adjust for lagged maternal inputs.

6.2.   Results

Tables 8, 9, 10 and 11 report the estimation results for the cognitive and non-cognitive production functions. In order to account for the fact that the data contain siblings, I cluster standard errors by household. For the sake of comparison, I include the OLS results in column (1) of all tables. Column (2) presents the child fixed effect results (FE). In Columns (3) and (4), I report respectively the results of the cumulative specification with one-period lag (CU1) and two period-lag (CU2) maternal time inputs. Column (5) presents the estimates of the value added specification (VA). As for columns (6) and (7), I report the cumulative value added models with respectively one (CVA1) then two (CVA2) period-lag maternal time inputs. Finally, Column (8) shows the estimates of the restricted value added specification (RVA). In the following subsections, I analyze in detail the results of each outcome measure.

6.2.A.   Non-Cognitive measures:

6.2.A.1.   Behavioral Problem Index (BPI)

Table 8 shows the estimated effects on the BPI score for eight different specifications described above. Recall that the lower the BPI the better the outcome. The negative sign of the time input coefficients indicate beneficial effects on the BPI, as expected, though the coefficients are not statistically significant. I find only one significant association between time spent with the child and the BPI score—in the case of mother's active time in the CVA2 model, indicating that spending an additional hour actively engaged with the child reduces the BPI score by 0.02 standard deviations. There is also no evidence of any significant impact of lagged maternal time input (except in the CVA2). In the CVA2 model, results indicate that the one-period lag of active time increases

behavioral problems while the one-period lagged passive time decreases behavioral problems. The apparent detrimental effect of lagged active time even though lagged BPI is controlled for, is the opposite of the expected causal effect and requires further investigation. Coefficients on the lagged BPI outcome are large and highly significant in all specifications where it is included.

Children whose mothers have only completed high school have significantly more behavioral problems than those whose mothers completed some college in most specifications. I do not find mother's employment status to be statistically significant in any of the models. I find strong effects of parental warmth, mothers' distress and neighborhood safety in most specifications and in the expected direction. The more unsafe the neighborhood, the higher the child's score. A one unit increase in mother's warmth index reduces the child's BPI score by 0.39 standard deviations in CVA1. The coefficients on the mothers' distress are all significant and in the expected direction, indicating a strong positive relationship between the mother's stress level and the child's behavioral problems.

Among the control variables, I find evidence of both gender and race differences in both CU1 and CU2 specifications. Boys tend to have more behavioral problems than girls, and white children more so than black. According to the same estimators, children who live with both parents experience less behavioral problems than those in a single-mother family. Each additional child in the house reduces the child's BPI by 0.17 standard deviations, and children with low birth weight have higher BPI than those with normal birth weight per CVA2. Child's age is significant, implying that older children score higher on the BPI which indicates having higher behavioral problems (except CU1 and RVA).

Table 8: Positive Behavior Scale-PBS

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive Time	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00*			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.71***	0.72***	0.79***	
					(0.03)	(0.03)	(0.03)	
Not working (mom)	0.09**		0.09*	0.07	0.06**	0.06*	0.03	0.12*
	(0.03)		(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.05)
Working part time (mom)	-0.03		-0.04	-0.08	-0.01	-0.01	-0.02	-0.03
	(0.03)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
HS dropout (mom)	0.23***		0.22***	0.27***	0.10**	0.10**	0.06	0.15*
	(0.05)		(0.06)	(0.07)	(0.04)	(0.04)	(0.03)	(0.07)
Some college (mom)	0.07		0.09*	0.12*	0.03	0.03	0.06*	-0.03
	(0.04)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
College + (mom)	0.11**		0.12**	0.18***	0.04	0.04	0.05	-0.02
	(0.04)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
Hours of work (mom)		-0.00						
		(0.00)						
Years of education (mom)		0.00						
		(0.02)						
Parental warmth	0.20***	0.13***	0.20***	0.20***	0.08***	0.07***	0.05*	0.04
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Distress index (mom)	-0.03***	-0.02***	-0.03***	-0.03***	-0.01**	-0.01**	-0.01	-0.02**
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.04**	-0.02	-0.03*	-0.05**	-0.00	-0.00	-0.02	-0.02
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
HH Cognitive scale	-0.00	0.01	0.00	0.00	0.00*	0.01*	0.01*	0.18
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.13)
Family Income (log)	-0.01	0.03	0.00	-0.02	0.01	0.01	-0.01	0.02
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
Child age (years)	0.00	-0.01	0.02	0.03	0.01	0.01	-0.01	-0.05
	(0.02)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.07)
Child age^2	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.16*		-0.17*	-0.16	-0.05	-0.04	-0.03	0.06
	(0.07)		(0.07)	(0.08)	(0.04)	(0.04)	(0.05)	(0.05)
Black (child)	0.16**		0.16*	0.20*	0.04	0.04	0.10*	0.01
	(0.05)		(0.07)	(0.09)	(0.04)	(0.05)	(0.05)	(0.05)
Hispanic (child)	0.31***		0.31***	0.34***	0.07	0.07	0.13***	-0.05
	(0.05)		(0.06)	(0.07)	(0.04)	(0.04)	(0.04)	(0.07)
Other race (race)	0.08		0.10	0.17*	0.04	0.03	0.13**	0.03
	(0.05)		(0.06)	(0.08)	(0.03)	(0.03)	(0.05)	(0.08)
Male (child)	-0.15***		-0.15***	-0.16***	-0.03	-0.03	-0.05*	0.03
	(0.03)		(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Biol. Mother	-0.10*	-0.00	-0.08	-0.09	0.02	0.03	0.03	0.01
	(0.04)	(0.05)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
# of children	0.01	0.01	0.01	0.02	0.00	0.00	0.01	0.02
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
Cons	3.52***	3.34***	3.23***	3.51***	0.65**	0.61**	0.75***	-0.36
	(0.24)	(0.35)	(0.29)	(0.36)	(0.20)	(0.20)	(0.22)	(0.51)
N	4875	4875	3001	1386	2780	2733	1386	2080
R^2	0.16	0.05	0.15	0.19	0.58	0.59	0.72	0.04
adj. R^2		0.05						

*Note: Standard errors in parenthesis; * p<0.01, **p<0.05, *** p<0.001*
Results are weighted.
Active and Passive time are in hours.

6.2.A.2 Positive Behavior Scale (PBS)

The estimated effects of active and passive maternal time on the PBS are reported in Table 9. Here again, there is no significant association between maternal time inputs and the child performance on the PBS. Results of the CVA2 model indicate that the two-period lagged passive time decreases the child's score on the PBS. Coefficients on the lagged PBS outcome are positive and significant.

I find a slight impact of maternal education and employment. Children whose mothers completed high-school score lower than all other children. Children of non-working mothers score 0.06 standard deviation higher than those of full-time working mothers.

I only find significant impact of neighborhood safety in both CU1 and CU2 specifications. The coefficients of mother's warmth and distress are statistically significant in most specifications with the expected sign.[12] Moreover, the coefficient on the household cognitive scale measure is significant but quantitatively small (VA and both CVA models). Girls score 0.15 to 0.16 standard deviations higher than boys in both CU1 and CU2 specifications. Children with low birth weight score 0.17 standard deviations less on the PBS than those with normal birth weight (per CU1).

---

[12] Except: in the RVA model for mother's warmth and in the CVA2 model for mother's distress.

Table 8: Positive Behavior Scale-PBS

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive Time	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00*			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.71***	0.72***	0.79***	
					(0.03)	(0.03)	(0.03)	
Not working (mom)	0.09**		0.09*	0.07	0.06**	0.06*	0.03	0.12*
	(0.03)		(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.05)
Working part time (mom)	-0.03		-0.04	-0.08	-0.01	-0.01	-0.02	-0.03
	(0.03)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
HS dropout (mom)	0.23***		0.22***	0.27***	0.10**	0.10**	0.06	0.15*
	(0.05)		(0.06)	(0.07)	(0.04)	(0.04)	(0.03)	(0.07)
Some college (mom)	0.07		0.09*	0.12*	0.03	0.03	0.06*	-0.03
	(0.04)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
College + (mom)	0.11**		0.12**	0.18***	0.04	0.04	0.05	-0.02
	(0.04)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
Hours of work (mom)		-0.00						
		(0.00)						
Years of education (mom)		0.00						
		(0.02)						
Parental warmth	0.20***	0.13***	0.20***	0.20***	0.08***	0.07***	0.05*	0.04
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Distress index (mom)	-0.03***	-0.02***	-0.03***	-0.03***	-0.01**	-0.01**	-0.01	-0.02**
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.04**	-0.02	-0.03*	-0.05**	-0.00	-0.00	-0.02	-0.02
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
HH Cognitive scale	-0.00	0.01	0.00	0.00	0.00*	0.01*	0.01*	0.18
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.13)
Family Income (log)	-0.01	0.03	0.00	-0.02	0.01	0.01	-0.01	0.02
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
Child age (years)	0.00	-0.01	0.02	0.03	0.01	0.01	-0.01	-0.05
	(0.02)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.07)
Child age^2	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.16*		-0.17*	-0.16	-0.05	-0.04	-0.03	0.06
	(0.07)		(0.07)	(0.08)	(0.04)	(0.04)	(0.05)	(0.05)
Black (child)	0.16**		0.16*	0.20*	0.04	0.04	0.10*	0.01
	(0.05)		(0.07)	(0.09)	(0.04)	(0.05)	(0.05)	(0.05)
Hispanic (child)	0.31***		0.31***	0.34***	0.07	0.07	0.13***	-0.05
	(0.05)		(0.06)	(0.07)	(0.04)	(0.04)	(0.04)	(0.07)
Other race (race)	0.08		0.10	0.17*	0.04	0.03	0.13**	0.03
	(0.05)		(0.06)	(0.08)	(0.03)	(0.03)	(0.05)	(0.08)
Male (child)	-0.15***		-0.15***	-0.16***	-0.03	-0.03	-0.05*	0.03
	(0.03)		(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Biol. Mother	-0.10*	-0.00	-0.08	-0.09	0.02	0.03	0.03	0.01
	(0.04)	(0.05)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
# of children	0.01	0.01	0.01	0.02	0.00	0.00	0.01	0.02
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
Cons	3.52***	3.34***	3.23***	3.51***	0.65**	0.61**	0.75***	-0.36
	(0.24)	(0.35)	(0.29)	(0.36)	(0.20)	(0.20)	(0.22)	(0.51)
N	4875	4875	3001	1386	2780	2733	1386	2080
R^2	0.16	0.05	0.15	0.19	0.58	0.59	0.72	0.04
adj. R^2		0.05						

*Note: Standard errors in parenthesis; * p<0.01, **p<0.05, *** p<0.001*
Results are weighted.
Active and Passive time are in hours.

6.2.B.   Cognitive Measures

6.2.B.1.   Letter Word Test (LW)

The results reported in Table 10 do not show any significant association between mother-child time and children's performance in the LW test. There is also no evidence of any significant impact of lagged maternal time inputs. The only exception is reported in the CU2 model. Results indicate a negative effect of the one-period lagged passive time. Coefficients on the lagged LW score are highly significant in all specifications where it is included.

I find evidence of a significant effect of maternal education on children's performance in the LW test. Children whose mothers dropped out of high-school score from 3.88 to 4.86 standard deviations lower (CU1 and CU2 respectively) than those whose mothers completed high-school. Moreover, children whose mothers completed some college education and those of highly educated mothers perform significantly better than children whose mothers have just high school completion. Children whose mothers are not working score higher than those whose mothers work full-time in both CU1 and CU2 specifications. I do not find parental warmth and the household cognitive scale measure to be statistically significant. The coefficients of the mother's distress are significant and negative, indicating a detrimental effect on the child's score (CU1, VA and CVA1 specifications).

Black children perform less than white in all specifications. As for Hispanic children, they score significantly less than white children in three specifications (VA, CVA1 and RVA). I find evidence of a gender difference in the CU1 and CU2 specifications. Girls tend to perform from 2.68 to 3.27 standard deviations higher than boys.

Table 10: Letter Word Test- LW

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.01	0.04	0.00	0.03	-0.00	0.01	0.03	0.05
	(0.02)	(0.02)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Passive time	0.07***	0.02	0.05	0.00	0.01	0.01	-0.02	0.04
	(0.02)	(0.02)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Active time (1-lag)			0.00	-0.02		-0.01	-0.05	
			(0.03)	(0.05)		(0.02)	(0.03)	
Passive time (1-lag)			0.02	0.11*		-0.00	0.03	
			(0.03)	(0.05)		(0.02)	(0.02)	
Active time (2-lag)				-0.01			-0.02	
				(0.03)			(0.02)	
Passive time (2-lag)				0.04			0.02	
				(0.04)			(0.02)	
LW (1-lag)					0.78***	0.79***	0.84***	
					(0.01)	(0.01)	(0.01)	
Not working (mom)	1.68*		2.38**	2.91*	0.59	0.56	0.98	-0.38
	(0.67)		(0.86)	(1.26)	(0.57)	(0.57)	(0.65)	(0.95)
Working part time (mom)	2.31***		1.73	2.54	-0.47	-0.33	0.14	-1.28
	(0.70)		(0.90)	(1.31)	(0.59)	(0.59)	(0.68)	(0.96)
HS dropout (mom)	-3.98***		-3.88***	-4.86**	-0.09	-0.05	-0.34	1.79
	(0.89)		(1.16)	(1.71)	(0.78)	(0.78)	(0.89)	(1.27)
Some college (mom)	3.83***		4.15***	2.56*	1.16*	1.20*	0.60	0.17
	(0.61)		(0.79)	(1.16)	(0.52)	(0.52)	(0.60)	(0.84)
College + (mom)	8.65***		8.00***	8.44***	2.00**	1.93**	1.70*	1.18
	(0.72)		(0.93)	(1.36)	(0.62)	(0.62)	(0.71)	(1.02)
Hours of work (mom)		-0.03						
		(0.02)						
Years of education (mom)		0.50						
		(0.45)						
Parental warmth	-0.48	0.04	-0.52	-0.40	0.08	0.11	0.37	-0.48
	(0.42)	(0.61)	(0.56)	(0.83)	(0.36)	(0.36)	(0.43)	(0.56)
Distress index (mom)	-0.20**	-0.19	-0.19*	-0.25	-0.13*	-0.15*	-0.12	-0.10
	(0.07)	(0.11)	(0.09)	(0.13)	(0.06)	(0.06)	(0.07)	(0.10)
neighborhood	-0.55*	0.12	-0.67*	-0.93*	0.09	0.11	0.04	-0.11
	(0.24)	(0.38)	(0.32)	(0.47)	(0.21)	(0.21)	(0.24)	(0.34)
HH Cognitive Scale	0.08	-0.33***	0.07	-0.09	0.09	0.07	0.09	4.29
	(0.08)	(0.09)	(0.10)	(0.15)	(0.06)	(0.07)	(0.08)	(2.32)
Family Income (log)	0.76*	-0.04	0.85*	0.31	0.30	0.29	0.12	-0.26
	(0.31)	(0.43)	(0.43)	(0.64)	(0.28)	(0.28)	(0.33)	(0.45)
Child age (years)	1.95***	1.12**	2.46***	2.13**	1.34***	1.28***	1.60***	-10.26***
	(0.39)	(0.37)	(0.50)	(0.74)	(0.33)	(0.32)	(0.38)	(1.36)
Child age^2	-0.10***	-0.08***	-0.12***	-0.11***	-0.06***	-0.06***	-0.07***	0.34***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.05)
Low birth weight	-1.60		-1.77	-3.20	-0.13	-0.05	0.84	-2.29
	(0.89)		(1.18)	(1.74)	(0.78)	(0.78)	(0.90)	(1.26)
Black (child)	-6.24***		-6.53***	-5.81***	-2.61***	-2.49***	-0.34	-4.04***
	(0.63)		(0.82)	(1.24)	(0.55)	(0.55)	(0.65)	(0.88)
Hispanic (child)	-1.29		-1.93	-1.75	-1.89*	-1.95*	0.68	-3.92**
	(1.08)		(1.39)	(2.03)	(0.95)	(0.94)	(1.05)	(1.51)
Other race (child)	1.41		1.97	3.06	0.76	0.81	2.96*	-2.82
	(1.33)		(1.71)	(2.54)	(1.15)	(1.15)	(1.32)	(1.98)
Male (child)	-3.78***		-3.27***	-2.68**	-0.30	-0.32	0.12	0.54
	(0.49)		(0.64)	(0.93)	(0.42)	(0.42)	(0.48)	(0.68)
Biol. Mother	-1.34*	0.71	-1.42	-2.99*	-0.21	-0.41	-1.65**	0.55
	(0.63)	(1.60)	(0.83)	(1.23)	(0.54)	(0.54)	(0.64)	(0.86)
# of children	-1.29***	-0.07	-1.33***	-1.58***	-0.20	-0.19	-0.34	0.52
	(0.25)	(0.48)	(0.32)	(0.48)	(0.21)	(0.21)	(0.25)	(0.35)
cons	94.43***	97.36***	91.65***	99.66***	13.02**	13.37**	6.27	73.71***
	(4.71)	(7.48)	(6.29)	(9.44)	(4.29)	(4.29)	(5.12)	(10.73)
N	4678	4678	2879	1332	2587	2561	1322	1905
R²	0.18	0.05	0.18	0.20	0.68	0.69	0.79	0.08

*Note: Standard errors in parenthesis; * p<0.01, **p<0.05, *** p<0.001 Results are weighted. Active and Passive time are in hours.*

6.2.B.2. Applied Problem Test (AP)

The results reported in Table 11 do not show any statistical association between maternal time inputs and children's performance in the AP test. Similar to the results of other outcomes, the effect of lagged maternal inputs is negligent and insignificant. However, lagged test score is an important and significant determinant of present test score.

Children of high school (HS) mothers score higher than children of HS dropout mothers and lower than those of highly educated mothers. Mother's employment is negatively associated with children's outcome (as per the CU1 and CU2 specifications). Children of non-working or part-time working mothers perform higher than those of full-time working mothers.

I do not find parental warmth to be statistically significant in any of the models. However, I find a strong effect of the household cognitive scale measure in all specifications. Neighborhood safety is negatively associated with the child's outcome in both CU1 and CU2 specifications. Nevertheless, the coefficients of the mother's distress index are negative and statistically significant (as per the CU1, CU2 and CV2 specifications).

Black and Hispanic children perform lower than white children (except RVA). On average, boys tend to score higher than girls (except CU2 and CVA2). The number of children in the household has a negative impact on the child's test score.

Table 11: Applied Problem Test- AP

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.03	-0.01	-0.05	0.00	-0.03	-0.03	-0.02	-0.02
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Passive time	0.02	-0.02	-0.00	-0.02	-0.00	0.01	-0.03	0.00
	(0.02)	(0.02)	(0.02)	(0.04)	(0.01)	(0.02)	(0.02)	(0.02)
Active time (1-lag)			-0.00	-0.02		-0.00	-0.01	
			(0.02)	(0.04)		(0.02)	(0.02)	
Passive time (1-lag)			0.01	0.03		-0.02	0.03	
			(0.02)	(0.04)		(0.02)	(0.02)	
Active time (2-lag)				-0.03			-0.00	
				(0.03)			(0.02)	
Passive time (2-lag)				0.06			0.02	
				(0.03)			(0.02)	
AP (1-lag)					0.68***	0.68***	0.83***	
					(0.01)	(0.01)	(0.02)	
Not working (mom)	2.10***		2.88***	3.94***	0.75	1.02	0.60	0.72
	(0.58)		(0.74)	(1.11)	(0.53)	(0.53)	(0.62)	(0.89)
Working part time (mom)	2.37***		1.99**	3.48**	0.60	0.72	1.16	-0.06
	(0.61)		(0.77)	(1.15)	(0.56)	(0.55)	(0.64)	(0.90)
HS. Dropout (mom)	-1.89*		-2.54*	-3.86*	-0.53	-0.74	-1.27	1.79
	(0.77)		(0.99)	(1.51)	(0.73)	(0.73)	(0.84)	(1.20)
Some college (mom)	3.44***		3.36***	2.87**	0.78	0.79	0.74	-0.97
	(0.53)		(0.68)	(1.02)	(0.49)	(0.48)	(0.57)	(0.79)
College + (mom)	7.98***		7.36***	7.04***	2.09***	2.09***	0.67	-1.02
	(0.63)		(0.79)	(1.19)	(0.58)	(0.57)	(0.67)	(0.96)
Hours of work (mom)		-0.03						
		(0.02)						
Years of education (mom)		1.11						
Parental warmth	-0.15	0.06	0.18	0.01	0.40	0.41	-0.16	-0.41
	(0.36)	(0.61)	(0.48)	(0.73)	(0.34)	(0.34)	(0.40)	(0.52)
Distress index (mom)	-0.22***	-0.22*	-0.25**	-0.27*	-0.07	-0.09	-0.17**	0.14
	(0.06)	(0.09)	(0.08)	(0.12)	(0.06)	(0.06)	(0.07)	(0.09)
Neighborhood	-0.95***	-0.06	-1.00***	-1.25**	-0.30	-0.23	-0.08	-0.19
	(0.21)	(0.30)	(0.27)	(0.41)	(0.20)	(0.20)	(0.23)	(0.32)
HH Cognitive Scale	0.52***	0.50***	0.55***	0.53***	0.33***	0.30***	0.54***	4.39*
	(0.07)	(0.08)	(0.08)	(0.13)	(0.06)	(0.06)	(0.07)	(2.18)
Family Income (log)	1.35***	-0.07	1.39***	1.23*	0.33	0.24	-0.58	0.77
	(0.27)	(0.43)	(0.37)	(0.56)	(0.26)	(0.26)	(0.31)	(0.42)
Child age (years)	4.29***	3.92***	4.52***	4.75***	2.96***	2.87***	3.51***	-11.93***
	(0.34)	(0.35)	(0.43)	(0.65)	(0.31)	(0.30)	(0.36)	(1.28)
Childage^2	-0.19***	-0.17***	-0.20***	-0.21***	-0.14***	-0.14***	-0.15***	0.37***
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.05)
Low birth weight	-2.70***		-2.14*	-2.60	-0.28	-0.26	0.64	-0.12
	(0.77)		(1.01)	(1.53)	(0.73)	(0.72)	(0.85)	(1.19)
Black	-8.93***		-8.82***	-7.84***	-3.18***	-3.11***	-1.87**	-1.03
	(0.55)		(0.70)	(1.09)	(0.52)	(0.51)	(0.61)	(0.83)
Hispanic	-5.54***		-5.19***	-3.97*	-2.11*	-2.11*	-0.23	-0.13
	(0.94)		(1.19)	(1.79)	(0.88)	(0.87)	(0.99)	(1.42)
Other race	-3.21**		-2.65	0.09	-0.40	-0.37	0.12	0.32
	(1.16)		(1.46)	(2.22)	(1.08)	(1.07)	(1.24)	(1.85)
Male	0.82		1.15*	1.04	0.99*	1.01**	0.01	1.32*
	(0.43)		(0.55)	(0.82)	(0.40)	(0.39)	(0.45)	(0.64)
Biol. Mother	-0.04	0.52	0.25	-0.03	-0.14	-0.21	-0.56	1.25
	(0.54)	(1.55)	(0.71)	(1.08)	(0.51)	(0.51)	(0.60)	(0.81)
# of children	-0.78***	-0.65	-0.89**	-1.37**	-0.49*	-0.56**	-0.56*	0.24
	(0.22)	(0.39)	(0.28)	(0.42)	(0.20)	(0.20)	(0.23)	(0.33)
Cons	72.85***	71.41***	71.12***	72.71***	16.13***	17.79***	7.93	80.52***
	(4.08)	(11.18)	(5.38)	(8.28)	(3.99)	(3.97)	(4.74)	(10.10)
N	4663	4663	2869	1325	2575	2549	1316	1893
R²	0.27	0.14	0.27	0.28	0.66	0.67	0.78	0.15
adj. R²	0.27	0.14	0.27	0.27	0.66	0.66	0.77	0.14

*Note: Standard errors in parenthesis; * p<0.01, **p<0.05, *** p<0.001- Results are weighted. Active and Passive time are in hours.*

6.3.   Supplemental Analysis

In this section, I re-analyze the effect of mother-child time by looking at the mother's educational attainment and employment status. Results have always shown that lagged test score is a significant determinant of present test score.

6.3.A.   Effect on Child Outcome by Mother's Educational Attainment:

I analyze the relationship between the mother-child time and children outcomes with respect to the mother's educational attainment. In order to do this, I run the above regressions but stratified by the mother's educational level (HS dropout, HS completion, some college education, college degree and more). The regression results, reported in Appendix A, are summarized by group of children as follows:

Children of HS dropout mothers: I find evidence of a weak and negative association between mother-child time and children outcomes, indicating that spending an additional hour actively engaged with the child tends to increase his/her behavioral problem (CVA2), reduce his/her AP score (CVA1, CVA2) but increase his/her LW score (FE, CVA1). I also find strong effect of mother's distress on both cognitive and non-cognitive outcomes.

Children of HS completion mothers: The coefficients of active time inputs are significant and positive in the case of LW test, indicating a beneficial effect (FE, VA, CVA1 and CVA2). The child's performance in the AP test is mainly shaped by the household cognitive scale measure. Children's BPI score is mainly determined by the mother's warmth and distress as well as by neighborhood safety.

Children of some college education mothers: I find a weak association between time inputs and children non-cognitive outcomes. The positive sign of the active time input

coefficients indicate detrimental effects on the BPI (CU2 and CVA2). Those children tend to have more behavioral problem when their mothers are working full-time compared to non-working mothers. I also find a negative effect of passive time inputs on children's PBS (CU1 and VA). Moreover, I find strong effects of mother's warmth and distress on children non-cognitive outcomes. Children performance on the AP test is mainly shaped by the household cognitive scale measure.

Children of highly educated mothers: I find evidence of a weak association between passive time inputs and children's AP score (CU1 and CU2). The positive sign of the time input coefficients indicates beneficial effects on the AP test. Mother's distress is mainly affecting children's non-cognitive outcomes. I also find evidence of a weak effect of neighborhood safety on children's BPI and PBS score as well as AP score. I find evidence of a family status effect on children's LW score. Thus, children who live with both parents score higher than those in a single-mother family.

6.3.B. Effect on Child Outcomes by Mother's Employment Status:

I estimate the effect of mother-child time on child's outcomes separately for mothers who are not working, working part-time and working full-time. The results are reported in Appendix A.

Children of non-working mothers: I find a weak association between time inputs and children non-cognitive outcomes. Spending an additional hour simply present reduces the child behavioral problem (CVA1). However, spending an additional hour actively engaged has detrimental effects on the PBS score (CU1, VA, CVA1 and RVA). I find evidence of significant effects of mother's warmth and distress on both non-cognitive

outcomes. Moreover, I find the coefficients of active time inputs to be positive and significant in the case of the LW test (FE and CVA2).

Children of part-time working mothers: For this group of children, non-cognitive outcomes are mainly shaped by mother's warmth and distress.

Children of full-time working mothers: I find a weak association between time input and children BPI (CVA2) and LW score (CU1 and CVA2). Spending more time with the child has beneficial effects on his behavior problem and his reading skills. I find evidence of strong effects of mother's warmth and distress on both children non-cognitive outcomes. The coefficients of mothers' education are significant for both cognitive measures, indicating the higher the mother's educational attainment the higher the child's score in the AP and LW tests.

CHAPTER 7. ROBUSTNESS CHECKS

In order to assess the robustness of my results, I test additional specifications. Given that time diaries are randomly assigned, the data include a question about how typical was the day when the diary was collected. In my first specification, I reanalyze the above results using a typical sample where I only keep the dairies rated typical (answers 1 or 2 on the question).[13] Second, I test and compare two alternative samples. The first sample includes children 3 to 6 years old in wave 1 who are followed up to wave 2. The second sample consists of children 7 years and older in CDS-I who are followed up to CDS-II. Lastly, I add to the original model an interaction term between the mother's educational attainment and employment status. I always find evidence of a significant effect of lagged outcome on present outcome. All regressions are reported in Appendix B.

7.1.   Typicality of the Time Diaries.

A closer comparison between the original model and the model with the "typical" sample shows a significant effect of passive time inputs on the child BPI (VA, CVA1, and CVA2). The negative coefficients on the time inputs indicate beneficial effects on the child behavioral problem. Moreover, I find evidence of a weak and positive association between both active and passive time inputs and the child reading skills (CU1, CU2, and CVA2). Most other results are similar to the original model.

7.2.   Comparison between two Alternative Samples.

I find evidence of significant effect of passive time on children cognitive outcome. Spending more time simply present and not engaged has beneficial effects on the child

---

[13] Answers are on a scale of 5, where 1 indicates very typical.

LW score in sample 2. However, the same time input has detrimental effect on the child AP score in sample 1. Both samples report evidence of a strong association between the mother's distress index and the child's behavioral problem, and between mother's warmth and the child's PBS. According to sample 2 results, mother's education strongly influences children performance in LW and AP tests. Thus, children of highly educated mothers score higher than those of less educated mothers. Results of both samples indicate a small effect of the mother's employment status. Children of mothers who are not working or working part-time perform better than those of full-time employed mothers.

7.3.   Interaction between the Mother's Educational Attainment and Employment Status.

In this analysis, my benchmark for comparison is mothers who are not working and without a college degree.

BPI (Behavioral Problem Index): I do not find mother's education and employment status to be statistically significant in all specifications. I find strong effects of mother's distress index followed by parental warmth and neighborhood safety. Boys tend to have higher behavioral problem than girls and white children more so than black. Moreover, children who live with both parents experience less behavioral problem than those in a single-mother family.

PBS (Positive Behavior Scale): Results indicate a weak effect of mother's education and employment status. Children whose mothers don't have a college degree and are not working score 0.07 to 0.12 standard deviation more than children whose mothers are without a college degree but working full-time. The PBS score of the same children is 0.08 to 0.22 standard deviation higher than children of part-time working

mothers and without a college degree. I find strong effects of parental warmth, mother's distress and the household cognitive scale. Moreover, white children tend to have a higher PBS score than all other children.

LW (Letter Word): I find a significant association between the mother's education and employment status and the child performance in the LW test. The LW score of children whose mothers have a college education and are not working is 3.41 to 9.45 standard deviation higher than those whose mothers do not have a college degree and are not working. Moreover, children of full-time working mothers and without college degree perform lower than those whose mothers are not working and with no college degree. I find evidence of both gender and race differences. Girls tend to score higher than boys and white children more so than black. Results also indicate a weak effect of family status and neighborhood safety on the child's performance in the LW test.

AP (Applied Problem): The AP score of children whose mothers hold a college degree and are not working is 3 to 11 standard deviation higher than children whose mothers do not have a college degree and are not working. As for children of full-time working mothers and without a college degree, they score 4.81 to 5.4 standard deviation lower than those whose mothers are not working and without a college degree. [14] Moreover, children of mothers working full-time with college degree score higher than those whose mothers work full-time and without a college degree. I find a strong effect of the household cognitive scale and weak effects of neighborhood safety and mother's distress. Boys score higher than girls, and white children more so than black and Hispanic.

---

[14] (9.56-4.75=4.8; 11.24-5.84=5.4)

CHAPTER 8. THE EFFECT OF MOTHER-CHILD TIME ON CHILD OUTCOMES USING A QUALITY TIME INDEX.

8.1. Estimate Quality Index Using Multiple Correspondence Analysis

One aim of this study is to construct a quality time index by applying Multiple Correspondence Analysis (MCA). I postulate that the quality of a spell of time is multi-dimensional, and use MCA to summarize in a composite index all the information in the data related to the quality of each spell of mother-child time.

The analysis in this chapter comprises two parts. The first part consists of using MCA to estimate the quality time index. Second, the quality time index is multiplied by the duration of each spell in order to calculate a quality-adjusted measure (i.e., a quality-weighted sum) of the mother-child time. I then enter this as an input in the child production function in order to have a better understanding of the effect of the mother-child time on children's cognitive and non-cognitive outcomes.

The MCA technique is used to reduce the dimensionality of the data. It helps summarize in a single score all the information that could be captured by the correlation among different dimensions of quality. MCA is similar to principal component analysis (PCA) as they both provide a linear combination of the data by maximizing the variance (PCA) or the correlation (MCA). [15] PCA and MCA differ only in the type of data considered. PCA requires continuous variables and assumes a normal distribution. MCA, on the other hand, is more suitable for categorical data (ordered or unordered) where the difference between the categories is likely to be non-linear. Given that there is no clear definition of

---

[15] Widely used in social science

quality, I create my quality index based on questions addressed in the literature but also constrained by data availability.

8.1.A. Methodology:[16]

I use MCA to estimate the quality index by the following equation:

$$Q_i = \beta_1 Activitytype_i + \beta_2 Eng_i + \beta_3 Adultwith_i + \beta_4 Nokids_i + \beta_5 Time_i + \beta_6 SleepEnough_i + \varepsilon_i \quad (12)$$

with: $\beta_i = {}^1/_Q * (r_1 * I_{i1} + r_2 * I_{i2} + \cdots r_j I_{ij}) \quad (13)$

where Q_i represents the latent quality of each spell of activity, $r_1...r_j$ are the standard coordinates of the column categories for the first dimension and I_j is a binary indicator variable that takes the value 1 when the activity has the modality, and 0 otherwise. They contribute in calculating the predicted raw score of the composite index capturing quality time. The variables used in the estimation are defined as follows:[17]

$Activitytype_i$: This variable describes the type of activity the mother is performing with the child. It takes into account if the activity is performed alone or along a secondary activity. It also controls for the fact if the activity is enriching or non-enriching. Following Bernal et al. (2011), Fiorini and Kenae (2012) and Hsin and Felfe (2014), I classify both activities (primary and secondary) into enriching (e.g. educational activities: HW, reading…, structured activities: sports, music…) and non-enriching (e.g. personal care, household activities, doing nothing, in the car…). The construction of this variable consists of 6 categories as defined in Tables 1 and 2 of Appendix C.

Eng_i: This variable indicates if the mother is actively participating with the child or simply present.

---

[16] Greenacre (2007), Asselin (2008)

[17] A detailed description of theses variables are in Appendix C, tables (1, 2).

$Time_i$: The time variable represents at what time of the day the activity is performed. Following Stewart (2010), it matters when during the day parents spend time with their children. Research on circadian rhythms has shown that performing enriching activity at preferred time of the day is better. [18] Studies suggest the following: younger children prefer mornings whereas older children prefer afternoon and evening. For this purpose, I transform and recode the data in 4 categories: 6:00am-12:00pm, 12:00- 6:00 pm, 6:00pm- 12:00am, and 12:00am- 6:00am.

$Adultwith_i$ and $Nokids_i$: These two variables indicate if there is another adult or another child when the mother is performing the activity with the child. Following Folbre et al. (2005), children benefit from the time they spend when two or more adults are participating in an activity with them. This could be explained by the lower stress level on the adult and by the opportunity to watch the interaction between adults. At the same time, caring for more than one child at a time is more demanding and stressful for an adult than one-on-one activity. The data specifies 10 categories of individuals that are participating or present. I assume as adults: mother, father, stepmother, stepfather, grandparent and other non- relative (boyfriend, girlfriend, babysitter…). As for children: sibling, stepsibling, child's friend. The ambiguous category is "other relative". It may include cousins (children) as well as aunts and uncles (adults). I follow Folbre et al. (2005) and assume that when an adult is available during the time that a child is engaged in an activity with an "other relative" is an indicator that the "other relative" is likely to be another child.

---

[18] Hasher et al. (2005)

$SleepEnough_i$: This variable indicates if the child is getting enough sleep during the day the activity is performed. Based on child development studies, it is suggested that children younger than six years old should sleep at least ten hours per day. This amount of sleep declines when the child gets older.

8.1.B.   Output[19]

The MCA explores correlations between variables. A first step consists on transforming the data set into dummy variables to form a matrix illustrating all two-way cross tabulations among the variables. [20] The transformed data could be represented as a cloud with the Chi-square distance.

Using the "mca" command in Stata, the output displays two dimensions that correspond to factors in PCA. Each dimension is orthogonal to the other. The output gives also the standard coordinates of the categories which are going to be used as coefficient in the construction of a linear combination score. There is no universal rule explaining the number of dimensions to retain. However, since the first dimension captures the highest amount of "principal inertia"[21], it will play a central role in computing the quality index. In my analysis, the first dimension accounts for 50 percent of the "principal inertia", compared to a second dimension that accounts merely 10 percent. Thus, the coordinates of the first dimension are used as weights in constructing my quality index.

It is crucial to mention that data transformation and recoding are important in order to carry MCA technique. Given that quantitative variables should be transformed into qualitative ones (categories), one may need to define cut points. This might leave us with

---

[19] Appendix C, tables (3,4)
[20] "Indicator" or "Burt" matrix
[21] Corresponding to variance in PCA

ambiguity when looking at the true meaning of a dimension. In order to use the predicted score as a composite index for measuring "Quality" time, I follow Asselin (2002) where the monotonicity axiom must be satisfied – i.e., I make sure to have a positive and monotonically increasing composite index.

8.2. Effect of the Quality Adjusted (QA) Maternal Time on Child Outcomes

The estimation results for the cognitive and non-cognitive production functions are reported in Tables 12, 13, 14 and 15. In this section, I study the effect of the quality adjusted mother- child time on the cognitive and non-cognitive outcomes of the child. The results do not show any significant effect of the quality adjusted mother-child time on all children outcomes. However lagged outcome is a major and significant contributor of present outcome. I report below a summary of the main significant results found in the regression tables.

8.2.A. Non-Cognitive Measures.

8.2.A.1. Behavioral Problem Index (BPI):

I do not find the coefficients of the quality adjusted mother-child time to be statistically significant in any of the models reported in Table 12. Children whose mothers completed some college have significantly less behavioral problems than those whose mothers have just HS completion in all specifications (except the RVA model). According to the CU1 model, children of highly educated mothers have less behavior problem than those whose mothers have HS completion, and children of part-time working mothers have more behavioral problems than those of mothers working full-time. A one unit increase in parental warmth reduces the child behavioral problem according to 5 specifications (CU1, CU2, VA, CVA1 and FE). The coefficients on the mother's distress

index are all significant and in the expected direction, indicating a positive association between the mother stress level and the child's behavioral problem. White children have more behavioral problem than black (per CU1, CU2 and CVA1) and Hispanic (per CU1). In general, boys tend to have more behavioral problems than girls and children living in a single-mother family more so than those who live with both parents (per CU1 and CU2).

8.2.A.2.   Positive Behavior Scale (PBS):

All models of Table 13 indicate that children of non-working mothers have a higher PBS than those of full-time working mothers (except the CVA2 model). Children whose mothers have just HS completion have a lower PBS score than other children (per 3 specifications). I find strong effects of parental warmth and mother's distress in most specification and in the expected direction. I find only one significant association between neighborhood safety and the PBS score in the case of the CU1 model. White children tend to have a lower PBS score than other children (per 2 specifications) and boys less so than girls (per 3 specifications).

Table 12: Behavioral Problem Index-BPI

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
QA total time	-0.00*	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
QA total time (1-lag)			0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
QA total time (2-lag)				0.00			0.00*	
				(0.00)			(0.00)	
BPI (1-lag)					0.75***	0.74***	0.82***	
					(0.01)	(0.01)	(0.01)	
Non-working (mom)	-0.04		-0.03	0.18	0.15	0.17	0.15	-0.09
	(0.22)		(0.28)	(0.43)	(0.20)	(0.20)	(0.23)	(0.34)
Part-time working (mom)	0.68**		0.58*	0.41	0.20	0.24	0.20	0.10
	(0.23)		(0.29)	(0.43)	(0.20)	(0.21)	(0.23)	(0.34)
HS dropout (mom)	-0.00		-0.70	-1.13	-0.08	-0.24	-0.20	0.16
	(0.29)		(0.38)	(0.58)	(0.26)	(0.27)	(0.31)	(0.45)
Some college (mom)	-0.86***		-1.00***	-1.00*	-0.40*	-0.41*	-0.45*	0.06
	(0.20)		(0.26)	(0.39)	(0.18)	(0.18)	(0.21)	(0.30)
College + (mom)	-1.05***		-0.86**	-0.82	-0.17	-0.14	-0.00	-0.03
	(0.23)		(0.30)	(0.45)	(0.21)	(0.22)	(0.24)	(0.37)
Hours of work (mom)		0.00						
		(0.01)						
Years of education (mom)		0.05						
		(0.20)						
Parental warmth	-0.75***	-0.69**	-0.72***	-0.45	-0.37**	-0.38**	-0.24	-0.27
	(0.13)	(0.24)	(0.18)	(0.27)	(0.12)	(0.13)	(0.14)	(0.20)
Distress Index (mom)	0.51***	0.23***	0.49***	0.48***	0.18***	0.18***	0.10***	0.17***
	(0.02)	(0.04)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Neighborhood	0.46***	0.17	0.53***	0.37*	0.23**	0.25**	0.15	0.18
	(0.08)	(0.13)	(0.11)	(0.16)	(0.07)	(0.08)	(0.08)	(0.12)
HH Cognitive Scale	-0.02	-0.07*	-0.04	0.03	-0.02	-0.01	-0.02	0.66
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.02)	(0.84)
Family Income (log)	0.04	0.09	-0.11	-0.19	0.02	-0.04	0.03	0.03
	(0.10)	(0.16)	(0.13)	(0.21)	(0.08)	(0.09)	(0.11)	(0.15)
Child age (years)	0.14	0.27*	0.27	0.94***	0.42***	0.48***	0.77***	0.11
	(0.13)	(0.13)	(0.17)	(0.25)	(0.12)	(0.12)	(0.13)	(0.48)
Childage^2	-0.01	-0.02***	-0.01*	-0.04***	-0.02***	-0.02***	-0.03***	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)
Low birth weight	0.23		0.27	0.89	0.07	-0.07	0.60*	-0.02
	(0.29)		(0.38)	(0.57)	(0.26)	(0.27)	(0.30)	(0.46)
Black (child)	-1.35***		-1.42***	-1.22**	-0.35	-0.38*	-0.10	-0.55
	(0.20)		(0.27)	(0.41)	(0.18)	(0.19)	(0.22)	(0.31)
Hispanic (child)	-1.56***		-1.53***	-0.87	-0.55	-0.62	-0.18	-0.60
	(0.35)		(0.46)	(0.68)	(0.32)	(0.33)	(0.36)	(0.53)
Other race (child)	-0.49		-0.49	0.51	-0.11	-0.15	0.43	0.02
	(0.43)		(0.55)	(0.84)	(0.39)	(0.40)	(0.44)	(0.68)
Male (child)	0.73***		0.80***	0.93**	0.14	0.12	0.16	-0.48
	(0.16)		(0.21)	(0.31)	(0.14)	(0.15)	(0.16)	(0.24)
Biol. mother	1.37***	0.42	1.39***	1.66***	0.25	0.18	-0.07	0.36
	(0.20)	(0.51)	(0.26)	(0.40)	(0.18)	(0.19)	(0.22)	(0.30)
# of Children	0.02	-0.07	-0.05	-0.06	-0.08	-0.09	-0.16	0.05
	(0.08)	(0.17)	(0.11)	(0.16)	(0.07)	(0.08)	(0.08)	(0.13)
cons	7.83***	8.03**	8.60***	4.17	0.50	0.89	-2.83	0.95
	(1.47)	(2.97)	(1.97)	(3.05)	(1.30)	(1.41)	(1.61)	(3.74)
N	5133	5142	3017	1324	2862	2684	1322	2151
R^2	0.15	0.05	0.15	0.15	0.61	0.60	0.76	0.03
adj. R^2	0.15	0.05	0.14	0.14	0.61	0.60	0.76	0.02

Note: Standard errors in parenthesis; * $p<0.01$, **$p<0.05$, *** $p<0.001$
Results are weighted.
Active and Passive time are in hours.

Table 13: Positive Behavior Scale-PBS

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
QA total time	-0.00	0.00	-0.00	0.00	-0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
QA total time (1-lag)			0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
QA total time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.71***	0.71***	0.79***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	0.08*		0.09*	0.07	0.06**	0.06*	0.03	0.11*
	(0.03)		(0.04)	(0.05)	(0.02)	(0.02)	(0.02)	(0.05)
Part-time working (mom)	-0.03		-0.03	-0.07	-0.01	-0.01	-0.02	-0.04
	(0.03)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
HS dropout (mom)	0.22***		0.22***	0.28***	0.10**	0.10**	0.06	0.14*
	(0.05)		(0.06)	(0.07)	(0.04)	(0.04)	(0.04)	(0.07)
Some college (mom)	0.07		0.10*	0.13**	0.03	0.04	0.06*	-0.03
	(0.03)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
College + (mom)	0.13***		0.12**	0.18***	0.05*	0.05	0.05	-0.00
	(0.04)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
Hours of work (mom)		0.00						
		(0.00)						
Years of education (mom)		0.00						
		(0.02)						
Parental warmth	0.20***	0.13***	0.21***	0.20***	0.09***	0.09***	0.05*	0.05
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
Distress index (mom)	-0.03***	-0.02***	-0.03***	-0.03***	-0.01***	-0.01**	-0.01	-0.02**
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.04**	-0.01	-0.03	-0.05**	-0.00	-0.00	-0.02	-0.02
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
HH Cognitive Scale	-0.00	0.00	-0.00	0.00	0.00	0.00	0.01*	0.18
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.12)
Family Income (log)	-0.01	0.03	0.00	-0.03	0.01	0.01	-0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
Child age (years)	-0.00	-0.01	0.02	0.02	0.01	0.00	-0.01	-0.07
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.07)
Child age^2	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.13*		-0.16*	-0.16	-0.03	-0.04	-0.03	0.06
	(0.06)		(0.07)	(0.09)	(0.03)	(0.04)	(0.06)	(0.05)
Black (child)	0.17***		0.16*	0.19*	0.05	0.05	0.10	0.02
	(0.05)		(0.07)	(0.09)	(0.04)	(0.05)	(0.05)	(0.05)
Hispanic (child)	0.30***		0.30***	0.34***	0.06	0.06	0.14***	-0.05
	(0.05)		(0.06)	(0.07)	(0.04)	(0.04)	(0.04)	(0.06)
Other race (race)	0.08		0.10	0.18*	0.05	0.03	0.13**	0.02
	(0.06)		(0.06)	(0.07)	(0.03)	(0.03)	(0.05)	(0.07)
Male (child)	-0.15***		-0.15***	-0.16***	-0.04*	-0.03	-0.04	0.03
	(0.03)		(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Biol. mother	-0.10**	-0.03	-0.08	-0.08	0.01	0.02	0.03	0.01
	(0.04)	(0.05)	(0.05)	(0.07)	(0.03)	(0.03)	(0.03)	(0.04)
# of children	0.01	0.01	0.01	0.01	0.00	0.00	0.02	0.02
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
cons	3.58***	3.33***	3.26***	3.56***	0.63***	0.61**	0.75***	-0.17
	(0.22)	(0.34)	(0.27)	(0.34)	(0.18)	(0.19)	(0.22)	(0.51)
N	5212	5221	3072	1367	2988	2789	1367	2225
R^2	0.16	0.05	0.15	0.19	0.58	0.58	0.72	0.04
adj. R^2		0.05						

Note: Standard errors in parenthesis; * $p<0.01$, ** $p<0.05$, *** $p<0.001$

8.2.B.   Cognitive Measures.

   8.2.B.1.   Letter Word Test (LW):

The results of Table 14 indicate that children of non-working and part-time working mothers score higher on the LW test than those of mothers working full-time (per CU1 and CU2). Children of highly educated mothers tend to score higher than those whose mothers have just HS completion (in most specifications). Moreover, children of HS dropout mothers score lower than those of HS completion mothers (per CU1 and CU2). I do not find parental warmth to be statistically significant in any of the models, but there is still a significant effect of mother's distress in 3 models (CU1, VA and CVA1).

I find evidence of both gender and race differences. White children score higher in the LW test than black (in most specifications) and Hispanic (in one specification). Girls tend to have a higher LW score than boys (per CU1 and CU2), and children living with both parents higher so than those in a single-mother family (per CU2 and CVA2). Each additional child in the family tends to lower the child's score in both CU1 and CU2 specifications. According to the same models, the more unsafe the neighborhood, the lower is the child's score.

Table 14: Letter Word Test- LW

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
QA total time	0.01**	0.00	0.01	-0.00	0.00	0.00	-0.00	0.01
	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)
QA total time (1-lag)			0.00	0.03*		-0.00	0.01	
			(0.01)	(0.01)		(0.00)	(0.01)	
QA total time (2-lag)				0.01			0.00	
				(0.01)			(0.01)	
LW (1-lag)					0.78***	0.78***	0.84***	
					(0.01)	(0.01)	(0.01)	
Non-working (mom)	1.59*		2.53**	3.05*	0.64	0.69	0.96	-0.20
	(0.66)		(0.85)	(1.26)	(0.55)	(0.57)	(0.66)	(0.93)
Part-time working (mom)	2.30***		1.75*	2.51	-0.41	-0.23	0.04	-1.18
	(0.69)		(0.89)	(1.31)	(0.58)	(0.59)	(0.68)	(0.95)
HS dropout (mom)	-4.44***		-4.09***	-4.85**	-0.51	-0.38	-0.34	1.36
	(0.86)		(1.14)	(1.73)	(0.75)	(0.78)	(0.90)	(1.24)
Some college (mom)	3.76***		4.22***	2.73*	1.18*	1.27*	0.64	0.10
	(0.60)		(0.79)	(1.18)	(0.51)	(0.53)	(0.61)	(0.84)
College + (mom)	8.56***		8.06***	8.59***	1.91**	1.94**	1.74*	0.91
	(0.71)		(0.92)	(1.37)	(0.61)	(0.62)	(0.72)	(1.02)
Hours of work (mom)		-0.03						
		(0.02)						
Years of education (mom)		0.36						
		(0.46)						
Parental warmth	-0.54	0.23	-0.57	-0.64	0.07	0.15	0.26	-0.48
	(0.40)	(0.59)	(0.55)	(0.83)	(0.35)	(0.36)	(0.43)	(0.55)
Distress index (mom)	-0.22**	-0.20	-0.20*	-0.25	-0.17**	-0.19**	-0.10	-0.11
	(0.07)	(0.11)	(0.09)	(0.14)	(0.06)	(0.06)	(0.07)	(0.10)
Neighborhood	-0.62**	0.08	-0.74*	-0.94*	0.08	0.08	0.04	-0.11
	(0.24)	(0.37)	(0.32)	(0.47)	(0.21)	(0.21)	(0.25)	(0.34)
HH Cognitive Scale	0.11	-0.27**	0.08	-0.04	0.09	0.07	0.15*	4.12
	(0.07)	(0.09)	(0.10)	(0.14)	(0.06)	(0.07)	(0.07)	(2.31)
Family Income (log)	0.66*	0.02	0.85*	0.39	0.18	0.20	0.16	-0.16
	(0.29)	(0.42)	(0.41)	(0.65)	(0.25)	(0.27)	(0.34)	(0.41)
Child age (years)	2.01***	1.13**	2.47***	2.16**	1.30***	1.25***	1.62***	-10.22***
	(0.39)	(0.36)	(0.50)	(0.75)	(0.32)	(0.33)	(0.39)	(1.33)
Child age^2	-0.10***	-0.08***	-0.12***	-0.11***	-0.06***	-0.06***	-0.06***	0.34***
	(0.02)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.05)
Low birth weight	-2.05*		-1.94	-3.35	-0.40	-0.26	0.75	-2.49*
	(0.87)		(1.18)	(1.77)	(0.76)	(0.79)	(0.92)	(1.26)
Black (child)	-6.16***		-6.46***	-5.67***	-2.42***	-2.36***	-0.21	-3.52***
	(0.61)		(0.82)	(1.25)	(0.53)	(0.55)	(0.66)	(0.86)
Hispanic (child)	-1.05		-1.59	-1.69	-1.64	-1.71	0.59	-3.80*
	(1.05)		(1.37)	(2.04)	(0.91)	(0.94)	(1.06)	(1.48)
Other race (child)	1.46		2.04	2.94	0.84	0.94	2.90*	-2.77
	(1.33)		(1.71)	(2.54)	(1.15)	(1.16)	(1.33)	(1.99)
Male (child)	-3.93***		-3.38***	-2.69**	-0.51	-0.51	0.23	0.15
	(0.48)		(0.63)	(0.94)	(0.41)	(0.42)	(0.49)	(0.67)
Biol. Mother	-1.36*	0.63	-1.40	-2.74*	-0.40	-0.57	-1.57*	0.24
	(0.61)	(1.53)	(0.82)	(1.25)	(0.53)	(0.55)	(0.65)	(0.85)
# of children	-1.40***	-0.20	-1.50***	-1.65***	-0.30	-0.31	-0.26	0.36
	(0.25)	(0.46)	(0.32)	(0.48)	(0.21)	(0.21)	(0.25)	(0.34)
cons	96.27***	98.51***	92.43***	99.09***	15.55***	15.93***	4.61	74.41***
	(4.47)	(7.50)	(6.03)	(9.46)	(3.97)	(4.17)	(5.15)	(10.34)
N	4856	4865	2905	1313	2684	2573	1303	1973
R^2	0.18	0.05	0.18	0.20	0.68	0.68	0.79	0.07
adj. R^2	0.17	0.05	0.18	0.19	0.68	0.68	0.78	0.06

Note: Standard errors in parenthesis; * p<0.01, **p<0.05, *** p<0.001

8.2.B.2.   Applied Problem Test (AP):

According to Table 15, children of non-working mothers (per CU1, CU2 and CVA1) and mothers working part-time (per CU1 and CU2) tend to have a higher score on the AP test than children whose mothers are working full-time. Children whose mothers have just HS completion have significantly higher score than children of HS dropout mothers (per CU1) and lower than those whose mothers are highly educated (per CU1, CU2, VA and CVA1) or completed some college (per CU1 and CU2). The coefficients on the household cognitive scale are positive and highly significant in all specifications. I do not find parental warmth to be statistically significant, but I find evidence of a significant association between neighborhood safety (per CU1 and CU2) and mother's distress (per FE, CU1, CU2, CVA1, and CVA2). White children score higher on the AP test than black and Hispanic (in most specifications), and boys higher so than girls (CU1, VA, and CVA1). I find evidence of negative and significant effects of the number of children in the family on the child's AP score (4 specifications).

Table 15: Applied Problem Test- AP

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
QA total time	0.00	0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00
	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)
QA total time (1-lag)			-0.00	0.00		-0.01	0.00	
			(0.01)	(0.01)		(0.00)	(0.01)	
QA total time (2-lag)				0.01			0.01	
				(0.01)			(0.01)	
AP (1-lag)					0.69***	0.68***	0.83***	
					(0.01)	(0.01)	(0.02)	
Non-working (mom)	2.09***		2.77***	3.91***	0.77	1.12*	0.57	1.04
	(0.57)		(0.73)	(1.10)	(0.52)	(0.52)	(0.62)	(0.88)
Part-time working (mom)	2.46***		1.92*	3.36**	0.55	0.74	1.16	-0.04
	(0.60)		(0.76)	(1.14)	(0.55)	(0.55)	(0.64)	(0.89)
HS dropout (mom)	-2.30**		-2.77**	-3.85*	-1.08	-1.14	-1.21	1.01
	(0.75)		(0.98)	(1.52)	(0.70)	(0.72)	(0.85)	(1.17)
Some college (mom)	3.57***		3.55***	3.04**	0.81	0.91	0.87	-0.95
	(0.52)		(0.67)	(1.03)	(0.48)	(0.49)	(0.57)	(0.78)
College + (mom)	8.17***		7.72***	7.36***	2.15***	2.30***	0.89	-0.68
	(0.61)		(0.79)	(1.19)	(0.57)	(0.57)	(0.67)	(0.95)
Parental warmth	-0.21	0.15	0.01	-0.32	0.26	0.27	-0.25	-0.55
	(0.35)	(0.59)	(0.47)	(0.73)	(0.33)	(0.34)	(0.40)	(0.51)
Distress index (mom)	-0.23***	-0.19*	-0.25**	-0.27*	-0.09	-0.12*	-0.17**	0.09
	(0.06)	(0.09)	(0.08)	(0.12)	(0.05)	(0.06)	(0.07)	(0.09)
neighborhood	-0.87***	-0.10	-0.97***	-1.22**	-0.24	-0.23	-0.11	-0.09
	(0.21)	(0.29)	(0.27)	(0.41)	(0.19)	(0.20)	(0.23)	(0.32)
HH Cognitive Scale	0.52***	0.50***	0.53***	0.56***	0.32***	0.28***	0.53***	4.62*
	(0.06)	(0.08)	(0.08)	(0.12)	(0.06)	(0.06)	(0.07)	(2.16)
Family Income (log)	1.27***	-0.11	1.25***	1.24*	0.12	0.03	-0.54	0.50
	(0.25)	(0.42)	(0.35)	(0.56)	(0.23)	(0.25)	(0.31)	(0.39)
Child age (years)	4.30***	3.95***	4.54***	4.76***	2.96***	2.92***	3.55***	-11.76***
	(0.33)	(0.34)	(0.43)	(0.65)	(0.30)	(0.30)	(0.36)	(1.25)
Childage^2	-0.19***	-0.17***	-0.20***	-0.21***	-0.14***	-0.14***	-0.15***	0.36***
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.05)
Low birth weight	-2.94***		-2.43*	-2.94	-0.46	-0.51	0.51	-0.16
	(0.76)		(1.01)	(1.54)	(0.71)	(0.73)	(0.86)	(1.17)
Black (child)	-8.99***		-8.75***	-7.68***	-3.16***	-3.04***	-1.73**	-1.12
	(0.53)		(0.70)	(1.09)	(0.50)	(0.52)	(0.62)	(0.81)
Hispanic (child)	-5.44***		-4.94***	-4.12*	-1.91*	-1.87*	-0.17	0.31
	(0.91)		(1.17)	(1.78)	(0.85)	(0.87)	(0.99)	(1.38)
Other race (child)	-3.17**		-2.63	-0.28	-0.38	-0.28	0.15	0.50
	(1.15)		(1.46)	(2.21)	(1.07)	(1.07)	(1.24)	(1.85)
Male (child)	0.80		1.26*	1.16	0.88*	0.94*	0.06	1.12
	(0.42)		(0.54)	(0.82)	(0.38)	(0.39)	(0.46)	(0.63)
Biol. Mother	0.01	0.17	0.12	-0.06	-0.21	-0.38	-0.54	1.29
	(0.53)	(1.46)	(0.70)	(1.09)	(0.49)	(0.51)	(0.61)	(0.79)
# of children	-0.77***	-0.59	-0.90***	-1.33**	-0.54**	-0.62**	-0.53*	0.12
	(0.21)	(0.38)	(0.27)	(0.42)	(0.19)	(0.20)	(0.23)	(0.32)
cons	73.11***	71.42***	72.54***	72.65***	17.78***	20.54***	7.23	82.08***
	(3.87)	(10.74)	(5.15)	(8.23)	(3.67)	(3.83)	(4.74)	(9.66)
N	4841	4850	2895	1306	2671	2560	1297	1959
R^2	0.27	0.14	0.28	0.28	0.67	0.66	0.78	0.14
adj. R^2	0.27	0.14	0.27	0.27	0.66	0.66	0.77	0.13

Note: Standard errors in parenthesis; * $p<0.01$, **$p<0.05$, *** $p<0.001$

CHAPTER 9. SUMMARY OF RESULTS

Comparing the results of both measures, I do not find the coefficients on the time inputs to be statistically significant in all specifications and for all outcome measures. I find only one weak and significant association between active time spent with the child and the BPI (behavioral Problem Index) score. Each additional hour the mother spends actively engaged with the child has a beneficial impact by reducing the child behavioral problem (per the CVA2 model). The same is true when using the adjusted quality time measure. The coefficients on lagged outcome are large and highly significant in all specifications where they are included.

The reported results do not change when using either measure of quality time (Active- Passive vs. Quality Adjusted). I find evidence of significant effects of mother's employment status on cognitive outcomes. Children of full-time working mothers score lower on the LW (letter word) test than children whose mothers are not working. Those children score also lower on the AP (applied problems) test than those of non-working and part-time working mothers.

I find a strong association between mother's educational attainment and children performance in both cognitive tests. Children of highly educated mothers perform better than those of less educated mothers in both the LW and AP tests. Results also indicate a modest effect of maternal education on non-cognitive measures. Children whose mothers have just completed high-school have more behavioral problems (higher BPI score) than those whose mothers completed some college education. Those same children have a lower PBS (Positive Behavior Scale) score than all other children.

I find strong effects of mother's warmth and distress on children non-cognitive outcomes. Neighborhood safety is an important factor shaping children's BPI. The more unsafe the neighborhood is, the higher the behavioral problem of the child. Results indicate a weak effect of mother's distress index on children cognitive outcomes. Moreover, children score in the AP test is strongly associated with the household cognitive scale measure.

I find evidence of both gender and race differences. Black and Hispanic children perform better than white children in both non-cognitive tests. In contrast, white children score higher in cognitive tests. On average, boys perform less than girls in all tests except in the AP test where they score higher. Children who live in a single mother family have more behavioral problem and lower score on the LW test than those living with both parents. Each additional child in the family tends to lower the child's performance in both cognitive tests.

I find evidence of weak effect of mother-child time inputs on children outcomes, when analyzing the results stratified by group of children. I look first at samples of children grouped by mother's educational achievement. I find active time to have detrimental effect on the child behavioral problem among the groups of children whose mothers didn't finish high-school or have completed some college education. I also find evidence of positive effects of active time on the child reading skills from the group of children whose mothers didn't finish high-school or have just completed high-school.

I next analyze the results by group of children stratified by mother's employment status. I find active and passive time inputs to have beneficial effect on the behavioral problem and reading skills (BPI and LW test) for the group of children whose mothers are

working full-time. For children of non-working mothers, passive time inputs have beneficial effect on the child behavioral problem. As for active time input, it reduces the child's PBS score but increases the LW score.

CHAPTER 10. CONCLUSION

In this study, I investigate two relationships using data from the three waves of PSID-CDS. Using fixed-effects specifications, I first analyzed the effect of maternal employment on the quantity and the quality (active) of the time the mother spends with her child. Results indicate that a mother deciding to work 40 hours per week will reduce her total time with her child by 4.8 hours of which 2.4 hours in quality time (actively engaged with her child). This negative relationship between maternal employment and the time spent with children does not necessarily suggest a detrimental impact on child's development.

In order to examine whether the amount of time children spend with their mothers is positively associated with children's behavioral and cognitive development, I estimate child-quality production functions. I test two measures of quality time: an active-passive classification and a quality adjusted time measure (using MCA technique). I don't find time inputs to have any significant effect on children outcome. Lagged outcome is always an important predictor of current child outcome.

Results indicate that the child behavioral problem measured by the BPI (Behavior Problem Index) is mainly determined by neighborhood safety and the mother's warmth and distress index. I also find evidence that children whose mothers have just completed high-school have more behavioral problem than those whose mothers have some completed some college.

The child PBS (Positive Behavior Scale) is mainly shaped by the mother's warmth and distress index. I also find a modest effect of mother's work and education. Children of HS completion mothers have a lower PBS score than all other children. Moreover,

children of non-working mothers score higher on the PBS than those of mothers working full-time.

Children cognitive outcomes are mainly affected by the mother's educational achievement. The higher the mother's educational attainment, the higher the child's score in the LW (Letter Word) and AP (Applied Problem) tests. I also find a modest effect of maternal employment indicating that children of non-working mothers tend to have higher LW and AP score than those of full-time employed mothers.

Understanding the effect of maternal time on child's development is crucial in the design of public policies that target future success of children. However, my findings suggest the need for future research given that time inputs were not revealed as important as parenting styles and background characteristics.

APPENDIX A

Supplemental Analysis using Simple Quality Measure

Table A-1.1: BPI (Sample: HS Dropout Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.04	-0.01	-0.04	0.09	-0.01	0.01	0.08**	-0.05
	(0.02)	(0.03)	(0.03)	(0.06)	(0.02)	(0.02)	(0.03)	(0.04)
Passive time	-0.03	-0.01	-0.02	0.00	-0.01	0.00	-0.00	0.01
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.02)	(0.03)
Active time (1-lag)			-0.02	-0.16**		-0.03	-0.11***	
			(0.02)	(0.06)		(0.02)	(0.03)	
Passive time (1-lag)			-0.02	-0.05		-0.01	-0.02	
			(0.03)	(0.06)		(0.02)	(0.02)	
Active time (2-lag)				0.03			0.02	
				(0.03)			(0.01)	
Passive time (2-lag)				0.00			-0.01	
				(0.04)			(0.02)	
BPI (1-lag)					0.77***	0.76***	0.88***	
					(0.03)	(0.03)	(0.04)	
Non- working (mom)	0.24		-0.13	0.29	0.08	0.04	0.39	1.42
	(0.62)		(0.74)	(1.17)	(0.47)	(0.47)	(0.51)	(0.99)
Part-time working (mom)	1.41		0.81	1.54	0.80	0.63	0.74	0.75
	(0.83)		(1.04)	(1.78)	(0.71)	(0.72)	(0.78)	(1.46)
Week hours worked (mom)		0.00						
		(0.02)						
Parental warmth (mom)	0.17	0.17	0.35	0.78	0.06	0.22	-0.34	0.23
	(0.38)	(0.69)	(0.46)	(0.78)	(0.29)	(0.29)	(0.34)	(0.65)
Distress Index (mom)	0.58***	0.26**	0.61***	0.56***	0.26***	0.26***	0.06	0.35***
	(0.06)	(0.08)	(0.07)	(0.12)	(0.05)	(0.05)	(0.05)	(0.10)
Neighborhood	0.65**	0.44	0.43	0.44	0.12	0.18	-0.01	0.64
	(0.23)	(0.38)	(0.27)	(0.43)	(0.18)	(0.18)	(0.19)	(0.39)
HH Cognitive Scale	-0.08	0.02	-0.10	-0.33	-0.05	-0.06	-0.12	3.88
	(0.09)	(0.12)	(0.11)	(0.19)	(0.07)	(0.07)	(0.09)	(3.07)
Family Income (log)	-0.32	-0.07	-0.76*	-0.78	0.15	0.13	0.75*	0.18
	(0.27)	(0.29)	(0.38)	(0.77)	(0.30)	(0.30)	(0.34)	(0.48)
Child age (years)	0.78	1.24**	1.07*	0.77	0.56	0.57	0.20	-0.77
	(0.41)	(0.44)	(0.50)	(0.78)	(0.32)	(0.32)	(0.34)	(1.42)
Child age^2	-0.03	-0.05**	-0.05*	-0.03	-0.03*	-0.03*	-0.01	0.02
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.05)
Low birth weight	-0.29		-1.01	-0.02	0.33	0.08	1.11	0.81
	(0.90)		(1.17)	(1.97)	(0.77)	(0.78)	(0.86)	(1.51)
Black (child)	-0.33		-0.60	-1.51	0.06	-0.09	0.06	0.13
	(0.83)		(1.00)	(1.56)	(0.65)	(0.65)	(0.69)	(1.36)
Hispanic (child)	-2.56**		-2.29*	-2.65	-0.60	-0.63	0.61	-0.19
	(0.82)		(0.96)	(1.50)	(0.64)	(0.64)	(0.67)	(1.34)
Other race (child)	-3.38*		-2.55	-4.60	-0.84	-0.94	-0.60	-2.16
	(1.47)		(1.72)	(2.68)	(1.27)	(1.25)	(1.18)	(2.77)
Male (child)	0.16		-0.03	-0.69	0.06	-0.06	0.24	-0.40
	(0.53)		(0.63)	(0.99)	(0.41)	(0.41)	(0.43)	(0.89)
Biol. Mother	0.24	-0.43	-0.04	1.60	0.32	0.17	1.86**	0.55
	(0.67)	(1.94)	(0.82)	(1.41)	(0.55)	(0.55)	(0.62)	(1.13)
# of children in the family	0.10	-0.18	-0.13	0.07	0.12	0.10	0.28	0.15
	(0.21)	(0.50)	(0.26)	(0.45)	(0.17)	(0.17)	(0.20)	(0.37)
N	575	575	361	168	325	320	167	238

Table A-1.2: BPI (Sample: HS Completion Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.01	-0.01	0.01	0.03	-0.01	-0.01	0.00	-0.03
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
Passive time	0.01	-0.00	0.02	-0.01	0.01	-0.00	0.01	-0.02
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Active time (1-lag)			-0.02	-0.00		-0.00	0.00	
			(0.01)	(0.02)		(0.01)	(0.01)	
Passive time (1-lag)			0.00	0.02		0.01	-0.01	
			(0.01)	(0.03)		(0.01)	(0.01)	
Active time (2-lag)				-0.02			0.00	
				(0.02)			(0.01)	
Passive time (2-lag)				0.03			0.01	
				(0.02)			(0.01)	
BPI (1-lag)					0.76***	0.77***	0.81***	
					(0.02)	(0.02)	(0.02)	
Non- working (mom)	0.41		0.69	0.54	0.03	0.04	-0.37	0.06
	(0.40)		(0.52)	(0.79)	(0.36)	(0.36)	(0.42)	(0.60)
Part-time working (mom)	0.66		0.23	-0.60	0.25	0.26	0.15	0.08
	(0.42)		(0.53)	(0.77)	(0.37)	(0.37)	(0.41)	(0.62)
Week hours worked (mom)		-0.01						
		(0.01)						
Parental warmth (mom)	-1.01***	-0.62	-0.98**	-1.41**	-0.66**	-0.62**	-0.75**	-0.37
	(0.23)	(0.37)	(0.30)	(0.46)	(0.21)	(0.21)	(0.25)	(0.33)
Distress Index (mom)	0.52***	0.18*	0.55***	0.55***	0.18***	0.17***	0.14**	0.03
	(0.04)	(0.08)	(0.06)	(0.08)	(0.04)	(0.04)	(0.04)	(0.06)
Neighborhood	0.28*	0.09	0.36*	0.31	0.01	-0.00	0.06	0.04
	(0.14)	(0.19)	(0.18)	(0.27)	(0.13)	(0.13)	(0.14)	(0.21)
HH Cognitive Scale	0.01	-0.09	-0.04	-0.13	0.02	0.01	0.00	1.96
	(0.05)	(0.05)	(0.06)	(0.09)	(0.04)	(0.04)	(0.05)	(1.41)
Family Income (log)	-0.05	0.37	0.03	-0.32	0.16	0.12	0.21	0.01
	(0.22)	(0.31)	(0.28)	(0.45)	(0.20)	(0.20)	(0.24)	(0.32)
Child age (years)	0.23	0.08	0.15	0.13	0.44*	0.44*	0.30	0.90
	(0.23)	(0.22)	(0.28)	(0.41)	(0.20)	(0.20)	(0.22)	(0.78)
Child age^2	-0.01	-0.01	-0.01	-0.01	-0.02**	-0.02**	-0.01	-0.04
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
Low birth weight	0.94*		1.04	0.97	0.30	0.33	0.73	-0.46
	(0.47)		(0.60)	(0.92)	(0.41)	(0.41)	(0.49)	(0.72)
Black (child)	-1.65***		-1.48**	-1.71*	-0.07	-0.13	-0.45	-0.05
	(0.36)		(0.46)	(0.70)	(0.32)	(0.33)	(0.37)	(0.53)
Hispanic (child)	-0.53		0.13	-1.16	0.79	0.72	-0.80	-0.30
	(0.67)		(0.86)	(1.21)	(0.60)	(0.61)	(0.64)	(1.01)
Other race (child)	0.49		0.52	-0.32	0.92	0.94	-0.72	1.21
	(0.70)		(0.89)	(1.32)	(0.60)	(0.60)	(0.70)	(1.06)
Male (child)	1.62***		1.32***	1.64**	-0.13	-0.13	-0.09	-0.57
	(0.29)		(0.37)	(0.54)	(0.26)	(0.26)	(0.29)	(0.42)
Biol. Mother	1.50***	1.28	1.48**	1.04	0.54	0.52	-0.21	0.68
	(0.36)	(0.92)	(0.48)	(0.74)	(0.34)	(0.34)	(0.39)	(0.53)
# of children in the family	0.15	-0.04	-0.05	-0.16	-0.12	-0.12	-0.15	-0.01
	(0.14)	(0.28)	(0.18)	(0.27)	(0.13)	(0.13)	(0.15)	(0.20)
cons	8.66**	7.73*	8.44*	14.08*	0.55	0.87	0.43	-3.99
	(3.13)	(3.92)	(4.08)	(6.32)	(2.88)	(2.90)	(3.38)	(6.61)
N	1763	1766	1098	504	999	985	503	737

Table A-1.3: BPI (Sample: Mothers with Some College Education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.01	0.01	0.03	0.07*	0.02	0.02	0.05**	0.03
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Passive time	-0.01	0.01	-0.03	-0.06*	-0.02	-0.02	-0.02	-0.01
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Active time (1-lag)			-0.01	-0.07*		0.01	-0.05**	
			(0.02)	(0.03)		(0.01)	(0.02)	
Passive time (1-lag)			0.01	0.03		0.01	0.01	
			(0.02)	(0.03)		(0.01)	(0.02)	
Active time (2-lag)				0.01			-0.01	
				(0.02)			(0.01)	
Passive time (2-lag)				0.05			-0.00	
				(0.03)			(0.01)	
BPI (1-lag)					0.69***	0.70***	0.76***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	-1.73***		-1.78**	-2.60**	-0.91*	-0.87*	-1.13*	-1.15
	(0.42)		(0.55)	(0.84)	(0.42)	(0.42)	(0.46)	(0.70)
Part-time working (mom)	-0.78		-0.75	-0.85	-0.16	-0.05	-0.21	0.36
	(0.42)		(0.50)	(0.73)	(0.38)	(0.37)	(0.40)	(0.65)
Week hours worked (mom)		0.02						
		(0.02)						
Parental warmth (mom)	-0.65*	-0.38	-0.65*	-0.68	-0.12	-0.24	0.18	-0.03
	(0.26)	(0.46)	(0.33)	(0.50)	(0.24)	(0.24)	(0.27)	(0.39)
Distress Index (mom)	0.44***	0.21**	0.45***	0.47***	0.21***	0.21***	0.16***	0.13*
	(0.04)	(0.07)	(0.05)	(0.08)	(0.04)	(0.04)	(0.04)	(0.06)
Neighborhood	0.69***	0.26	0.71***	0.66*	0.31*	0.26	0.17	0.41
	(0.15)	(0.28)	(0.19)	(0.29)	(0.14)	(0.14)	(0.16)	(0.24)
HH Cognitive Scale	-0.09*	-0.20**	-0.09	-0.13	-0.11*	-0.09	-0.15**	-2.28
	(0.05)	(0.06)	(0.06)	(0.09)	(0.04)	(0.04)	(0.05)	(1.54)
Family Income (log)	-0.56*	-0.11	-1.01**	-0.37	-0.15	-0.23	-0.29	0.49
	(0.22)	(0.28)	(0.31)	(0.48)	(0.24)	(0.24)	(0.26)	(0.41)
Child age (years)	-0.13	0.29	0.39	0.50	0.29	0.42	0.42	-0.83
	(0.24)	(0.25)	(0.31)	(0.47)	(0.23)	(0.23)	(0.26)	(0.96)
Child age^2	0.00	-0.02*	-0.02	-0.02	-0.01	-0.02*	-0.02	0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
Low birth weight	-0.23		0.35	0.90	0.36	0.36	0.49	-0.37
	(0.61)		(0.78)	(1.18)	(0.60)	(0.59)	(0.65)	(0.95)
Black (child)	-2.12***		-2.38***	-2.33***	-1.35***	-1.23***	-1.03**	-1.13*
	(0.35)		(0.44)	(0.66)	(0.33)	(0.33)	(0.37)	(0.55)
Hispanic (child)	-1.07		-0.29	1.83	-0.39	-0.36	0.12	-0.05
	(0.94)		(1.16)	(1.88)	(0.92)	(0.90)	(1.03)	(1.50)
Other race (child)	0.56		0.83	-0.12	0.12	0.22	-0.19	-0.39
	(0.82)		(1.03)	(1.54)	(0.77)	(0.76)	(0.84)	(1.25)
Male (child)	0.46		0.14	0.12	0.07	-0.08	0.00	-0.16
	(0.29)		(0.37)	(0.55)	(0.28)	(0.28)	(0.30)	(0.46)
Biol. Mother	0.74*	0.03	0.71	1.47*	0.39	0.32	-0.24	0.93
	(0.37)	(0.85)	(0.48)	(0.72)	(0.35)	(0.35)	(0.40)	(0.56)
# of children in the family	-0.01	-0.07	-0.10	-0.13	-0.07	-0.06	0.19	-0.19
	(0.17)	(0.32)	(0.22)	(0.33)	(0.16)	(0.16)	(0.18)	(0.28)
cons	15.95***	9.42*	17.50***	9.04	2.78	3.34	1.48	3.23
	(3.18)	(3.75)	(4.28)	(6.69)	(3.34)	(3.31)	(3.67)	(8.36)
N	1351	1356	833	390	761	747	390	587

Table A-1.4: BPI (Sample: Mother with College Degree or More)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.03*	-0.00	-0.03	0.00	-0.01	-0.01	0.01	-0.02
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Passive time	-0.02	0.01	-0.02	-0.01	-0.01	-0.01	-0.00	-0.03
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Active time (1-lag)			-0.01	-0.05		0.01	-0.02	
			(0.02)	(0.03)		(0.01)	(0.02)	
Passive time (1-lag)			-0.02	-0.03		-0.01	-0.01	
			(0.02)	(0.03)		(0.01)	(0.02)	
Active time (2-lag)				0.00			0.02	
				(0.03)			(0.01)	
Passive time (2-lag)				-0.01			0.00	
				(0.02)			(0.01)	
BPI (1-lag)					0.75***	0.76***	0.80***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	0.37		0.84	1.64	0.14	0.24	0.17	0.24
	(0.47)		(0.60)	(0.88)	(0.42)	(0.42)	(0.48)	(0.72)
Part-time working (mom)	1.80***		2.00***	1.98**	0.37	0.48	0.53	-0.98
	(0.40)		(0.50)	(0.74)	(0.36)	(0.36)	(0.41)	(0.60)
Week hours worked (mom)		0.04						
		(0.02)						
Parental warmth (mom)	-0.61	-0.72	-0.60	-1.01	-0.23	-0.28	-0.16	-0.01
	(0.32)	(0.65)	(0.41)	(0.58)	(0.29)	(0.29)	(0.32)	(0.49)
Distress Index (mom)	0.62***	0.32**	0.63***	0.41**	0.25***	0.22***	0.13	0.15
	(0.06)	(0.10)	(0.08)	(0.13)	(0.06)	(0.06)	(0.07)	(0.10)
Neighborhood	0.56**	-0.03	0.57*	0.45	0.35*	0.28	0.04	-0.31
	(0.19)	(0.26)	(0.24)	(0.36)	(0.17)	(0.17)	(0.20)	(0.29)
HH Cognitive Scale	0.04	-0.05	-0.00	-0.04	-0.03	-0.02	-0.05	-0.45
	(0.04)	(0.06)	(0.06)	(0.09)	(0.04)	(0.04)	(0.05)	(1.88)
Family Income (log)	0.24	-0.31	-0.00	0.32	0.10	0.04	-0.02	0.52
	(0.27)	(0.40)	(0.35)	(0.52)	(0.24)	(0.24)	(0.28)	(0.41)
Child age (years)	0.54*	0.43	0.68*	0.62	0.27	0.29	0.44	1.91
	(0.25)	(0.26)	(0.31)	(0.49)	(0.22)	(0.22)	(0.26)	(0.97)
Child age^2	-0.03**	-0.03*	-0.03*	-0.03	-0.01	-0.01	-0.02	-0.08*
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.04)
Low birth weight	1.73*		1.95	1.91	0.68	0.53	-0.56	0.24
	(0.78)		(1.00)	(1.48)	(0.70)	(0.69)	(0.81)	(1.18)
Black (child)	-1.15*		-0.68	-0.65	-0.84	-0.61	-0.04	-1.01
	(0.50)		(0.65)	(0.94)	(0.46)	(0.46)	(0.51)	(0.77)
Hispanic (child)	0.16		-0.17	0.70	-0.88	-0.78	-0.95	-0.68
	(1.09)		(1.34)	(2.01)	(1.00)	(0.98)	(1.09)	(1.66)
Other race (child)	-3.42***		-2.86*	-3.17	-1.76	-1.53	-1.02	-1.08
	(1.00)		(1.35)	(2.01)	(1.12)	(1.10)	(1.09)	(1.74)
Male (child)	0.31		-0.03	-0.70	-0.31	-0.36	-0.71*	-0.83
	(0.32)		(0.41)	(0.59)	(0.29)	(0.29)	(0.32)	(0.49)
Biol. Mother	0.99*	-0.35	0.75	1.55	0.15	0.15	0.20	-0.28
	(0.49)	(1.61)	(0.65)	(0.96)	(0.45)	(0.45)	(0.53)	(0.73)
# of children in the family	-0.69***	-0.41	-0.69**	-0.87*	-0.33	-0.28	-0.48*	-0.35
	(0.20)	(0.37)	(0.25)	(0.39)	(0.18)	(0.18)	(0.21)	(0.30)
cons	3.55	11.38*	5.85	6.35	0.50	1.16	0.85	-14.21
	(3.66)	(5.23)	(4.77)	(7.42)	(3.32)	(3.36)	(4.03)	(7.77)
N	961	961	611	286	548	540	286	415

Table A-2.1: PBS (Sample: HS Dropout Mother)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Passive time	-0.00	0.00	-0.00	0.00	-0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	-0.00		-0.00	-0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				-0.00			0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.58***	0.58***	0.54***	
					(0.12)	(0.12)	(0.13)	
Non- working (mom)	0.14		0.08	-0.06	0.04	0.03	-0.07	0.14
	(0.09)		(0.10)	(0.09)	(0.07)	(0.07)	(0.07)	(0.13)
Part-time working (mom)	-0.06		-0.02	-0.16	0.01	-0.04	-0.09	-0.04
	(0.11)		(0.12)	(0.12)	(0.10)	(0.10)	(0.10)	(0.16)
Week hours worked (mom)		-0.00						
		(0.00)						
Parental warmth (mom)	0.11*	0.04	0.16**	0.11	0.11	0.11	0.11	0.07
	(0.04)	(0.10)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)
Distress Index (mom)	-0.03***	-0.03**	-0.03***	-0.04***	-0.02***	-0.02***	-0.02*	-0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Neighborhood	0.02	-0.04	-0.01	-0.06*	-0.01	-0.01	-0.03	-0.03
	(0.04)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)	(0.02)	(0.04)
HH Cognitive Scale	0.01	0.01	0.01	-0.01	0.02*	0.02*	0.02	0.49
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.38)
Family Income (log)	0.04	0.11*	0.04	-0.05	0.06	0.05	-0.01	0.09
	(0.07)	(0.05)	(0.06)	(0.06)	(0.04)	(0.04)	(0.06)	(0.07)
Child age (years)	0.10	-0.01	0.06	0.17*	0.03	0.04	0.05	0.28
	(0.05)	(0.06)	(0.06)	(0.07)	(0.05)	(0.05)	(0.06)	(0.17)
Child age^2	-0.00	0.00	-0.00	-0.01*	-0.00	-0.00	-0.00	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Low birth weight	-0.15		-0.30	-0.36	-0.11	-0.13	-0.05	-0.08
	(0.15)		(0.16)	(0.23)	(0.11)	(0.11)	(0.21)	(0.15)
Black (child)	0.17		0.13	0.24*	-0.03	-0.01	0.03	-0.01
	(0.12)		(0.13)	(0.11)	(0.09)	(0.09)	(0.08)	(0.12)
Hispanic (child)	0.45***		0.43***	0.53***	0.12	0.13	0.17	-0.02
	(0.10)		(0.09)	(0.09)	(0.09)	(0.08)	(0.10)	(0.12)
Other race (child)	0.26*		0.04	-0.00	-0.12	-0.09	-0.18*	0.34
	(0.13)		(0.13)	(0.13)	(0.08)	(0.09)	(0.09)	(0.21)
Male (child)	-0.12		-0.15	-0.31***	-0.05	-0.05	-0.24***	0.17
	(0.07)		(0.08)	(0.08)	(0.07)	(0.07)	(0.07)	(0.09)
Biol. Mother	-0.10	-0.06	-0.09	-0.20**	-0.02	-0.04	-0.06	-0.08
	(0.08)	(0.19)	(0.08)	(0.07)	(0.06)	(0.05)	(0.06)	(0.10)
# of children in the family	0.04	-0.01	0.05	0.01	0.02	0.03	-0.02	0.08*
	(0.03)	(0.07)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)
cons	2.67***	3.35***	2.86***	3.90***	0.71	0.69	1.76*	-3.37*
	(0.74)	(0.87)	(0.77)	(0.79)	(0.66)	(0.65)	(0.78)	(1.67)
N	585	585	353	161	327	320	161	245

Table A-2.2: PBS (Sample: HS Completion Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			-0.00	-0.00		-0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			0.00	0.00		0.00	0.01*	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				0.00			0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.70***	0.71***	0.80***	
					(0.04)	(0.04)	(0.06)	
Non-working (mom)	0.07		0.11	0.00	0.00	0.01	-0.06	0.11
	(0.06)		(0.07)	(0.08)	(0.05)	(0.05)	(0.04)	(0.09)
Part-time working (mom)	-0.05		0.02	0.06	-0.05	-0.04	-0.02	-0.04
	(0.07)		(0.08)	(0.08)	(0.07)	(0.06)	(0.05)	(0.08)
Week hours worked (mom)		0.00						
		(0.00)						
Parental warmth (mom)	0.26***	0.11**	0.23***	0.21***	0.05	0.07	0.01	0.08
	(0.04)	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)	(0.04)	(0.04)
Distress Index (mom)	-0.03***	-0.02*	-0.03***	-0.05***	-0.00	-0.01	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)
Neighborhood	-0.05*	-0.02	-0.06*	-0.08*	-0.01	-0.01	-0.04*	-0.01
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
HH Cognitive Scale	-0.01	0.01	-0.01	-0.02*	0.00	-0.00	-0.00	-0.08
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.17)
Family Income (log)	-0.01	-0.02	-0.02	-0.09	-0.01	-0.01	-0.06*	-0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.02)	(0.05)
Child age (years)	-0.05	-0.01	-0.06*	-0.06	-0.06*	-0.07*	-0.05	-0.14
	(0.03)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)	(0.03)	(0.11)
Child age^2	0.00	0.00	0.00*	0.00	0.00*	0.00*	0.00	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.24*		-0.24	-0.27	-0.01	0.00	-0.03	0.14
	(0.12)		(0.13)	(0.15)	(0.06)	(0.06)	(0.06)	(0.09)
Black (child)	0.17		0.17	0.16	0.05	0.05	0.11	-0.05
	(0.09)		(0.09)	(0.10)	(0.05)	(0.05)	(0.07)	(0.08)
Hispanic (child)	0.17		0.14	0.02	-0.02	-0.05	-0.05	-0.12
	(0.10)		(0.11)	(0.11)	(0.08)	(0.08)	(0.04)	(0.11)
Other race (child)	0.07		0.03	0.01	-0.00	0.00	0.04	0.05
	(0.09)		(0.12)	(0.15)	(0.08)	(0.08)	(0.08)	(0.14)
Male (child)	-0.21***		-0.20***	-0.22***	-0.03	-0.04	-0.02	0.03
	(0.06)		(0.06)	(0.06)	(0.04)	(0.04)	(0.04)	(0.06)
Biol. Mother	-0.10	-0.13	-0.11	-0.10	-0.06	-0.04	-0.01	-0.04
	(0.09)	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)	(0.03)	(0.08)
# of children in the family	-0.02	0.03	-0.02	-0.01	0.02	0.01	0.03	0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
cons	3.74***	3.93***	4.12***	4.97***	1.44**	1.47**	1.73***	0.60
	(0.54)	(0.48)	(0.54)	(0.68)	(0.53)	(0.47)	(0.50)	(0.91)
N	1793	1796	1113	523	1028	1008	523	766

Table A-2.3: PBS (Sample: Mothers with Some College Education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00**	0.00	-0.00*	-0.00	-0.00*	-0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.01*		-0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	-0.01*		-0.00	-0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				0.00			-0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.59***	0.60***	0.66***	
					(0.07)	(0.08)	(0.06)	
Non-working (mom)	0.19***		0.25***	0.19*	0.12*	0.12*	0.05	0.13
	(0.06)		(0.06)	(0.08)	(0.05)	(0.05)	(0.05)	(0.08)
Part-time working (mom)	0.09		0.12	0.18*	0.05	0.04	0.11*	-0.11
	(0.05)		(0.06)	(0.08)	(0.04)	(0.04)	(0.05)	(0.07)
Week hours worked (mom)		-0.00						
		(0.00)						
Parental warmth (mom)	0.22***	0.15**	0.20***	0.16**	0.12**	0.12**	0.08*	0.08
	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)
Distress Index (mom)	-0.03***	-0.01	-0.03***	-0.02*	-0.02**	-0.02**	-0.00	-0.01*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Neighborhood	-0.03	-0.01	-0.04	-0.03	-0.02	-0.02	-0.02	-0.05
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.04)
HH Cognitive Scale	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.39*
	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.19)
Family Income (log)	0.06	0.04	0.03	0.02	0.01	-0.00	-0.01	-0.02
	(0.03)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.04)	(0.05)
Child age (years)	0.04	-0.03	-0.01	0.00	-0.02	-0.04	-0.06	-0.13
	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.16)
Child age^2	-0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Low birth weight	-0.04		-0.05	-0.06	-0.07	-0.09	-0.06	-0.01
	(0.09)		(0.11)	(0.11)	(0.07)	(0.07)	(0.09)	(0.13)
Black (child)	0.22***		0.21**	0.32***	0.06	0.05	0.21**	0.04
	(0.06)		(0.08)	(0.07)	(0.05)	(0.05)	(0.08)	(0.07)
Hispanic (child)	0.30**		0.12	0.08	-0.05	-0.08	0.10	-0.15
	(0.11)		(0.13)	(0.16)	(0.11)	(0.10)	(0.09)	(0.16)
Other race (child)	-0.03		-0.00	0.17	-0.02	-0.02	0.21**	-0.01
	(0.11)		(0.12)	(0.11)	(0.08)	(0.08)	(0.06)	(0.14)
Male (child)	-0.10*		-0.09	-0.00	-0.04	-0.03	0.05	0.04
	(0.05)		(0.05)	(0.06)	(0.03)	(0.03)	(0.04)	(0.05)
Biol. mother	-0.04	0.09	-0.03	-0.14	0.06	0.05	-0.03	0.04
	(0.06)	(0.09)	(0.07)	(0.08)	(0.07)	(0.06)	(0.06)	(0.08)
# of children in the family	-0.02	0.00	-0.03	-0.03	-0.02	-0.01	0.02	0.00
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
Family Income (log)	0.06	0.04	0.03	0.02	0.01	-0.00	-0.01	-0.02
	(0.03)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.04)	(0.05)
cons	2.59***	3.12***	3.42***	3.46***	1.35**	1.59***	1.49**	0.34
	(0.46)	(0.37)	(0.49)	(0.71)	(0.46)	(0.42)	(0.51)	(1.21)
N	1362	1367	834	380	775	758	380	598

Table A-2.4: PBS (Sample: Mothers with College Degree or More)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	0.00	-0.00	0.00	-0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00**	0.00		0.00*	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	0.00		-0.00	-0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				0.00			0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.01*			-0.00*	
				(0.00)			(0.00)	
PBS (1-lag)					0.75***	0.75***	0.79***	
					(0.04)	(0.04)	(0.04)	
Non-working (mom)	0.04		0.07	0.04	0.02	0.01	-0.05	0.08
	(0.06)		(0.07)	(0.10)	(0.05)	(0.05)	(0.04)	(0.07)
Part-time working (mom)	-0.08		-0.06	-0.07	0.00	-0.00	-0.04	0.09
	(0.05)		(0.06)	(0.07)	(0.04)	(0.03)	(0.04)	(0.05)
Week hours worked (mom)		-0.00						
		(0.00)						
Parental warmth (mom)	0.14*	0.21*	0.14*	0.14	0.05	0.05	0.04	-0.09
	(0.06)	(0.08)	(0.07)	(0.08)	(0.04)	(0.04)	(0.04)	(0.09)
Distress Index (mom)	-0.05***	-0.02	-0.05***	-0.07***	-0.02***	-0.02**	-0.02	-0.01
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Neighborhood	-0.08**	-0.01	-0.06	-0.05	-0.02	-0.02	0.01	-0.06
	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
HH Cognitive Scale	-0.00	-0.01	0.00	0.00	-0.00	-0.00	0.00	0.48
	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.37)
Family Income (log)	-0.01	0.01	0.00	0.01	0.02	0.01	0.04	0.01
	(0.04)	(0.05)	(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.05)
Child age (years)	-0.04	-0.04	-0.03	-0.02	-0.04	-0.03	-0.02	-0.13
	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.13)
Child age^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.27*		-0.18	-0.21	-0.02	-0.03	-0.04	-0.02
	(0.14)		(0.14)	(0.18)	(0.07)	(0.08)	(0.07)	(0.10)
Black (child)	0.19		0.13	-0.26	0.07	0.04	-0.20*	0.24*
	(0.10)		(0.11)	(0.21)	(0.05)	(0.05)	(0.08)	(0.11)
Hispanic (child)	0.33*		0.24	0.28	0.07	0.05	0.00	0.24*
	(0.14)		(0.13)	(0.17)	(0.07)	(0.07)	(0.12)	(0.11)
Other race (child)	0.34**		0.26*	0.36*	0.09*	0.09*	0.09	0.09
	(0.12)		(0.12)	(0.16)	(0.04)	(0.04)	(0.05)	(0.13)
Male (child)	-0.12*		-0.08	-0.10	-0.05	-0.04	-0.03	-0.00
	(0.05)		(0.05)	(0.06)	(0.03)	(0.02)	(0.04)	(0.05)
Biol. mother	-0.09	-0.08	-0.15	-0.10	-0.04	-0.04	0.02	0.05
	(0.08)	(0.18)	(0.09)	(0.10)	(0.05)	(0.05)	(0.05)	(0.09)
# of children in the family	0.03	0.03	0.01	-0.04	0.01	0.02	-0.02	0.02
	(0.03)	(0.04)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
cons	4.15***	3.53***	3.84***	3.98***	0.85*	0.83*	0.47	0.56
	(0.47)	(0.51)	(0.53)	(0.73)	(0.33)	(0.32)	(0.49)	(0.80)
N	974	974	607	286	560	548	286	428

Table A-3.1: LW (Sample: HS Dropout Mother)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.08	0.28**	0.05	0.07	0.09	0.22***	0.17	0.15
	(0.05)	(0.09)	(0.07)	(0.17)	(0.06)	(0.07)	(0.10)	(0.09)
Passive time	0.05	0.11	0.11	0.16	0.05	0.12	0.02	0.15*
	(0.05)	(0.06)	(0.08)	(0.18)	(0.06)	(0.07)	(0.11)	(0.08)
Active time (1-lag)			0.04	-0.02		-0.23***	-0.15	
			(0.06)	(0.17)		(0.06)	(0.11)	
Passive time (1-lag)			-0.05	-0.13		-0.10	-0.06	
			(0.08)	(0.16)		(0.07)	(0.10)	
Active time (2-lag)				0.08			0.02	
				(0.09)			(0.05)	
Passive time (2-lag)				-0.01			-0.01	
				(0.11)			(0.07)	
LW (1-lag)					0.62***	0.65***	0.83***	
					(0.05)	(0.04)	(0.06)	
Non-working (mom)	1.49		1.91	3.89	2.23	2.35	3.83	1.18
	(1.57)		(2.18)	(3.69)	(1.79)	(1.78)	(2.27)	(2.49)
Part-time working (mom)	3.16		2.89	5.66	0.43	0.98	2.40	-1.88
	(2.10)		(2.87)	(5.70)	(2.44)	(2.46)	(3.51)	(3.72)
Week hours worked (mom)		-0.03						
		(0.07)						
Parental warmth (mom)	-2.79**	0.79	-2.71	-3.28	-0.52	-0.41	-0.65	1.46
	(0.98)	(1.45)	(1.42)	(2.39)	(1.18)	(1.17)	(1.49)	(1.63)
Distress Index (mom)	-0.38**	-0.87***	-0.53*	-0.47	-0.43**	-0.40*	-0.16	-0.53*
	(0.15)	(0.23)	(0.20)	(0.35)	(0.16)	(0.16)	(0.22)	(0.23)
Neighborhood	-0.55	0.73	-1.04	-1.61	-0.61	-0.67	-0.15	-0.60
	(0.58)	(0.92)	(0.79)	(1.40)	(0.65)	(0.64)	(0.88)	(0.93)
HH Cognitive Scale	0.11	0.04	0.19	0.92	0.45	0.34	0.87*	5.61
	(0.23)	(0.29)	(0.31)	(0.56)	(0.24)	(0.25)	(0.34)	(7.71)
Family Income (log)	0.56	-0.27	0.56	0.08	0.49	0.24	0.80	-0.34
	(0.69)	(0.77)	(0.93)	(1.68)	(0.75)	(0.74)	(1.03)	(1.12)
Child age (years)	1.62	2.94*	1.57	4.42	2.70*	2.57*	3.63*	-4.14
	(1.07)	(1.22)	(1.44)	(2.63)	(1.15)	(1.15)	(1.61)	(3.47)
Child age^2	-0.09*	-0.12**	-0.07	-0.18	-0.11*	-0.11*	-0.15*	0.13
	(0.04)	(0.05)	(0.06)	(0.11)	(0.05)	(0.05)	(0.07)	(0.13)
Low birth weight	4.32		4.30	7.52	2.29	1.84	7.08	-3.72
	(2.33)		(3.46)	(5.94)	(3.01)	(3.02)	(3.65)	(3.98)
Black (child)	-1.14		-2.64	-0.01	-1.88	-2.05	1.31	-2.54
	(2.10)		(2.78)	(4.65)	(2.27)	(2.27)	(2.92)	(3.28)
Hispanic (child)	3.88		2.34	5.26	0.09	-0.19	4.56	-1.67
	(2.08)		(2.73)	(4.36)	(2.23)	(2.22)	(2.74)	(3.27)
Other race (child)	5.99		5.75	9.16	3.85	2.49	3.70	1.54
	(3.69)		(5.19)	(9.11)	(4.52)	(4.48)	(5.63)	(6.42)
Male (child)	-4.95***		-4.70*	-4.14	-0.77	-0.78	-0.27	1.63
	(1.35)		(1.82)	(3.05)	(1.51)	(1.50)	(1.90)	(2.20)
Biol. mother	-2.53	-1.35	-1.78	-3.82	0.01	-0.09	-1.50	2.61
	(1.69)	(5.02)	(2.23)	(3.71)	(1.78)	(1.77)	(2.28)	(2.67)
# of children in the family	-0.28	0.58	-0.13	-0.88	-0.03	-0.19	-1.12	0.39
	(0.54)	(1.23)	(0.73)	(1.27)	(0.58)	(0.59)	(0.78)	(0.90)
cons	97.74***	73.82***	97.01***	85.35**	18.93	22.89	-9.43	23.51
	(10.86)	(14.04)	(14.83)	(26.54)	(12.82)	(12.80)	(17.87)	(26.22)
N	559	559	336	152	290	286	150	214

Table A-3.2: LW (Sample: HS Completion Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.10**	0.07*	0.05	0.05	0.05*	0.09**	0.10*	0.04
	(0.03)	(0.04)	(0.04)	(0.08)	(0.02)	(0.03)	(0.04)	(0.04)
Passive time	0.06*	0.04	0.08	0.01	0.04	0.05*	0.04	0.03
	(0.03)	(0.03)	(0.04)	(0.09)	(0.02)	(0.03)	(0.04)	(0.04)
Active time (1-lag)			0.05	0.08		-0.06*	-0.10**	
			(0.04)	(0.08)		(0.03)	(0.04)	
Passive time (1-lag)			-0.00	0.02		-0.04	-0.05	
			(0.04)	(0.08)		(0.03)	(0.04)	
Active time (2-lag)				-0.02			-0.01	
				(0.05)			(0.03)	
Passive time (2-lag)				0.07			0.01	
				(0.06)			(0.03)	
LW (1-lag)					0.79***	0.79***	0.86***	
					(0.02)	(0.02)	(0.02)	
Non-working (mom)	1.98		2.30	0.66	1.17	1.15	-0.44	1.58
	(1.09)		(1.39)	(2.10)	(0.87)	(0.87)	(1.00)	(1.41)
Part-time working (mom)	2.19		2.71	0.13	-0.45	-0.30	-1.11	0.26
	(1.15)		(1.43)	(2.12)	(0.91)	(0.91)	(1.01)	(1.47)
Week hours worked (mom)		-0.02						
		(0.03)						
Parental warmth (mom)	0.24	-0.74	-0.47	-1.30	-0.86	-0.79	-0.35	-1.43
	(0.64)	(0.77)	(0.81)	(1.20)	(0.50)	(0.51)	(0.57)	(0.80)
Distress Index (mom)	-0.09	-0.14	-0.04	-0.11	-0.09	-0.12	-0.26*	0.02
	(0.12)	(0.17)	(0.15)	(0.22)	(0.09)	(0.09)	(0.11)	(0.15)
Neighborhood	0.06	0.45	-0.06	0.32	-0.03	-0.06	0.76*	-0.38
	(0.38)	(0.52)	(0.47)	(0.72)	(0.30)	(0.30)	(0.34)	(0.51)
HH Cognitive Scale	-0.05	-0.37**	0.01	0.08	0.17	0.12	0.19	1.68
	(0.12)	(0.14)	(0.16)	(0.26)	(0.10)	(0.10)	(0.12)	(3.39)
Family Income (log)	0.99	-0.24	1.84*	1.88	0.37	0.29	0.78	-0.23
	(0.59)	(0.65)	(0.75)	(1.09)	(0.47)	(0.47)	(0.52)	(0.77)
Child age (years)	1.70**	1.19*	1.61*	1.58	1.70***	1.64***	2.31***	-5.91**
	(0.61)	(0.52)	(0.76)	(1.13)	(0.48)	(0.48)	(0.55)	(1.79)
Child age^2	-0.08**	-0.09***	-0.08*	-0.07	-0.08***	-0.08***	-0.09***	0.19**
	(0.03)	(0.02)	(0.03)	(0.05)	(0.02)	(0.02)	(0.02)	(0.07)
Low birth weight	-3.61**		-4.01*	-3.30	-1.64	-1.65	0.58	-2.89
	(1.28)		(1.64)	(2.43)	(1.00)	(1.00)	(1.16)	(1.69)
Black (child)	-6.91***		-6.10***	-5.12**	-1.83*	-1.92*	-0.13	-3.58**
	(0.98)		(1.24)	(1.89)	(0.79)	(0.80)	(0.91)	(1.30)
Hispanic (child)	-2.63		-3.22	-4.26	-0.82	-1.09	-0.76	-3.33
	(1.78)		(2.22)	(3.25)	(1.41)	(1.42)	(1.55)	(2.32)
Other race (child)	2.98		3.68	0.78	0.84	0.58	0.04	-4.03
	(1.99)		(2.57)	(3.79)	(1.58)	(1.58)	(1.80)	(2.80)
Male (child)	-3.34***		-3.68***	-3.19*	-0.75	-0.77	-1.11	-0.42
	(0.79)		(0.98)	(1.46)	(0.62)	(0.62)	(0.70)	(1.03)
Biol. mother	0.35	1.35	0.38	-1.35	-0.08	-0.06	-0.16	0.17
	(1.01)	(2.98)	(1.28)	(1.95)	(0.81)	(0.81)	(0.93)	(1.32)
# of children in the family	-1.50***	-0.36	-1.71***	-1.27	-0.57	-0.56	-0.35	0.26
	(0.39)	(0.68)	(0.49)	(0.73)	(0.30)	(0.31)	(0.35)	(0.49)
cons	87.11***	104.83***	81.88***	82.07***	13.31	14.71*	-5.27	50.35**
	(8.53)	(8.81)	(10.77)	(15.88)	(6.89)	(6.95)	(7.88)	(15.41)
N	1728	1731	1069	508	957	949	505	705

Table A-3.3: LW (Sample: Mothers with Some College Education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.05	-0.11*	0.00	0.09	0.00	0.00	0.10	-0.03
	(0.04)	(0.05)	(0.06)	(0.11)	(0.04)	(0.04)	(0.06)	(0.07)
Passive time	0.09*	-0.02	0.09	0.21	0.04	0.01	-0.02	0.02
	(0.04)	(0.05)	(0.05)	(0.10)	(0.03)	(0.04)	(0.06)	(0.05)
Active time (1-lag)			-0.09	-0.20		-0.00	-0.13*	
			(0.05)	(0.11)		(0.04)	(0.06)	
Passive time (1-lag)			0.08	-0.05		0.08	0.04	
			(0.06)	(0.10)		(0.04)	(0.05)	
Active time (2-lag)				-0.00			-0.05	
				(0.08)			(0.04)	
Passive time (2-lag)				0.02			0.01	
				(0.09)			(0.05)	
LW (1-lag)					0.77***	0.77***	0.84***	
					(0.02)	(0.02)	(0.03)	
Non-working (mom)	0.32		0.15	1.05	-1.07	-1.16	1.46	-3.48
	(1.39)		(1.79)	(2.87)	(1.25)	(1.26)	(1.51)	(2.03)
Part-time working (mom)	3.55*		3.20	4.12	0.51	0.21	1.50	-2.10
	(1.39)		(1.81)	(2.72)	(1.23)	(1.24)	(1.43)	(1.92)
Week hours worked (mom)		-0.07						
		(0.06)						
Parental warmth (mom)	-0.79	-1.96	-1.78	-2.41	-0.83	-0.77	-0.58	-0.77
	(0.85)	(1.22)	(1.10)	(1.71)	(0.74)	(0.75)	(0.90)	(1.14)
Distress Index (mom)	-0.31*	0.15	-0.38*	-0.29	0.01	-0.01	0.10	0.21
	(0.14)	(0.17)	(0.18)	(0.26)	(0.12)	(0.12)	(0.14)	(0.19)
Neighborhood	-1.27*	-1.70	-1.29*	-0.47	-1.19**	-1.25**	-1.01	-0.74
	(0.50)	(0.89)	(0.66)	(1.00)	(0.45)	(0.45)	(0.53)	(0.71)
HH Cognitive Scale	0.10	-0.42*	0.02	0.12	0.08	0.08	0.17	5.25
	(0.15)	(0.19)	(0.20)	(0.31)	(0.13)	(0.14)	(0.16)	(4.62)
Family Income (log)	2.13**	0.22	1.63	3.18	0.25	0.42	0.68	-0.66
	(0.73)	(0.69)	(0.91)	(1.76)	(0.63)	(0.63)	(0.93)	(1.24)
Child age (years)	1.99*	-0.06	1.37	2.87*	0.90	0.93	1.95*	-14.65***
	(0.79)	(0.73)	(1.00)	(1.46)	(0.67)	(0.68)	(0.76)	(2.75)
Child age^2	-0.11***	-0.05	-0.09*	-0.15*	-0.05	-0.05	-0.09**	0.50***
	(0.03)	(0.03)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.10)
Low birth weight	0.36		0.67	2.70	0.25	0.47	1.20	-0.66
	(1.99)		(2.56)	(3.85)	(1.74)	(1.75)	(2.02)	(2.76)
Black (child)	-6.24***		-6.24***	-6.21**	-2.94**	-2.77**	-0.75	-5.50***
	(1.14)		(1.49)	(2.30)	(1.02)	(1.03)	(1.22)	(1.60)
Hispanic (child)	4.79		9.20*	12.15	4.33	5.15	5.11	-4.66
	(3.30)		(4.38)	(6.78)	(3.11)	(3.23)	(3.56)	(4.88)
Other race (child)	-2.07		0.08	0.44	1.94	2.08	3.54	-1.35
	(2.70)		(3.42)	(5.13)	(2.31)	(2.32)	(2.69)	(3.70)
Male (child)	-3.92***		-4.24***	-4.94*	-0.85	-0.90	-1.73	0.75
	(0.97)		(1.26)	(1.92)	(0.86)	(0.87)	(1.02)	(1.37)
Biol. mother	-0.54	1.71	-1.14	0.66	0.56	0.67	0.03	1.31
	(1.22)	(2.96)	(1.60)	(2.54)	(1.08)	(1.09)	(1.34)	(1.69)
# of children in the family	-1.67**	0.92	-1.16	-1.92	0.55	0.45	0.05	0.88
	(0.57)	(0.86)	(0.74)	(1.14)	(0.50)	(0.51)	(0.60)	(0.80)
cons	89.76***	125.18***	102.09***	77.92***	22.59*	20.39*	4.53	109.33***
	(10.46)	(10.27)	(13.09)	(22.55)	(9.23)	(9.34)	(12.12)	(24.39)
N	1316	1321	806	367	733	721	364	562

Table A-3.4: LW (Sample: Mothers with College Degree or More)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.08	0.04	-0.12	-0.11	-0.06	-0.05	0.03	0.02
	(0.05)	(0.05)	(0.07)	(0.11)	(0.05)	(0.05)	(0.06)	(0.07)
Passive time	0.10*	0.02	0.11	0.06	0.04	0.03	-0.04	-0.01
	(0.04)	(0.05)	(0.06)	(0.13)	(0.04)	(0.05)	(0.07)	(0.06)
Active time (1-lag)			0.00	-0.16		-0.00	-0.13*	
			(0.06)	(0.12)		(0.05)	(0.07)	
Passive time (1-lag)			-0.03	0.08		-0.02	0.05	
			(0.06)	(0.13)		(0.05)	(0.07)	
Active time (2-lag)				-0.05			-0.03	
				(0.10)			(0.06)	
Passive time (2-lag)				-0.08			0.04	
				(0.09)			(0.05)	
LW (1-lag)					0.70***	0.71***	0.80***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	3.34*		2.60	2.63	-0.86	-0.73	-0.42	-1.97
	(1.66)		(2.14)	(3.40)	(1.61)	(1.58)	(1.92)	(2.42)
Part-time working (mom)	0.86		2.47	3.08	-1.18	-1.02	-1.12	-4.16*
	(1.45)		(1.82)	(2.78)	(1.41)	(1.38)	(1.58)	(2.04)
Week hours worked (mom)		0.02						
		(0.06)						
Parental warmth (mom)	1.12	3.76	2.14	0.01	1.87	1.66	-0.37	1.40
	(1.17)	(2.09)	(1.43)	(2.31)	(1.08)	(1.07)	(1.30)	(1.62)
Distress Index (mom)	-0.15	-0.22	-0.15	0.16	-0.20	-0.27	0.11	-0.87*
	(0.22)	(0.35)	(0.29)	(0.48)	(0.22)	(0.22)	(0.27)	(0.34)
Neighborhood	-0.69	0.83	-1.23	-1.45	-0.28	-0.03	-0.23	1.39
	(0.70)	(0.97)	(0.88)	(1.40)	(0.68)	(0.66)	(0.79)	(1.01)
HH Cognitive Scale	0.23	-0.32	0.07	0.33	0.09	-0.01	0.06	4.11
	(0.16)	(0.21)	(0.21)	(0.37)	(0.16)	(0.16)	(0.21)	(6.34)
Family Income (log)	-0.49	-1.11	-0.43	-1.05	0.83	0.50	2.21*	-1.25
	(0.96)	(1.90)	(1.21)	(1.92)	(0.90)	(0.89)	(1.09)	(1.38)
Child age (years)	2.66**	1.48	2.31*	4.06*	1.23	1.02	0.82	-10.90***
	(0.91)	(0.88)	(1.17)	(1.79)	(0.88)	(0.86)	(1.02)	(3.26)
Child age^2	-0.09*	-0.06	-0.07	-0.16*	-0.04	-0.04	-0.03	0.38**
	(0.04)	(0.04)	(0.05)	(0.07)	(0.04)	(0.04)	(0.04)	(0.12)
Low birth weight	-1.89		-4.28	-6.22	-1.83	-1.61	-2.07	-2.05
	(2.78)		(3.65)	(5.82)	(2.81)	(2.74)	(3.43)	(3.95)
Black (child)	-1.74		0.06	-0.26	-1.30	-0.64	1.90	-5.75*
	(1.82)		(2.31)	(3.62)	(1.78)	(1.75)	(2.05)	(2.69)
Hispanic (child)	-12.28**		-8.80	-11.31	-4.23	-4.65	-3.98	-1.77
	(3.87)		(4.89)	(7.85)	(3.93)	(3.84)	(4.44)	(5.48)
Other race (child)	-0.64		0.88	-1.39	-0.25	-0.14	0.49	-2.62
	(3.57)		(4.51)	(6.19)	(3.73)	(3.64)	(3.49)	(5.75)
Male (child)	-3.41**		-2.59	-3.98	0.46	0.04	-0.65	0.64
	(1.17)		(1.48)	(2.29)	(1.13)	(1.11)	(1.30)	(1.65)
Biol. mother	-4.66**	0.97	-5.12*	-8.07*	-0.50	-1.81	-1.56	-0.98
	(1.77)	(5.63)	(2.26)	(3.57)	(1.72)	(1.71)	(2.06)	(2.54)
# of children in the family	-0.53	0.04	-0.51	-2.02	-0.35	-0.25	-0.85	2.34*
	(0.72)	(1.33)	(0.89)	(1.40)	(0.70)	(0.69)	(0.79)	(1.00)
cons	100.79***	100.70***	98.55***	114.35***	11.12	16.73	-2.73	78.84**
	(13.13)	(22.25)	(16.66)	(28.08)	(13.11)	(12.93)	(16.63)	(26.41)
N	931	931	577	272	515	510	271	392

Table A-4.1: AP (Sample: HS Dropout Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.03	-0.04	-0.06	-0.15	-0.07	-0.13*	-0.17*	-0.03
	(0.05)	(0.05)	(0.06)	(0.12)	(0.04)	(0.05)	(0.07)	(0.08)
Passive time	0.03	0.04	0.01	0.03	0.05	0.05	0.03	0.03
	(0.04)	(0.05)	(0.06)	(0.12)	(0.04)	(0.05)	(0.08)	(0.07)
Active time (1-lag)			0.09	0.14		0.09	0.10	
			(0.05)	(0.12)		(0.05)	(0.08)	
Passive time (1-lag)			0.10	0.01		-0.01	-0.01	
			(0.06)	(0.11)		(0.06)	(0.07)	
Active time (2-lag)				-0.04			-0.04	
				(0.06)			(0.04)	
Passive time (2-lag)				-0.04			-0.10*	
				(0.08)			(0.05)	
AP (1-lag)					0.66***	0.65***	0.72***	
					(0.04)	(0.04)	(0.05)	
Non-working (mom)	2.64*		2.02	1.59	0.03	0.07	0.01	-0.14
	(1.32)		(1.77)	(2.57)	(1.41)	(1.43)	(1.61)	(2.29)
Part-time working (mom)	0.94		0.01	2.74	-1.50	-1.69	-0.01	-3.81
	(1.76)		(2.32)	(3.96)	(1.90)	(1.95)	(2.49)	(3.41)
Week hours worked (mom)		-0.01						
		(0.06)						
Parental warmth (mom)	-1.67*	1.93	-1.02	-1.58	0.87	0.86	1.49	-0.19
	(0.82)	(1.35)	(1.15)	(1.66)	(0.93)	(0.93)	(1.07)	(1.50)
Distress Index (mom)	-0.40**	-0.56***	-0.64***	-0.62*	-0.34**	-0.32*	-0.11	-0.18
	(0.12)	(0.14)	(0.16)	(0.25)	(0.13)	(0.13)	(0.16)	(0.21)
Neighborhood	-0.90	0.59	-1.53*	-1.33	-1.21*	-1.11*	-0.27	-1.22
	(0.49)	(0.84)	(0.64)	(0.97)	(0.51)	(0.51)	(0.62)	(0.86)
HH Cognitive Scale	-0.01	0.40	0.20	0.53	0.18	0.22	0.51*	6.45
	(0.19)	(0.24)	(0.25)	(0.39)	(0.19)	(0.20)	(0.25)	(7.08)
Family Income (log)	0.08	0.59	-0.38	-1.93	0.19	0.33	-0.29	1.36
	(0.58)	(0.67)	(0.75)	(1.16)	(0.58)	(0.59)	(0.74)	(1.02)
Child age (years)	4.05***	3.38***	3.23**	6.04**	1.52	1.59	2.37	-10.07**
	(0.90)	(0.88)	(1.17)	(1.84)	(0.91)	(0.92)	(1.22)	(3.20)
Child age^2	-0.19***	-0.13***	-0.14**	-0.25**	-0.07	-0.07	-0.10	0.30*
	(0.04)	(0.03)	(0.05)	(0.08)	(0.04)	(0.04)	(0.05)	(0.12)
Low birth weight	0.08		-1.31	-2.45	-0.24	0.21	0.24	0.14
	(1.95)		(2.79)	(4.12)	(2.33)	(2.39)	(2.58)	(3.65)
Black (child)	-4.19*		-6.29**	-6.12	-3.19	-2.93	-2.56	1.47
	(1.76)		(2.26)	(3.25)	(1.79)	(1.82)	(2.10)	(3.02)
Hispanic (child)	-4.05*		-4.65*	-4.12	-3.51*	-3.22	0.31	1.03
	(1.73)		(2.20)	(3.03)	(1.74)	(1.77)	(1.98)	(3.00)
Other race (child)	-6.66*		-7.21	-2.20	-4.79	-4.23	0.82	4.95
	(3.07)		(4.19)	(6.32)	(3.54)	(3.56)	(3.99)	(5.88)
Male (child)	0.50		0.45	0.59	0.11	0.08	-1.23	2.73
	(1.13)		(1.48)	(2.13)	(1.18)	(1.19)	(1.35)	(2.04)
Biol. mother	-2.91*	3.43	-1.01	-1.22	-0.14	-0.14	0.79	1.06
	(1.42)	(3.92)	(1.82)	(2.61)	(1.40)	(1.42)	(1.64)	(2.47)
# of children in the family	-0.47	0.38	0.04	0.25	0.14	0.18	0.19	0.38
	(0.45)	(0.93)	(0.59)	(0.89)	(0.46)	(0.47)	(0.56)	(0.83)
cons	89.83***	59.24***	93.55***	96.30***	28.16**	25.01*	15.48	65.39**
	(9.08)	(11.96)	(12.02)	(18.53)	(10.33)	(10.57)	(13.12)	(24.15)
N	552	552	332	151	284	280	147	210

Table A-4.2: AP (Sample: HS Completion Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.03	-0.02	0.02	0.00	0.05	0.04	-0.03	0.01
	(0.03)	(0.03)	(0.04)	(0.07)	(0.03)	(0.03)	(0.04)	(0.04)
Passive time	-0.01	-0.01	-0.02	-0.03	0.01	0.02	-0.08*	-0.03
	(0.03)	(0.03)	(0.04)	(0.08)	(0.02)	(0.03)	(0.04)	(0.04)
Active time (1-lag)			0.04	0.12		-0.00	0.05	
			(0.03)	(0.07)		(0.03)	(0.04)	
Passive time (1-lag)			-0.00	-0.01		-0.03	0.09*	
			(0.04)	(0.07)		(0.03)	(0.04)	
Active time (2-lag)				0.04			0.05	
				(0.05)			(0.03)	
Passive time (2-lag)				0.06			0.05	
				(0.05)			(0.03)	
AP (1-lag)					0.68***	0.68***	0.82***	
					(0.02)	(0.02)	(0.02)	
Non-working (mom)	0.52		1.22	1.08	0.17	0.74	0.55	0.22
	(0.99)		(1.21)	(1.87)	(0.92)	(0.88)	(1.01)	(1.47)
Part-time working (mom)	3.06**		3.71**	2.23	1.05	1.20	0.84	2.55
	(1.04)		(1.25)	(1.88)	(0.96)	(0.93)	(1.02)	(1.54)
Week hours worked (mom)		-0.05						
		(0.03)						
Parental warmth (mom)	-0.74	-1.52	-1.08	-1.29	-1.38**	-1.45**	-0.88	-1.85*
	(0.58)	(0.98)	(0.71)	(1.07)	(0.53)	(0.51)	(0.58)	(0.83)
Distress Index (mom)	-0.15	-0.09	-0.23	-0.29	-0.02	-0.06	-0.32**	0.57***
	(0.11)	(0.18)	(0.13)	(0.20)	(0.10)	(0.10)	(0.11)	(0.16)
Neighborhood	-0.66	-0.30	-0.57	-0.63	-0.63*	-0.51	0.28	-1.00
	(0.35)	(0.45)	(0.41)	(0.63)	(0.31)	(0.30)	(0.35)	(0.53)
HH Cognitive Scale	0.44***	0.43**	0.45**	0.50*	0.26*	0.22*	0.50***	0.80
	(0.11)	(0.13)	(0.14)	(0.23)	(0.10)	(0.10)	(0.12)	(3.53)
Family Income (log)	1.26*	0.13	1.32*	1.21	0.50	0.30	-0.41	0.68
	(0.54)	(0.75)	(0.65)	(0.96)	(0.49)	(0.47)	(0.52)	(0.80)
Child age (years)	4.04***	3.47***	3.56***	3.44***	2.51***	2.27***	2.68***	-10.69***
	(0.56)	(0.57)	(0.66)	(1.00)	(0.50)	(0.49)	(0.55)	(1.87)
Child age^2	-0.18***	-0.16***	-0.17***	-0.15***	-0.12***	-0.11***	-0.11***	0.32***
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.07)
Low birth weight	-3.38**		-2.92*	-2.47	-0.78	-0.88	-1.49	0.38
	(1.17)		(1.43)	(2.15)	(1.05)	(1.01)	(1.17)	(1.77)
Black (child)	-10.65***		-9.48***	-7.81***	-2.57**	-2.64**	-1.59	0.20
	(0.89)		(1.08)	(1.67)	(0.85)	(0.82)	(0.93)	(1.35)
Hispanic (child)	-4.35**		-5.46**	-4.18	-1.40	-1.58	-0.52	2.09
	(1.61)		(1.92)	(2.88)	(1.47)	(1.43)	(1.56)	(2.39)
Other race (child)	-5.14**		-4.19	-6.06	-0.25	-0.52	-3.21	0.26
	(1.81)		(2.23)	(3.35)	(1.66)	(1.60)	(1.81)	(2.92)
Male (child)	-0.09		0.75	1.05	0.95	1.00	-0.37	1.06
	(0.72)		(0.85)	(1.30)	(0.65)	(0.63)	(0.70)	(1.07)
Biol. mother	2.19*	3.03	1.92	1.19	0.25	0.22	-0.87	0.91
	(0.91)	(2.37)	(1.11)	(1.72)	(0.85)	(0.82)	(0.93)	(1.37)
# of children in the family	-1.25***	-1.14	-1.43***	-1.16	-0.18	-0.34	0.00	0.03
	(0.35)	(0.61)	(0.43)	(0.64)	(0.32)	(0.31)	(0.35)	(0.51)
cons	78.12***	91.59***	80.67***	79.27***	22.16**	26.39***	10.30	80.79***
	(7.73)	(9.90)	(9.34)	(14.05)	(7.27)	(7.06)	(7.87)	(16.03)
N	552	552	332	151	284	280	147	210

Table A-4.3: AP (Sample: Mothers with Some College Education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.05	-0.07	-0.01	-0.04	-0.04	-0.03	-0.03	-0.11
	(0.04)	(0.04)	(0.05)	(0.09)	(0.03)	(0.04)	(0.05)	(0.06)
Passive time	0.03	-0.06	0.01	0.14	-0.03	-0.08*	-0.00	-0.01
	(0.03)	(0.04)	(0.04)	(0.08)	(0.03)	(0.03)	(0.05)	(0.05)
Active time (1-lag)			-0.04	0.02		-0.01	0.01	
			(0.04)	(0.09)		(0.03)	(0.05)	
Passive time (1-lag)			0.07	-0.04		0.11***	0.02	
			(0.05)	(0.08)		(0.03)	(0.05)	
Active time (2-lag)				-0.07			-0.03	
				(0.06)			(0.04)	
Passive time (2-lag)				-0.01			-0.06	
				(0.07)			(0.04)	
AP (1-lag)					0.66***	0.66***	0.81***	
					(0.02)	(0.02)	(0.03)	
Non-working (mom)	1.29		0.82	0.46	0.11	-0.07	-1.86	2.68
	(1.14)		(1.46)	(2.29)	(1.10)	(1.10)	(1.34)	(1.81)
Part-time working (mom)	1.40		0.35	-0.12	0.09	-0.20	-0.97	-0.77
	(1.14)		(1.47)	(2.17)	(1.07)	(1.07)	(1.26)	(1.69)
Week hours worked (mom)		0.02						
		(0.04)						
Neighborhood	-0.74	-1.00	-0.87	-0.73	-0.05	-0.08	-0.10	-0.24
	(0.41)	(0.63)	(0.53)	(0.80)	(0.39)	(0.39)	(0.46)	(0.63)
HH Cognitive Scale	0.69***	0.49**	0.52**	0.37	0.32**	0.32**	0.57***	4.88
	(0.12)	(0.16)	(0.16)	(0.25)	(0.12)	(0.12)	(0.15)	(4.07)
Family Income (log)	2.94***	-1.02	2.53***	4.30**	0.73	0.85	0.38	-0.64
	(0.59)	(0.71)	(0.74)	(1.41)	(0.55)	(0.55)	(0.83)	(1.10)
Child age (years)	4.32***	2.85***	4.04***	4.48***	2.67***	2.87***	3.49***	-11.44***
	(0.65)	(0.64)	(0.82)	(1.17)	(0.59)	(0.60)	(0.68)	(2.44)
Child age^2	-0.20***	-0.12***	-0.19***	-0.21***	-0.13***	-0.13***	-0.14***	0.36***
	(0.03)	(0.02)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.09)
Low birth weight	-2.43		-2.84	-3.08	-0.40	-0.05	-1.13	-0.16
	(1.63)		(2.08)	(3.07)	(1.52)	(1.52)	(1.78)	(2.42)
Black (child)	-8.45***		-8.10***	-7.15***	-3.84***	-3.49***	-1.30	-2.41
	(0.93)		(1.21)	(1.84)	(0.90)	(0.90)	(1.09)	(1.41)
Hispanic (child)	1.99		4.77	10.84*	3.97	5.19	6.06	-0.05
	(2.70)		(3.56)	(5.41)	(2.71)	(2.79)	(3.14)	(4.28)
Other race (child)	-2.39		-0.23	-0.63	0.14	0.53	-0.42	-1.64
	(2.21)		(2.78)	(4.10)	(2.02)	(2.00)	(2.37)	(3.25)
Male (child)	1.90*		1.68	1.70	1.28	1.22	0.62	0.96
	(0.80)		(1.02)	(1.54)	(0.75)	(0.75)	(0.90)	(1.21)
Biol. mother	-0.55	-2.21	-0.58	1.45	0.13	0.27	-0.78	0.97
	(1.00)	(2.97)	(1.30)	(2.03)	(0.95)	(0.95)	(1.19)	(1.50)
# of children in the family	-0.90	1.04	-0.59	-0.73	0.26	0.20	0.67	0.92
	(0.46)	(0.79)	(0.60)	(0.91)	(0.44)	(0.44)	(0.53)	(0.71)
cons	57.76***	100.80***	64.62***	41.83*	13.67	10.17	-4.40	85.90***
	(8.57)	(10.52)	(10.63)	(18.03)	(8.02)	(8.04)	(10.63)	(21.62)
N	1311	1311	801	365	726	714	361	555

Table A-4.4: AP (Sample: Mothers with College Degree or More)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.08	0.08	-0.02	0.04	-0.01	0.04	0.06	0.03
	(0.05)	(0.05)	(0.06)	(0.09)	(0.04)	(0.04)	(0.05)	(0.06)
Passive time	0.09*	0.00	0.12*	0.23*	0.05	0.02	0.02	0.07
	(0.04)	(0.04)	(0.05)	(0.11)	(0.03)	(0.04)	(0.06)	(0.05)
Active time (1-lag)			-0.09	-0.19		-0.09*	-0.16**	
			(0.05)	(0.10)		(0.04)	(0.05)	
Passive time (1-lag)			0.02	-0.04		0.04	0.00	
			(0.06)	(0.11)		(0.04)	(0.06)	
Active time (2-lag)				-0.21*			-0.02	
				(0.08)			(0.05)	
Passive time (2-lag)				-0.13			-0.02	
				(0.08)			(0.04)	
AP (1-lag)					0.70***	0.70***	0.84***	
					(0.03)	(0.03)	(0.04)	
Non-working (mom)	4.63**		4.40*	4.02	0.78	0.95	0.04	-1.75
	(1.45)		(1.88)	(2.89)	(1.33)	(1.34)	(1.59)	(2.11)
Part-time working (mom)	2.84*		2.84	2.21	-0.12	-0.09	-1.65	-2.98
	(1.27)		(1.59)	(2.36)	(1.17)	(1.16)	(1.30)	(1.77)
Week hours worked (mom)		-0.02						
		(0.05)						
Parental warmth (mom)	2.38*	2.18	2.16	3.14	1.26	1.34	1.11	0.59
	(1.03)	(1.52)	(1.25)	(1.96)	(0.89)	(0.90)	(1.08)	(1.41)
Distress Index (mom)	-0.20	-0.68**	0.12	0.49	0.09	0.08	-0.02	-0.15
	(0.20)	(0.21)	(0.26)	(0.41)	(0.18)	(0.18)	(0.23)	(0.30)
Neighborhood	-2.10***	0.31	-2.88***	-3.26**	-0.63	-0.61	0.62	0.44
	(0.61)	(0.69)	(0.77)	(1.19)	(0.56)	(0.57)	(0.67)	(0.88)
HH Cognitive Scale	0.64***	0.44*	0.56**	0.22	0.28*	0.21	0.26	10.91*
	(0.14)	(0.18)	(0.18)	(0.31)	(0.13)	(0.14)	(0.17)	(5.49)
Family Income (log)	1.20	-1.15	0.73	-0.01	0.41	0.19	-0.13	-0.37
	(0.84)	(1.00)	(1.06)	(1.63)	(0.74)	(0.75)	(0.89)	(1.21)
Child age (years)	5.59***	5.48***	4.34***	5.90***	3.24***	3.20***	4.31***	-13.45***
	(0.80)	(0.81)	(1.02)	(1.52)	(0.72)	(0.73)	(0.83)	(2.84)
Child age^2	-0.22***	-0.22***	-0.17***	-0.25***	-0.14***	-0.14***	-0.18***	0.43***
	(0.03)	(0.03)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.10)
Low birth weight	-4.10		-6.01	-6.22	-1.76	-1.48	0.22	-3.31
	(2.43)		(3.20)	(4.94)	(2.32)	(2.31)	(2.83)	(3.44)
Black (child)	-6.61***		-7.24***	-9.36**	-3.18*	-3.01*	-1.75	-5.95*
	(1.59)		(2.02)	(3.07)	(1.49)	(1.50)	(1.72)	(2.34)
Hispanic (child)	-10.97**		-7.88	-10.38	-4.64	-4.41	-7.33*	-2.32
	(3.38)		(4.29)	(6.66)	(3.25)	(3.24)	(3.65)	(4.77)
Other race (child)	3.53		2.70	2.22	0.59	0.03	1.39	4.98
	(3.12)		(3.96)	(5.25)	(3.07)	(3.07)	(2.87)	(5.01)
Male (child)	1.63		1.99	1.30	1.74	1.46	-0.41	0.80
	(1.03)		(1.30)	(1.94)	(0.93)	(0.94)	(1.07)	(1.43)
Biol. mother	-2.35	0.28	-3.29	-6.16*	-1.32	-1.70	-0.26	1.83
	(1.55)	(4.25)	(1.97)	(3.03)	(1.41)	(1.44)	(1.70)	(2.20)
# of children in the family	-0.27	-2.45**	-0.20	-1.67	-0.68	-0.71	-0.86	1.41
	(0.63)	(0.94)	(0.78)	(1.19)	(0.58)	(0.58)	(0.65)	(0.87)
cons	61.06***	92.30***	74.09***	85.54***	8.40	12.17	-4.67	89.57***
	(11.45)	(13.78)	(14.55)	(23.82)	(10.71)	(10.81)	(13.58)	(22.97)
N	932	932	578	272	515	510	271	393

Table A-5.1: BPI (Sample: Non-Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.03	-0.03	-0.03	-0.08	-0.00	-0.03	0.00	0.01
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Passive time	-0.02	-0.03	-0.01	-0.05	-0.02	-0.05**	-0.04	-0.05
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Active time (1-lag)			0.03	0.10		0.04*	0.02	
			(0.02)	(0.06)		(0.02)	(0.03)	
Passive time (1-lag)			0.02	0.04		0.06**	0.05	
			(0.02)	(0.05)		(0.02)	(0.03)	
Active time (2-lag)				0.05			0.03	
				(0.03)			(0.02)	
Passive time (2-lag)				0.03			0.01	
				(0.03)			(0.02)	
BPI (1-lag)					0.70***	0.73***	0.82***	
					(0.04)	(0.04)	(0.04)	
HS dropout (mom)	-2.41***		-2.87***	-2.95*	-1.03	-1.10	-0.30	0.57
	(0.69)		(0.86)	(1.41)	(0.63)	(0.62)	(0.77)	(1.09)
Some college (mom)	-2.66***		-2.17*	-2.58	-0.63	-0.68	-0.59	1.42
	(0.68)		(0.86)	(1.31)	(0.64)	(0.64)	(0.71)	(1.11)
College + (mom)	-0.41		-0.02	-0.51	0.87	0.69	-0.01	1.93
	(0.82)		(1.02)	(1.58)	(0.74)	(0.73)	(0.85)	(1.34)
Years of education (mom)		2.40*						
		(0.99)						
Parental warmth	0.49	-0.18	0.08	0.10	0.30	0.29	-0.04	0.04
	(0.39)	(0.86)	(0.48)	(0.74)	(0.35)	(0.34)	(0.40)	(0.60)
Distress Index (mom)	0.71***	0.21	0.75***	0.84***	0.32***	0.28***	0.20*	0.16
	(0.06)	(0.12)	(0.08)	(0.14)	(0.07)	(0.07)	(0.08)	(0.11)
Neighborhood	0.84***	-0.03	0.90**	0.70	0.46*	0.36	0.17	-0.14
	(0.23)	(0.42)	(0.29)	(0.47)	(0.22)	(0.22)	(0.26)	(0.36)
HH Cognitive Scale	-0.11	0.02	-0.03	0.06	-0.07	-0.03	0.00	0.75
	(0.08)	(0.10)	(0.10)	(0.17)	(0.07)	(0.07)	(0.09)	(2.83)
Family Income (log)	-0.07	-0.06	-0.09	0.12	-0.01	-0.00	-0.30	0.04
	(0.24)	(0.30)	(0.32)	(0.57)	(0.23)	(0.23)	(0.31)	(0.39)
Child age (years)	0.51	0.60	0.28	-0.30	0.64	0.38	0.38	-0.46
	(0.39)	(0.50)	(0.51)	(0.81)	(0.37)	(0.37)	(0.44)	(0.95)
Child age^2	-0.03	-0.03	-0.02	0.01	-0.03*	-0.02	-0.02	0.01
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.04)
Low birth weight	-2.53**		-1.73	-2.18	0.00	-0.61	0.62	-0.80
	(0.93)		(1.26)	(1.98)	(0.89)	(0.90)	(1.07)	(1.57)
Black (child)	-0.21		-0.22	-0.41	0.79	0.56	-1.16	0.58
	(0.74)		(0.93)	(1.46)	(0.67)	(0.68)	(0.79)	(1.18)
Hispanic (child)	0.44		0.93	0.74	0.84	0.85	-0.78	1.86
	(0.91)		(1.12)	(1.74)	(0.85)	(0.83)	(0.94)	(1.50)
Other race (child)	-0.22		-0.36	0.29	-0.79	-0.37	-0.32	-4.03
	(1.70)		(2.13)	(3.36)	(1.39)	(1.43)	(1.81)	(2.64)
Male (child)	1.10*		1.16	1.44	0.41	0.32	0.88	-0.41
	(0.50)		(0.62)	(0.95)	(0.46)	(0.45)	(0.51)	(0.78)
Biol. mother	1.92*	2.46	2.07*	2.81*	0.22	0.59	-0.35	1.49
	(0.74)	(1.81)	(0.93)	(1.40)	(0.67)	(0.66)	(0.77)	(1.19)
# of Children in the family	-0.09	-0.53	-0.17	0.13	-0.33	-0.21	-0.08	-0.25
	(0.20)	(0.66)	(0.25)	(0.38)	(0.18)	(0.18)	(0.20)	(0.31)
cons	2.20	-21.16	2.97	0.01	-2.86	-2.98	-0.08	3.00
	(4.00)	(13.85)	(5.29)	(8.86)	(3.76)	(3.79)	(4.77)	(7.65)
N	609	612	378	181	337	330	181	271

Table A-5.2: BPI- (Sample: Part-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.03	0.03	-0.00	0.00	-0.01	-0.01	0.02	-0.04
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Passive time	-0.05*	-0.05	-0.03	-0.09	-0.02	-0.03	-0.05	-0.02
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Active time (1-lag)			-0.01	-0.02		-0.02	-0.02	
			(0.02)	(0.05)		(0.02)	(0.03)	
Passive time (1-lag)			0.01	0.02		0.03	0.00	
			(0.03)	(0.05)		(0.02)	(0.03)	
Active time (2-lag)				-0.02			0.00	
				(0.03)			(0.02)	
Passive time (2-lag)				0.06			0.03	
				(0.04)			(0.03)	
BPI (1-lag)					0.75***	0.74***	0.76***	
					(0.05)	(0.05)	(0.06)	
HS dropout (mom)	-1.66		-1.53	-3.38	-1.92	-1.68	-0.68	-1.06
	(1.30)		(1.67)	(2.34)	(1.37)	(1.38)	(1.52)	(1.88)
Some college (mom)	-1.08		-0.94	-1.46	0.34	0.35	0.18	1.09
	(0.69)		(0.87)	(1.27)	(0.72)	(0.72)	(0.82)	(1.08)
College + (mom)	0.42		0.79	0.12	0.17	0.18	0.12	0.04
	(0.72)		(0.91)	(1.35)	(0.75)	(0.76)	(0.87)	(1.16)
Years of education (mom)		0.84						
		(2.03)						
Parental warmth	-1.16*	0.24	-1.28*	-1.04	-0.54	-0.49	-0.43	-0.47
	(0.49)	(0.90)	(0.61)	(0.91)	(0.49)	(0.50)	(0.59)	(0.73)
Distress Index (mom)	0.49***	0.04	0.49***	0.61***	0.13	0.12	0.22*	-0.05
	(0.09)	(0.14)	(0.11)	(0.16)	(0.10)	(0.10)	(0.11)	(0.14)
Neighborhood	0.52	-0.31	0.44	0.18	0.02	-0.02	0.10	-0.28
	(0.29)	(0.51)	(0.36)	(0.57)	(0.31)	(0.31)	(0.37)	(0.48)
HH Cognitive Scale	0.05	-0.02	0.08	0.00	0.05	0.02	0.03	1.20
	(0.07)	(0.10)	(0.10)	(0.15)	(0.08)	(0.08)	(0.10)	(2.93)
Family Income (log)	0.28	0.37	0.74	1.33	0.44	0.50	0.32	0.71
	(0.42)	(0.76)	(0.54)	(0.93)	(0.49)	(0.50)	(0.60)	(0.65)
Child age (years)	0.55	0.33	0.64	0.44	0.50	0.51	0.56	0.63
	(0.40)	(0.42)	(0.51)	(0.78)	(0.41)	(0.42)	(0.50)	(0.96)
Child age^2	-0.03	-0.02	-0.03	-0.03	-0.02	-0.02	-0.02	-0.03
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.04)
Low birth weight	-0.86		0.51	0.30	0.86	1.06	0.28	0.97
	(1.25)		(1.60)	(2.51)	(1.47)	(1.47)	(1.62)	(1.83)
Black (child)	-0.64		-0.49	1.21	0.79	0.88	1.23	0.71
	(0.93)		(1.21)	(1.96)	(1.08)	(1.08)	(1.26)	(1.49)
Hispanic (child)	-2.39		-2.11	-2.13	0.15	0.36	-2.60	2.37
	(1.65)		(2.03)	(2.99)	(1.59)	(1.60)	(1.93)	(2.41)
Other race (child)	-4.69***		-3.93*	-2.50	-2.15	-2.23	-0.98	-1.57
	(1.26)		(1.69)	(2.98)	(1.66)	(1.67)	(1.93)	(2.06)
Male (child)	0.89		0.63	0.82	0.31	0.30	0.18	-0.95
	(0.51)		(0.65)	(0.97)	(0.53)	(0.54)	(0.63)	(0.79)
Biol. mother	3.53***	6.64*	4.40***	4.66**	1.51	1.59	1.13	1.56
	(0.89)	(2.71)	(1.14)	(1.66)	(0.97)	(0.97)	(1.10)	(1.26)
# of Children in the family	0.15	0.08	0.18	0.46	0.02	-0.06	0.18	-0.24
	(0.28)	(0.46)	(0.36)	(0.54)	(0.28)	(0.29)	(0.35)	(0.45)
_cons	5.75	-10.47	-0.60	-6.41	-3.57	-4.05	-4.23	-7.42
	(5.63)	(28.18)	(7.37)	(12.45)	(6.51)	(6.70)	(8.02)	(9.74)
N	482	482	309	145	264	261	145	215

Table A-5.3: BPI (Sample: Full-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.02	0.00	-0.01	-0.02	-0.01	-0.01	-0.02*	0.00
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Passive time	-0.01	0.01	-0.01	-0.05*	-0.01	-0.01	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Active time (1-lag)			-0.00	-0.01		0.01	0.01	
			(0.01)	(0.02)		(0.01)	(0.01)	
Passive time (1-lag)			0.01	0.02		0.01	0.00	
			(0.01)	(0.02)		(0.01)	(0.01)	
Active time (2-lag)				-0.01			0.00	
				(0.01)			(0.01)	
Passive time (2-lag)				0.02			0.00	
				(0.02)			(0.01)	
BPI (1-lag)					0.74***	0.74***	0.79***	
					(0.02)	(0.02)	(0.02)	
HS dropout (mom)	-0.13		-0.01	0.41	-0.04	0.02	1.04*	-0.72
	(0.42)		(0.54)	(0.78)	(0.40)	(0.40)	(0.44)	(0.67)
Some college (mom)	-0.19		0.14	0.10	0.19	0.18	-0.09	-0.02
	(0.25)		(0.32)	(0.47)	(0.24)	(0.24)	(0.26)	(0.38)
College + (mom)	-1.12***		-1.12**	-0.60	-0.42	-0.41	-0.07	-0.09
	(0.31)		(0.39)	(0.57)	(0.29)	(0.29)	(0.32)	(0.48)
Years of education (mom)		-0.03						
		(0.30)						
Parental warmth	-1.05***	-0.92**	-1.17***	-1.03**	-0.45**	-0.42*	-0.17	-0.24
	(0.18)	(0.35)	(0.23)	(0.35)	(0.17)	(0.17)	(0.19)	(0.26)
Distress Index (mom)	0.48***	0.22***	0.45***	0.47***	0.17***	0.17***	0.11***	0.17***
	(0.03)	(0.05)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
Neighborhood	0.39***	0.17	0.41**	0.42*	0.18	0.18	0.26*	0.00
	(0.11)	(0.17)	(0.14)	(0.19)	(0.10)	(0.10)	(0.11)	(0.17)
HH Cognitive Scale	-0.02	-0.08	-0.06	-0.08	-0.01	-0.01	-0.01	0.71
	(0.03)	(0.04)	(0.04)	(0.07)	(0.03)	(0.03)	(0.04)	(1.07)
Family Income (log)	-0.15	-0.14	-0.00	-0.08	0.27	0.25	0.27	0.17
	(0.18)	(0.25)	(0.22)	(0.29)	(0.16)	(0.16)	(0.16)	(0.29)
Child age (years)	0.15	0.16	0.04	0.17	0.28	0.31	0.29	1.29*
	(0.17)	(0.18)	(0.22)	(0.34)	(0.16)	(0.16)	(0.19)	(0.59)
Child age^2	-0.01	-0.01	-0.01	-0.01	-0.01*	-0.02*	-0.01	-0.05*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Low birth weight	0.46		0.48	1.18	0.05	0.04	0.93*	-0.55
	(0.39)		(0.50)	(0.74)	(0.36)	(0.36)	(0.41)	(0.61)
Black (child)	-2.02***		-2.03***	-1.69***	-0.69**	-0.68**	-0.38	-0.57
	(0.25)		(0.32)	(0.47)	(0.24)	(0.24)	(0.26)	(0.39)
Hispanic (child)	-2.34***		-1.94**	-1.51	-0.86	-0.83	-1.31**	-0.58
	(0.49)		(0.62)	(0.90)	(0.46)	(0.47)	(0.50)	(0.75)
Other race (child)	0.42		-0.12	0.69	0.25	0.31	0.55	0.71
	(0.56)		(0.70)	(1.00)	(0.51)	(0.51)	(0.56)	(0.87)
Male (child)	1.03***		1.11***	0.95*	0.34	0.29	0.13	-0.19
	(0.21)		(0.27)	(0.39)	(0.20)	(0.20)	(0.22)	(0.32)
Biol. mother	1.11***	-0.10	1.34***	1.13*	0.31	0.33	0.02	0.33
	(0.26)	(0.63)	(0.33)	(0.48)	(0.24)	(0.24)	(0.27)	(0.39)
# of Children in the family	-0.06	0.18	-0.21	-0.22	-0.08	-0.07	-0.00	-0.03
	(0.11)	(0.24)	(0.14)	(0.21)	(0.11)	(0.11)	(0.12)	(0.18)
cons	11.76***	12.31**	11.53***	11.44**	-0.61	-0.83	-2.91	-8.75
	(2.45)	(4.63)	(3.09)	(4.28)	(2.29)	(2.31)	(2.41)	(5.26)
N	2735	2737	1686	785	1547	1517	784	1176

Table A-5.3: BPI (Sample: Full-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.02	0.00	-0.01	-0.02	-0.01	-0.01	-0.02*	0.00
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Passive time	-0.01	0.01	-0.01	-0.05*	-0.01	-0.01	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Active time (1-lag)			-0.00	-0.01		0.01	0.01	
			(0.01)	(0.02)		(0.01)	(0.01)	
Passive time (1-lag)			0.01	0.02		0.01	0.00	
			(0.01)	(0.02)		(0.01)	(0.01)	
Active time (2-lag)				-0.01			0.00	
				(0.01)			(0.01)	
Passive time (2-lag)				0.02			0.00	
				(0.02)			(0.01)	
BPI (1-lag)					0.74***	0.74***	0.79***	
					(0.02)	(0.02)	(0.02)	
HS dropout (mom)	-0.13		-0.01	0.41	-0.04	0.02	1.04*	-0.72
	(0.42)		(0.54)	(0.78)	(0.40)	(0.40)	(0.44)	(0.67)
Some college (mom)	-0.19		0.14	0.10	0.19	0.18	-0.09	-0.02
	(0.25)		(0.32)	(0.47)	(0.24)	(0.24)	(0.26)	(0.38)
College + (mom)	-1.12***		-1.12**	-0.60	-0.42	-0.41	-0.07	-0.09
	(0.31)		(0.39)	(0.57)	(0.29)	(0.29)	(0.32)	(0.48)
Years of education (mom)		-0.03						
		(0.30)						
Parental warmth	-1.05***	-0.92**	-1.17***	-1.03**	-0.45**	-0.42*	-0.17	-0.24
	(0.18)	(0.35)	(0.23)	(0.35)	(0.17)	(0.17)	(0.19)	(0.26)
Distress Index (mom)	0.48***	0.22***	0.45***	0.47***	0.17***	0.17***	0.11***	0.17***
	(0.03)	(0.05)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
Neighborhood	0.39***	0.17	0.41**	0.42*	0.18	0.18	0.26*	0.00
	(0.11)	(0.17)	(0.14)	(0.19)	(0.10)	(0.10)	(0.11)	(0.17)
HH Cognitive Scale	-0.02	-0.08	-0.06	-0.08	-0.01	-0.01	-0.01	0.71
	(0.03)	(0.04)	(0.04)	(0.07)	(0.03)	(0.03)	(0.04)	(1.07)
Family Income (log)	-0.15	-0.14	-0.00	-0.08	0.27	0.25	0.27	0.17
	(0.18)	(0.25)	(0.22)	(0.29)	(0.16)	(0.16)	(0.16)	(0.29)
Child age (years)	0.15	0.16	0.04	0.17	0.28	0.31	0.29	1.29*
	(0.17)	(0.18)	(0.22)	(0.34)	(0.16)	(0.16)	(0.19)	(0.59)
Child age^2	-0.01	-0.01	-0.01	-0.01	-0.01*	-0.02*	-0.01	-0.05*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Low birth weight	0.46		0.48	1.18	0.05	0.04	0.93*	-0.55
	(0.39)		(0.50)	(0.74)	(0.36)	(0.36)	(0.41)	(0.61)
Black (child)	-2.02***		-2.03***	-1.69***	-0.69**	-0.68**	-0.38	-0.57
	(0.25)		(0.32)	(0.47)	(0.24)	(0.24)	(0.26)	(0.39)
Hispanic (child)	-2.34***		-1.94**	-1.51	-0.86	-0.83	-1.31**	-0.58
	(0.49)		(0.62)	(0.90)	(0.46)	(0.47)	(0.50)	(0.75)
Other race (child)	0.42		-0.12	0.69	0.25	0.31	0.55	0.71
	(0.56)		(0.70)	(1.00)	(0.51)	(0.51)	(0.56)	(0.87)
Male (child)	1.03***		1.11***	0.95*	0.34	0.29	0.13	-0.19
	(0.21)		(0.27)	(0.39)	(0.20)	(0.20)	(0.22)	(0.32)
Biol. mother	1.11***	-0.10	1.34***	1.13*	0.31	0.33	0.02	0.33
	(0.26)	(0.63)	(0.33)	(0.48)	(0.24)	(0.24)	(0.27)	(0.39)
# of Children in the family	-0.06	0.18	-0.21	-0.22	-0.08	-0.07	-0.00	-0.03
	(0.11)	(0.24)	(0.14)	(0.21)	(0.11)	(0.11)	(0.12)	(0.18)
cons	11.76***	12.31**	11.53***	11.44**	-0.61	-0.83	-2.91	-8.75
	(2.45)	(4.63)	(3.09)	(4.28)	(2.29)	(2.31)	(2.41)	(5.26)
N	2735	2737	1686	785	1547	1517	784	1176

Table A-6.2: PBS (Sample: Part-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.00		0.00	0.01	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.01**	0.00		-0.00	-0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				0.00			-0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.01*			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.60***	0.60***	0.76***	
					(0.09)	(0.09)	(0.07)	
HS dropout (mom)	-0.05		-0.00	0.04	-0.01	-0.02	0.04	0.03
	(0.22)		(0.21)	(0.20)	(0.16)	(0.15)	(0.09)	(0.16)
Some college (mom)	0.12		0.16	-0.04	0.03	0.02	0.01	-0.26*
	(0.09)		(0.10)	(0.11)	(0.07)	(0.07)	(0.07)	(0.11)
College + (mom)	0.08		0.10	0.04	0.03	0.04	0.01	-0.13
	(0.09)		(0.10)	(0.11)	(0.07)	(0.07)	(0.08)	(0.11)
Years of education (mom)		-0.12						
		(0.20)						
Parental warmth	0.25***	0.22*	0.24***	0.25***	0.11*	0.10*	0.09*	0.06
	(0.05)	(0.09)	(0.05)	(0.06)	(0.05)	(0.05)	(0.04)	(0.08)
Distress Index (mom)	-0.03**	-0.02	-0.04**	-0.04*	-0.02*	-0.02*	-0.01	0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Neighborhood	-0.06	0.04	-0.05	-0.10*	-0.02	-0.02	-0.04	-0.03
	(0.03)	(0.05)	(0.03)	(0.04)	(0.03)	(0.02)	(0.03)	(0.05)
HH Cognitive Scale	-0.01	-0.01	-0.01	0.00	0.00	-0.00	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.30)
Family Income (log)	-0.16**	-0.07	-0.15**	-0.22***	-0.10	-0.10	-0.14*	0.01
	(0.05)	(0.07)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.04)
Child age (years)	-0.04	-0.06	-0.06	-0.07	-0.04	-0.05	-0.03	-0.04
	(0.04)	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)	(0.03)	(0.07)
Child age^2	0.00	0.00	0.00	0.00	0.00	0.00*	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.01		-0.16	-0.58***	-0.01	-0.07	-0.21	0.19
	(0.14)		(0.16)	(0.16)	(0.12)	(0.12)	(0.12)	(0.12)
Black (child)	0.24		0.27	0.39*	0.14	0.17	0.12	-0.03
	(0.13)		(0.14)	(0.15)	(0.09)	(0.09)	(0.10)	(0.13)
Hispanic (child)	0.61*		0.53*	0.43*	0.17	0.18	-0.03	-0.24
	(0.29)		(0.25)	(0.21)	(0.19)	(0.17)	(0.10)	(0.20)
Other race (child)	0.46***		0.51***	0.29*	0.36**	0.33***	0.10	0.15
	(0.12)		(0.10)	(0.13)	(0.11)	(0.10)	(0.08)	(0.13)
Male (child)	-0.28***		-0.26***	-0.23**	-0.16**	-0.15**	0.01	-0.04
	(0.07)		(0.07)	(0.07)	(0.05)	(0.05)	(0.05)	(0.07)
Biol. Mother	-0.42***	-0.56*	-0.44***	-0.55***	-0.29*	-0.31*	-0.22	-0.14
	(0.12)	(0.27)	(0.13)	(0.14)	(0.15)	(0.15)	(0.11)	(0.13)
# of Children in the family	0.00	0.06	0.00	0.03	0.01	0.01	0.06*	0.04
	(0.03)	(0.05)	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.04)
cons	5.38***	5.97*	5.50***	6.54***	2.59**	2.76**	2.35*	-0.27
	(0.62)	(2.78)	(0.65)	(0.78)	(0.92)	(0.97)	(0.91)	(0.72)
N	485	485	311	150	275	270	150	219

Table A-6.3: PBS (Sample: Full-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	0.00	0.00	-0.00	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.01**		-0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00*	-0.00		-0.00	-0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				0.00			-0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.70***	0.72***	0.78***	
					(0.03)	(0.03)	(0.04)	
HS dropout (mom)	0.32***		0.28***	0.33***	0.17*	0.20**	0.20*	0.29**
	(0.07)		(0.08)	(0.10)	(0.07)	(0.06)	(0.10)	(0.10)
Some college (mom)	0.01		0.03	0.03	0.00	0.01	0.03	0.02
	(0.05)		(0.05)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
College + (mom)	0.11*		0.13*	0.13	0.02	0.03	0.01	-0.04
	(0.05)		(0.05)	(0.08)	(0.03)	(0.03)	(0.03)	(0.05)
Years of education (mom)		0.04						
		(0.03)						
Parental warmth	0.16***	0.13**	0.15***	0.14**	0.06*	0.07*	0.04	0.06
	(0.03)	(0.04)	(0.03)	(0.05)	(0.03)	(0.03)	(0.03)	(0.04)
Distress Index (mom)	-0.03***	-0.02**	-0.03***	-0.03***	-0.02***	-0.02***	-0.01**	-0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.05**	-0.03	-0.05*	-0.06*	-0.03*	-0.03*	-0.05***	-0.04
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
HH Cognitive Scale	-0.00	0.00	-0.01	0.00	0.00	-0.00	0.00	-0.02
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.12)
Family Income (log)	0.03	0.07*	0.02	0.02	0.01	0.01	0.02	0.02
	(0.03)	(0.03)	(0.03)	(0.05)	(0.01)	(0.01)	(0.02)	(0.04)
Child age (years)	-0.03	-0.01	-0.06*	-0.05	-0.02	-0.03*	-0.03	-0.06
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.08)
Child age^2	0.00	0.00	0.00*	0.00	0.00	0.00*	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.24*		-0.20	-0.20	-0.08	-0.08	-0.11*	0.01
	(0.11)		(0.12)	(0.13)	(0.05)	(0.05)	(0.05)	(0.08)
Black (child)	0.20**		0.18**	0.08	0.06*	0.07*	0.04	0.01
	(0.07)		(0.07)	(0.10)	(0.03)	(0.03)	(0.04)	(0.06)
Hispanic (child)	0.29***		0.31***	0.38***	0.08	0.05	0.12	-0.11
	(0.08)		(0.08)	(0.10)	(0.06)	(0.06)	(0.07)	(0.08)
Other race (child)	0.05		0.08	0.14	0.05	0.04	0.13**	-0.03
	(0.06)		(0.06)	(0.10)	(0.03)	(0.04)	(0.05)	(0.09)
Male (child)	-0.17***		-0.15***	-0.17***	-0.03	-0.03	0.02	-0.01
	(0.04)		(0.04)	(0.05)	(0.02)	(0.02)	(0.03)	(0.04)
Biol. Mother	-0.06	0.01	-0.05	0.03	-0.00	0.00	0.05	0.04
	(0.06)	(0.07)	(0.05)	(0.08)	(0.03)	(0.03)	(0.03)	(0.06)
# of Children in the family	-0.01	-0.02	-0.01	-0.01	0.00	0.00	-0.00	0.01
	(0.02)	(0.03)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
cons	3.56***	2.62***	3.82***	3.71***	1.04***	1.07***	0.76*	-0.17
	(0.40)	(0.46)	(0.38)	(0.65)	(0.24)	(0.24)	(0.34)	(0.64)
N	2765	2767	1690	777	1560	1524	777	1206

Table A-7.1: LW (Sample: Non-Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.11	0.20*	-0.08	0.15	0.03	0.09	0.25**	0.08
	(0.06)	(0.08)	(0.08)	(0.17)	(0.05)	(0.06)	(0.08)	(0.09)
Passive time	0.14**	0.01	0.09	0.16	0.02	-0.01	-0.04	0.08
	(0.05)	(0.07)	(0.08)	(0.15)	(0.05)	(0.06)	(0.07)	(0.08)
Active time (1-lag)			-0.04	-0.10		-0.09	-0.20*	
			(0.07)	(0.19)		(0.06)	(0.09)	
Passive time (1-lag)			0.02	0.05		0.07	-0.01	
			(0.08)	(0.15)		(0.06)	(0.07)	
Active time (2-lag)				-0.22*			-0.07	
				(0.10)			(0.05)	
Passive time (2-lag)				-0.08			0.02	
				(0.10)			(0.05)	
LW (1-lag)					0.69***	0.69***	0.85***	
					(0.03)	(0.03)	(0.04)	
HS dropout (mom)	-0.89		-1.59	-2.59	0.10	0.29	-0.24	1.00
	(2.01)		(2.60)	(4.42)	(1.87)	(1.87)	(2.12)	(3.06)
Some college (mom)	4.68*		4.01	4.43	-0.21	-0.79	3.12	-1.83
	(1.96)		(2.55)	(3.98)	(1.83)	(1.84)	(1.91)	(2.98)
College + (mom)	13.53***		14.13***	14.20**	4.50*	4.31	3.71	1.67
	(2.39)		(3.08)	(4.76)	(2.20)	(2.19)	(2.32)	(3.65)
Years of education (mom)		-2.77*						
		(1.34)						
Parental warmth	0.08	-2.26	0.35	0.11	-0.69	-0.73	-0.24	-1.79
	(1.14)	(1.67)	(1.50)	(2.23)	(1.04)	(1.04)	(1.07)	(1.65)
Distress Index (mom)	-0.16	0.01	-0.04	-0.20	-0.07	-0.08	-0.29	-0.06
	(0.19)	(0.32)	(0.25)	(0.42)	(0.18)	(0.18)	(0.20)	(0.31)
Neighborhood	-1.78**	-0.50	-1.93*	-1.41	-0.77	-0.76	0.71	-0.73
	(0.66)	(1.21)	(0.87)	(1.36)	(0.63)	(0.63)	(0.66)	(1.02)
HH Cognitive Scale	0.12	0.26	0.23	-0.45	0.27	0.19	-0.16	-6.58
	(0.22)	(0.31)	(0.31)	(0.48)	(0.21)	(0.21)	(0.24)	(8.01)
Family Income (log)	-0.13	-0.37	-0.68	-1.09	-0.47	-0.48	-0.18	-0.53
	(0.71)	(1.19)	(0.96)	(1.62)	(0.65)	(0.66)	(0.78)	(1.04)
Child age (years)	2.39*	3.58**	2.68	4.27	2.14*	2.34*	1.76	-3.37
	(1.14)	(1.17)	(1.46)	(2.18)	(1.01)	(1.02)	(1.05)	(2.57)
Child age^2	-0.12*	-0.16**	-0.13*	-0.21*	-0.09*	-0.10*	-0.06	0.12
	(0.05)	(0.05)	(0.06)	(0.09)	(0.04)	(0.04)	(0.05)	(0.10)
Low birth weight	-1.55		-1.91	-1.12	-0.87	-0.37	6.42*	-1.86
	(2.73)		(3.81)	(5.98)	(2.57)	(2.64)	(2.89)	(4.28)
Black (child)	-4.93*		-3.74	-5.34	-3.63	-3.73	-4.39	-2.47
	(2.16)		(2.83)	(4.65)	(1.98)	(2.02)	(2.23)	(3.21)
Hispanic (child)	2.07		0.43	2.30	-1.58	-1.62	-1.04	-0.79
	(2.64)		(3.35)	(5.00)	(2.44)	(2.42)	(2.40)	(4.20)
Other race (child)	-0.05		-3.04	1.51	-2.72	-2.25	-2.37	1.46
	(5.11)		(6.42)	(9.58)	(4.47)	(4.44)	(4.58)	(7.67)
Male (child)	-4.51**		-2.93	-1.65	-0.72	-1.11	1.67	-0.20
	(1.45)		(1.86)	(2.87)	(1.32)	(1.32)	(1.39)	(2.16)
Biol. Mother	-2.96	-2.97	-6.26*	-6.53	-0.80	-1.42	0.53	0.24
	(2.16)	(5.28)	(2.76)	(4.25)	(1.89)	(1.92)	(2.07)	(3.22)
# of Children in the family	-1.10	-0.60	-0.83	-1.01	0.25	0.16	0.41	0.72
	(0.58)	(1.27)	(0.75)	(1.17)	(0.52)	(0.53)	(0.56)	(0.83)
cons	101.96***	132.39***	104.79***	107.90***	28.63*	28.84*	5.64	36.23
	(11.59)	(21.46)	(15.29)	(24.71)	(11.08)	(11.26)	(12.67)	(20.46)
N	600	603	364	176	319	314	174	257

Table A-7.2: LW (Sample: Part-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.06	-0.05	-0.08	-0.18	-0.05	-0.06	-0.09	0.07
	(0.07)	(0.08)	(0.10)	(0.19)	(0.06)	(0.07)	(0.09)	(0.10)
Passive time	0.01	0.04	-0.00	-0.13	0.07	0.06	0.01	0.08
	(0.07)	(0.09)	(0.09)	(0.16)	(0.06)	(0.06)	(0.08)	(0.09)
Active time (1-lag)			-0.05	-0.06		0.03	-0.01	
			(0.08)	(0.19)		(0.06)	(0.09)	
Passive time (1-lag)			0.10	0.06		0.01	-0.04	
			(0.09)	(0.16)		(0.07)	(0.08)	
Active time (2-lag)				-0.05			-0.13*	
				(0.12)			(0.06)	
Passive time (2-lag)				0.28			0.04	
				(0.15)			(0.07)	
LW (1-lag)					0.80***	0.81***	0.94***	
					(0.04)	(0.04)	(0.05)	
HS dropout (mom)	-2.48		-2.32	-7.98	-1.17	-1.06	1.87	-2.02
	(4.17)		(5.58)	(8.76)	(4.57)	(4.58)	(4.26)	(6.15)
Some college (mom)	3.88		5.06	3.66	1.29	1.44	1.54	-0.31
	(2.27)		(2.88)	(4.75)	(2.10)	(2.11)	(2.30)	(3.25)
College + (mom)	5.92*		6.53*	4.16	0.89	1.03	-1.93	3.07
	(2.34)		(3.02)	(5.00)	(2.16)	(2.17)	(2.43)	(3.45)
Years of education (mom)		1.47						
		(7.99)						
Parental warmth	-4.19**	-1.23	-4.09*	-1.94	-0.59	-0.81	3.33*	-1.05
	(1.62)	(2.93)	(2.03)	(3.20)	(1.42)	(1.43)	(1.57)	(2.23)
Distress Index (mom)	-0.13	-0.54	-0.48	-0.49	-0.40	-0.46	-0.26	-0.58
	(0.30)	(0.50)	(0.39)	(0.61)	(0.28)	(0.28)	(0.30)	(0.42)
Neighborhood	-1.35	0.54	-0.67	-2.24	1.46	1.45	0.66	0.57
	(0.94)	(1.67)	(1.18)	(2.01)	(0.89)	(0.89)	(0.98)	(1.51)
HH Cognitive Scale	0.33	-0.41	0.38	0.99	0.16	0.12	0.25	-0.96
	(0.24)	(0.31)	(0.31)	(0.55)	(0.21)	(0.21)	(0.27)	(9.29)
Family Income (log)	-0.83	-0.11	-0.26	-2.10	0.76	0.89	1.99	-1.30
	(1.38)	(2.70)	(1.68)	(2.67)	(1.14)	(1.16)	(1.31)	(1.80)
Child age (years)	0.32	-0.26	-1.02	1.97	0.29	0.02	0.85	-2.09
	(1.32)	(1.68)	(1.62)	(2.67)	(1.11)	(1.12)	(1.29)	(2.92)
Child age^2	-0.00	-0.02	0.06	-0.08	-0.02	-0.00	-0.05	0.07
	(0.06)	(0.07)	(0.07)	(0.11)	(0.05)	(0.05)	(0.05)	(0.11)
Low birth weight	-5.89		-3.66	-5.42	0.22	0.20	0.78	-5.44
	(3.98)		(5.05)	(8.84)	(3.76)	(3.80)	(4.28)	(5.28)
Black (child)	-6.28*		-4.47	-7.90	-2.65	-2.24	-2.05	-6.80
	(3.04)		(3.96)	(6.76)	(2.94)	(2.96)	(3.28)	(4.47)
Hispanic (child)	-2.00		0.80	2.45	1.09	1.19	0.76	-3.53
	(5.33)		(6.75)	(11.03)	(5.11)	(5.14)	(5.33)	(7.86)
Other race (child)	5.52		10.28	14.85	2.65	2.74	1.20	-4.84
	(4.08)		(5.27)	(8.41)	(3.96)	(3.97)	(4.12)	(6.45)
Male (child)	-6.69***		-6.70**	-8.45*	-1.43	-1.16	-0.35	1.66
	(1.68)		(2.11)	(3.44)	(1.53)	(1.56)	(1.71)	(2.42)
Biol. Mother	-8.29**	-3.28	-8.11*	-3.67	-4.30	-4.14	1.26	-0.24
	(2.91)	(7.24)	(3.74)	(6.37)	(2.76)	(2.78)	(3.08)	(3.82)
# of Children in the family	-0.32	-0.44	-0.09	-0.63	-0.50	-0.15	-0.86	0.05
	(0.91)	(2.07)	(1.16)	(2.05)	(0.80)	(0.83)	(0.99)	(1.34)
cons	140.15***	106.80	137.84***	143.04***	15.22	14.62	-24.09	31.73
	(18.44)	(108.56)	(22.83)	(38.94)	(17.30)	(17.47)	(20.61)	(27.78)
N	469	469	301	143	259	256	143	202

Table A-7.3: LW (Sample: Full-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.09***	0.04	0.10**	0.10	0.04	0.04	0.09**	0.02
	(0.03)	(0.03)	(0.04)	(0.07)	(0.02)	(0.03)	(0.03)	(0.04)
Passive time	0.07**	0.01	0.10**	0.13*	0.02	0.03	0.04	0.03
	(0.02)	(0.03)	(0.03)	(0.06)	(0.02)	(0.02)	(0.03)	(0.03)
Active time (1-lag)			0.02	0.01		-0.00	-0.07*	
			(0.03)	(0.07)		(0.02)	(0.03)	
Passive time (1-lag)			-0.02	-0.04		-0.03	-0.04	
			(0.03)	(0.06)		(0.02)	(0.03)	
Active time (2-lag)				0.07			0.01	
				(0.05)			(0.02)	
Passive time (2-lag)				0.01			0.02	
				(0.05)			(0.02)	
LW (1-lag)					0.78***	0.78***	0.91***	
					(0.02)	(0.02)	(0.02)	
HS dropout (mom)	-4.39***		-6.33***	-6.29*	-1.48	-1.37	-1.10	4.14*
	(1.27)		(1.67)	(2.59)	(1.16)	(1.17)	(1.24)	(1.79)
Some college (mom)	4.26***		4.71***	4.06**	1.53*	1.58*	-0.09	1.52
	(0.76)		(0.98)	(1.53)	(0.67)	(0.68)	(0.73)	(1.04)
College + (mom)	9.22***		8.95***	9.03***	2.36**	2.46**	1.51	2.24
	(0.93)		(1.21)	(1.86)	(0.85)	(0.85)	(0.90)	(1.32)
Years of education (mom)		0.34						
		(0.83)						
Parental warmth	0.24	-0.12	-0.22	-0.30	-0.08	-0.04	-0.90	0.43
	(0.54)	(0.78)	(0.72)	(1.13)	(0.49)	(0.50)	(0.54)	(0.70)
Distress Index (mom)	-0.27**	-0.06	-0.22	-0.29	-0.11	-0.12	-0.10	0.07
	(0.09)	(0.15)	(0.12)	(0.18)	(0.08)	(0.08)	(0.09)	(0.13)
Neighborhood	-0.27	0.35	-0.06	-0.24	0.08	0.09	0.04	-0.42
	(0.32)	(0.51)	(0.42)	(0.65)	(0.29)	(0.29)	(0.31)	(0.45)
HH Cognitive Scale	-0.07	-0.36**	-0.11	0.00	0.15	0.13	0.44***	5.66
	(0.10)	(0.13)	(0.14)	(0.22)	(0.09)	(0.10)	(0.10)	(2.89)
Family Income (log)	1.55**	0.12	1.64*	1.15	0.33	0.45	-0.76	-0.37
	(0.53)	(0.69)	(0.67)	(1.16)	(0.45)	(0.46)	(0.55)	(0.80)
Child age (years)	1.31*	0.78	0.47	1.03	0.85	0.70	1.13*	-7.34***
	(0.53)	(0.51)	(0.68)	(1.04)	(0.46)	(0.47)	(0.50)	(1.62)
Child age^2	-0.08***	-0.07**	-0.04	-0.06	-0.04*	-0.04*	-0.04*	0.25***
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.06)
Low birth weight	-2.28*		-1.85	-1.18	-0.21	-0.24	0.15	-0.20
	(1.16)		(1.51)	(2.35)	(1.03)	(1.03)	(1.11)	(1.62)
Black (child)	-5.44***		-5.96***	-7.13***	-3.20***	-3.34***	-1.45*	-4.52***
	(0.76)		(0.98)	(1.51)	(0.68)	(0.68)	(0.73)	(1.05)
Hispanic (child)	-0.71		1.14	1.93	0.07	-0.13	0.75	-3.38
	(1.49)		(1.92)	(3.06)	(1.35)	(1.36)	(1.46)	(2.01)
Other race (child)	1.07		0.46	-0.80	-0.27	-0.52	-0.62	-2.80
	(1.73)		(2.19)	(3.17)	(1.50)	(1.52)	(1.52)	(2.46)
Male (child)	-2.71***		-3.09***	-2.76*	-0.94	-0.92	-0.69	0.72
	(0.64)		(0.83)	(1.25)	(0.57)	(0.58)	(0.60)	(0.87)
Biol. mother	0.46	-0.37	0.15	0.93	-0.11	0.10	-0.62	1.05
	(0.77)	(1.88)	(1.01)	(1.58)	(0.69)	(0.70)	(0.75)	(1.06)
# of Children in the family	-1.47***	-0.60	-1.23**	-1.15	-0.07	-0.08	0.07	0.52
	(0.35)	(0.59)	(0.46)	(0.70)	(0.31)	(0.32)	(0.33)	(0.48)
cons	84.72***	99.93***	88.49***	88.85***	15.75*	15.66*	13.79	47.92**
	(7.36)	(12.68)	(9.38)	(15.67)	(6.54)	(6.59)	(7.59)	(14.58)
N	2652	2654	1623	749	1447	1427	743	1103

Table A-8.1: AP (Sample: Non-Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.10	0.03	-0.08	0.12	0.00	0.00	-0.01	-0.03
	(0.05)	(0.08)	(0.06)	(0.13)	(0.05)	(0.05)	(0.07)	(0.07)
Passive time	0.06	0.03	0.10	0.02	0.07	0.05	-0.04	0.10
	(0.04)	(0.06)	(0.06)	(0.12)	(0.04)	(0.05)	(0.07)	(0.06)
Active time (1-lag)			-0.09	-0.26		-0.05	-0.01	
			(0.05)	(0.14)		(0.05)	(0.08)	
Passive time (1-lag)			-0.00	0.01		-0.01	-0.04	
			(0.06)	(0.12)		(0.04)	(0.07)	
Active time (2-lag)				-0.17*			-0.06	
				(0.07)			(0.04)	
Passive time (2-lag)				-0.01			-0.08	
				(0.08)			(0.05)	
AP (1-lag)					0.74***	0.72***	0.82***	
					(0.04)	(0.04)	(0.05)	
HS dropout (mom)	2.24		0.31	0.63	1.87	0.82	-1.60	2.84
	(1.68)		(2.02)	(3.38)	(1.63)	(1.44)	(1.91)	(2.51)
Some college (mom)	6.95***		9.61***	11.16***	2.66	2.45	1.97	2.71
	(1.64)		(1.98)	(3.05)	(1.64)	(1.46)	(1.79)	(2.48)
College + (mom)	11.04***		12.52***	11.48**	2.29	2.43	0.31	-1.53
	(2.00)		(2.39)	(3.64)	(1.98)	(1.74)	(2.15)	(3.01)
Years of education (mom)		-1.12						
		(1.45)						
Parental warmth	-0.68	1.58	-0.64	-0.76	-0.78	-0.63	0.52	-1.44
	(0.95)	(2.24)	(1.17)	(1.71)	(0.91)	(0.81)	(0.97)	(1.37)
Distress Index (mom)	-0.56***	-0.51	-0.78***	-0.86**	-0.26	-0.39**	-0.18	0.06
	(0.16)	(0.26)	(0.20)	(0.32)	(0.16)	(0.15)	(0.18)	(0.26)
Neighborhood	-2.02***	0.40	-1.72*	-1.29	-0.75	-0.38	0.32	-0.54
	(0.55)	(0.85)	(0.68)	(1.04)	(0.55)	(0.49)	(0.59)	(0.84)
HH Cognitive Scale	0.73***	0.63**	0.92***	0.37	0.46*	0.44**	0.52*	-9.62
	(0.19)	(0.22)	(0.24)	(0.37)	(0.18)	(0.16)	(0.21)	(6.62)
Family Income (log)	-0.08	0.42	-0.79	0.21	-0.09	-0.46	0.04	1.39
	(0.60)	(0.68)	(0.74)	(1.24)	(0.57)	(0.51)	(0.71)	(0.86)
Child age (years)	6.11***	4.82***	5.62***	4.58**	3.95***	3.49***	3.08**	0.35
	(0.96)	(1.00)	(1.15)	(1.67)	(0.90)	(0.81)	(0.94)	(2.13)
Child age^2	-0.26***	-0.18***	-0.23***	-0.20**	-0.17***	-0.15***	-0.13**	-0.07
	(0.04)	(0.04)	(0.05)	(0.07)	(0.04)	(0.03)	(0.04)	(0.08)
Low birth weight	-0.70		-3.39	-5.41	-0.54	-0.57	1.75	-0.61
	(2.28)		(2.96)	(4.57)	(2.26)	(2.06)	(2.61)	(3.53)
Black (child)	-10.39***		-10.32***	-9.48**	-4.97**	-5.86***	-2.27	-3.11
	(1.80)		(2.20)	(3.56)	(1.75)	(1.58)	(2.05)	(2.65)
Hispanic (child)	-2.55		-1.33	-1.04	-1.25	-1.62	-0.96	-0.07
	(2.19)		(2.60)	(3.83)	(2.12)	(1.87)	(2.16)	(3.43)
Other race (child)	-6.12		-7.59	-1.82	-3.50	-2.56	0.16	-1.37
	(4.27)		(4.99)	(7.33)	(3.93)	(3.46)	(4.13)	(6.33)
Male (child)	-0.68		1.07	1.42	0.68	1.48	1.99	-1.48
	(1.21)		(1.45)	(2.20)	(1.16)	(1.03)	(1.25)	(1.79)
Biol. mother	-2.36	-4.40	-1.74	-1.32	-1.20	-0.52	-1.10	-0.95
	(1.81)	(2.75)	(2.15)	(3.26)	(1.66)	(1.49)	(1.84)	(2.66)
# of Children in the family	-0.42	-0.25	-0.81	-1.46	-0.09	-0.38	-0.69	0.39
	(0.48)	(1.09)	(0.58)	(0.90)	(0.46)	(0.41)	(0.51)	(0.69)
cons	82.76***	78.11**	92.07***	95.93***	11.81	20.69*	6.25	3.74
	(9.72)	(23.47)	(11.91)	(18.91)	(10.02)	(9.06)	(11.85)	(16.91)
N	599	599	363	176	318	313	174	256

Table A-8.2: AP (Sample: Part-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.09	-0.02	-0.14	-0.05	-0.06	-0.06	-0.05	-0.00
	(0.06)	(0.07)	(0.08)	(0.16)	(0.05)	(0.06)	(0.07)	(0.09)
Passive time	0.05	0.01	0.08	0.07	0.12^*	0.10	-0.02	0.07
	(0.06)	(0.08)	(0.08)	(0.14)	(0.05)	(0.06)	(0.06)	(0.08)
Active time (1-lag)			0.05	-0.06		-0.00	0.00	
			(0.07)	(0.16)		(0.06)	(0.07)	
Passive time (1-lag)			0.11	-0.08		0.04	0.03	
			(0.08)	(0.14)		(0.06)	(0.06)	
Active time (2-lag)				0.05			0.01	
				(0.10)			(0.05)	
Passive time (2-lag)				0.18			0.00	
				(0.13)			(0.06)	
AP (1-lag)					0.73^{***}	0.73^{***}	0.82^{***}	
					(0.04)	(0.04)	(0.04)	
HS dropout (mom)	4.31		3.98	0.01	2.68	2.79	3.25	2.31
	(3.71)		(4.76)	(7.40)	(3.92)	(3.95)	(3.35)	(5.59)
Some college (mom)	3.52		4.93^*	6.03	2.79	2.85	3.73^*	-0.08
	(2.02)		(2.45)	(4.02)	(1.81)	(1.82)	(1.82)	(2.95)
College + (mom)	10.60^{***}		11.47^{***}	10.67^*	3.23	3.43	2.36	-2.39
	(2.08)		(2.57)	(4.23)	(1.90)	(1.92)	(1.95)	(3.13)
Years of education (mom)		-2.59						
		(4.70)						
Parental warmth	-2.61	-2.04	-2.98	-1.23	-1.04	-1.10	-1.64	-0.90
	(1.44)	(1.91)	(1.73)	(2.70)	(1.21)	(1.22)	(1.22)	(2.03)
Distress Index (mom)	0.26	-0.73	0.09	0.66	0.15	0.10	-0.09	0.33
	(0.26)	(0.39)	(0.34)	(0.52)	(0.24)	(0.24)	(0.24)	(0.38)
Neighborhood	-1.67^*	0.73	-0.75	-0.65	0.70	0.69	1.72^*	-0.51
	(0.83)	(1.02)	(1.01)	(1.69)	(0.77)	(0.77)	(0.77)	(1.37)
HH Cognitive Scale	0.52^*	0.39	0.45	1.15^*	0.21	0.17	0.64^{**}	12.31
	(0.21)	(0.28)	(0.26)	(0.47)	(0.18)	(0.18)	(0.21)	(8.43)
Family Income (log)	1.31	1.80	2.21	-0.22	1.32	1.36	-0.95	1.33
	(1.22)	(1.59)	(1.43)	(2.26)	(0.98)	(1.00)	(1.02)	(1.63)
Child age (years)	3.04^*	3.75^{**}	1.41	4.94^*	1.99^*	1.79	3.89^{***}	-5.56^*
	(1.18)	(1.25)	(1.38)	(2.25)	(0.96)	(0.97)	(1.02)	(2.65)
Child age^2	-0.14^{**}	-0.18^{***}	-0.07	-0.19^*	-0.10^*	-0.09^*	-0.17^{***}	0.15
	(0.05)	(0.05)	(0.06)	(0.09)	(0.04)	(0.04)	(0.04)	(0.10)
Low birth weight	-1.39		-1.40	-5.78	-0.32	-0.02	-4.45	5.91
	(3.54)		(4.30)	(7.47)	(3.23)	(3.28)	(3.38)	(4.79)
Black (child)	-9.86^{***}		-8.03^*	-12.94^*	-1.29	-1.13	-1.25	0.43
	(2.71)		(3.38)	(5.71)	(2.56)	(2.58)	(2.64)	(4.06)
Hispanic (child)	-8.84		-6.82	-8.74	0.50	0.90	-1.09	2.28
	(4.75)		(5.75)	(9.32)	(4.42)	(4.46)	(4.24)	(7.13)
Other race (child)	8.70^*		10.36^*	18.96^{**}	5.26	5.29	4.03	9.08
	(3.63)		(4.50)	(7.11)	(3.41)	(3.44)	(3.29)	(5.86)
Male (child)	-1.25		-1.51	-3.34	-1.18	-1.11	-1.97	1.52
	(1.50)		(1.80)	(2.90)	(1.30)	(1.32)	(1.32)	(2.19)
Biol. mother	-0.19	-5.19	-0.21	0.12	-2.51	-2.35	-6.75^{**}	0.60
	(2.59)	(5.16)	(3.19)	(5.38)	(2.37)	(2.40)	(2.46)	(3.47)
# of Children in the family	0.89	0.38	1.15	1.90	0.46	0.61	0.59	2.13
	(0.81)	(1.39)	(0.99)	(1.73)	(0.69)	(0.72)	(0.79)	(1.21)
cons	89.25^{***}	118.69	83.03^{***}	75.11^*	5.24	5.38	12.04	18.57
	(16.41)	(62.02)	(19.47)	(32.90)	(14.47)	(14.66)	(15.19)	(25.22)
N	469	469	301	143	259	256	143	202

Table A-8.3: AP (Full-Time Working Mothers)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.04	0.01	0.05	0.05	0.00	-0.01	-0.00	-0.01
	(0.02)	(0.03)	(0.03)	(0.06)	(0.02)	(0.03)	(0.03)	(0.04)
Passive time	0.04	-0.02	0.05	0.01	0.01	-0.00	-0.06	-0.00
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Active time (1-lag)			0.02	0.04		0.03	-0.01	
			(0.03)	(0.06)		(0.02)	(0.03)	
Passive time (1-lag)			0.03	0.06		0.03	0.07*	
			(0.03)	(0.05)		(0.02)	(0.03)	
Active time (2-lag)				-0.03			0.02	
				(0.04)			(0.02)	
Passive time (2-lag)				0.03			0.01	
				(0.04)			(0.03)	
AP (1-lag)					0.64***	0.64***	0.82***	
					(0.02)	(0.02)	(0.02)	
HS dropout (mom)	-3.13**		-4.07**	-4.64*	-0.55	-0.41	-1.81	3.45
	(1.10)		(1.44)	(2.20)	(1.12)	(1.12)	(1.29)	(1.81)
Some college (mom)	2.86***		3.07***	3.05*	0.14	0.22	-0.02	-1.47
	(0.66)		(0.85)	(1.30)	(0.65)	(0.65)	(0.76)	(1.05)
College + (mom)	6.82***		6.58***	6.61***	1.95*	2.02*	1.76	-0.54
	(0.81)		(1.04)	(1.58)	(0.81)	(0.81)	(0.93)	(1.33)
Years of education (mom)		2.73**						
		(1.01)						
Parental warmth	0.10	-0.28	-0.13	-0.65	0.27	0.08	-1.05	0.21
	(0.47)	(0.82)	(0.62)	(0.96)	(0.47)	(0.48)	(0.56)	(0.71)
Distress Index (mom)	-0.19*	-0.05	-0.18	-0.25	-0.06	-0.06	-0.10	0.32*
	(0.08)	(0.13)	(0.10)	(0.15)	(0.08)	(0.08)	(0.09)	(0.13)
Neighborhood	-0.41	0.10	-0.43	-0.20	-0.08	-0.11	0.37	-0.42
	(0.28)	(0.40)	(0.36)	(0.55)	(0.28)	(0.28)	(0.32)	(0.46)
HH Cognitive Scale	0.47***	0.51***	0.45***	0.43*	0.24**	0.24**	0.49***	4.58
	(0.09)	(0.12)	(0.12)	(0.19)	(0.09)	(0.09)	(0.11)	(2.92)
Family Income (log)	1.84***	-0.50	1.74**	2.41*	0.67	0.62	-0.16	0.27
	(0.46)	(0.66)	(0.58)	(0.99)	(0.44)	(0.44)	(0.58)	(0.81)
Child age (years)	4.26***	4.20***	4.09***	5.32***	3.33***	3.29***	4.77***	-6.81***
	(0.46)	(0.50)	(0.58)	(0.88)	(0.44)	(0.45)	(0.51)	(1.64)
Child age^2	-0.19***	-0.18***	-0.18***	-0.24***	-0.15***	-0.15***	-0.19***	0.20***
	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.06)
Low birth weight	-3.08**		-2.66*	-1.57	-1.11	-1.01	-1.14	1.57
	(1.00)		(1.30)	(2.00)	(0.99)	(0.99)	(1.16)	(1.63)
Black (child)	-8.38***		-8.18***	-8.12***	-3.84***	-3.72***	-1.56*	-2.18*
	(0.66)		(0.85)	(1.29)	(0.66)	(0.67)	(0.77)	(1.06)
Hispanic (child)	-3.34**		-2.86	-1.09	-1.97	-1.88	0.60	-1.43
	(1.29)		(1.66)	(2.60)	(1.30)	(1.30)	(1.52)	(2.04)
Other race (child)	-4.63**		-4.85*	-4.85	-2.27	-1.99	-2.18	-0.62
	(1.50)		(1.89)	(2.69)	(1.44)	(1.46)	(1.59)	(2.49)
Male (child)	1.28*		1.18	0.19	1.17*	1.08*	-1.05	2.51**
	(0.55)		(0.71)	(1.07)	(0.55)	(0.55)	(0.62)	(0.88)
Biol. mother	1.12	-0.54	0.64	1.16	0.29	0.34	-0.25	0.96
	(0.67)	(2.03)	(0.87)	(1.34)	(0.66)	(0.67)	(0.78)	(1.08)
# of Children in the family	-1.31***	-1.08	-1.26**	-1.05	-0.41	-0.42	0.25	0.39
	(0.30)	(0.58)	(0.39)	(0.59)	(0.30)	(0.30)	(0.35)	(0.48)
	(0.66)		(0.85)	(1.30)	(0.65)	(0.65)	(0.76)	(1.05)
cons	65.25***	53.42**	66.25***	54.09***	14.15*	14.60*	-3.85	45.97**
	(6.37)	(16.66)	(8.08)	(13.27)	(6.23)	(6.27)	(7.87)	(14.74)
N	2649	2649	1620	749	1444	1424	743	1099

APPENDIX B

Robustness Checks

Table B-1.1: BPI (Sample: Typical Diaries)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	0.00	-0.01
	(0.01)	(0.02)	(0.02)	(0.04)	(0.01)	(0.02)	(0.02)	(0.02)
Passive time	-0.01	0.00	-0.02	-0.03	-0.03*	-0.04**	-0.04*	-0.01
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Active time (1-lag)			0.01	-0.03		0.01	-0.02	
			(0.01)	(0.03)		(0.01)	(0.02)	
Passive time (1-lag)			0.01	0.02		0.02	0.02	
			(0.02)	(0.03)		(0.01)	(0.02)	
Active time (2-lag)				0.05*			0.02	
				(0.02)			(0.01)	
Passive time (2-lag)				0.01			-0.01	
				(0.02)			(0.01)	
BPI (1-lag)					0.72***	0.74***	0.83***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	0.02		-0.02	-0.07	-0.35	-0.38	-0.03	-0.07
	(0.40)		(0.51)	(0.77)	(0.39)	(0.39)	(0.42)	(0.64)
Part-time working (mom)	0.69		0.89	0.83	0.28	0.14	-0.00	-0.10
	(0.45)		(0.58)	(0.87)	(0.45)	(0.45)	(0.47)	(0.69)
HS dropout (mom)	-0.56		-0.28	0.04	0.20	0.34	0.92	0.86
	(0.52)		(0.67)	(1.00)	(0.51)	(0.51)	(0.54)	(0.83)
Some college (mom)	-1.08**		-1.17*	-1.76*	-0.64	-0.68	-0.41	-0.26
	(0.39)		(0.49)	(0.75)	(0.37)	(0.37)	(0.40)	(0.61)
College+ (mom)	-1.20**		-1.34*	-1.77*	-0.74	-0.74	-0.22	-0.94
	(0.44)		(0.56)	(0.82)	(0.43)	(0.42)	(0.44)	(0.73)
Hours of work (mom)		-0.01						
		(0.02)						
Years of education (mom)		0.65						
		(0.63)						
Parental warmth	-1.04***	-1.61**	-0.84*	-0.56	-0.55*	-0.49	-0.37	-0.21
	(0.28)	(0.61)	(0.36)	(0.54)	(0.27)	(0.27)	(0.29)	(0.46)
Distress Index (mom)	0.49***	0.18*	0.47***	0.48***	0.20***	0.20***	0.10*	0.15*
	(0.04)	(0.08)	(0.05)	(0.08)	(0.04)	(0.04)	(0.05)	(0.07)
Neighborhood	0.67***	0.10	0.64**	0.46	0.30*	0.22	-0.04	0.16
	(0.15)	(0.35)	(0.20)	(0.30)	(0.15)	(0.15)	(0.16)	(0.25)
HH Cognitive scale	-0.04	-0.01	0.01	0.01	0.05	0.06	0.09	1.21
	(0.05)	(0.07)	(0.07)	(0.12)	(0.05)	(0.05)	(0.06)	(1.65)
Family Income (log)	0.12	0.26	0.19	0.07	0.22	0.22	0.27	0.08
	(0.17)	(0.36)	(0.20)	(0.31)	(0.15)	(0.15)	(0.17)	(0.28)
Child age (years)	-0.32	0.58	-0.13	0.70	0.07	0.10	0.30	0.41
	(0.25)	(0.34)	(0.32)	(0.50)	(0.24)	(0.24)	(0.27)	(0.57)
Child age^2	0.01	-0.03*	0.00	-0.03	-0.00	-0.01	-0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
Low birth weight	0.97		1.20	0.89	0.37	0.30	0.66	-0.07
	(0.60)		(0.77)	(1.14)	(0.58)	(0.58)	(0.61)	(0.96)
Black (child)	-1.35***		-1.67**	-1.57*	-0.47	-0.39	0.06	0.15
	(0.41)		(0.52)	(0.79)	(0.39)	(0.39)	(0.43)	(0.65)
Hispanic (child)	-1.70**		-1.46*	-1.49	-0.18	-0.20	-0.45	-0.83
	(0.57)		(0.74)	(1.14)	(0.57)	(0.57)	(0.62)	(0.91)
Other race (child)	-2.48**		-2.83**	-3.54*	-1.56	-1.17	-1.48	-0.55
	(0.81)		(1.03)	(1.49)	(0.81)	(0.82)	(0.80)	(1.34)
Male (child)	0.75*		0.98*	0.98	0.07	0.01	-0.23	-0.74
	(0.31)		(0.39)	(0.59)	(0.30)	(0.30)	(0.32)	(0.49)
Biol. Mother	2.35***	-0.81	2.84***	3.15***	0.93*	0.93*	0.59	-0.18
	(0.40)	(1.18)	(0.51)	(0.78)	(0.39)	(0.39)	(0.43)	(0.62)
# of children in the family	-0.18	-0.09	-0.22	-0.21	-0.04	-0.05	0.03	0.08
	(0.16)	(0.42)	(0.20)	(0.31)	(0.15)	(0.15)	(0.17)	(0.25)

	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
cons	10.65***	1.42	7.57*	2.90	1.03	0.37	-1.78	-2.74
	(2.73)	(9.33)	(3.35)	(5.06)	(2.54)	(2.52)	(2.72)	(4.90)
N	1368	1368	870	427	748	742	427	620

Table B-1.2:PBS (Sample: Typical Diaries)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.00	-0.00	0.00	-0.00	0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.01*		-0.00	0.01**	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	-0.00		-0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				-0.00			0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.70***	0.72***	0.79***	
					(0.05)	(0.05)	(0.06)	
Non-working (mom)	0.01		0.01	0.03	0.00	-0.01	-0.01	0.05
	(0.06)		(0.06)	(0.06)	(0.04)	(0.04)	(0.04)	(0.07)
Part-time working (mom)	-0.09		-0.03	0.03	0.01	0.02	0.02	-0.09
	(0.07)		(0.07)	(0.08)	(0.05)	(0.05)	(0.06)	(0.07)
HS dropout (mom)	0.30***		0.25**	0.23*	0.09	0.09	0.09	0.06
	(0.08)		(0.08)	(0.10)	(0.05)	(0.05)	(0.06)	(0.08)
Some college (mom)	0.05		0.06	0.10	0.00	-0.00	0.03	-0.02
	(0.07)		(0.07)	(0.09)	(0.04)	(0.04)	(0.04)	(0.07)
College+ (mom)	0.11		0.07	0.13	-0.03	-0.03	0.03	0.03
	(0.08)		(0.08)	(0.10)	(0.05)	(0.05)	(0.07)	(0.08)
Hours of work (mom)		0.00						
		(0.00)						
Years of education (mom)		-0.03						
		(0.08)						
Parental warmth	0.19***	0.22***	0.24***	0.25***	0.07	0.06	0.01	0.10*
	(0.06)	(0.06)	(0.05)	(0.07)	(0.05)	(0.04)	(0.05)	(0.05)
Distress Index (mom)	-0.03***	-0.01	-0.03***	-0.03**	-0.01**	-0.01*	-0.01	-0.01*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.04	0.06*	-0.04	-0.03	-0.01	-0.01	-0.02	-0.01
	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.04)
HH Cognitive scale	-0.00	0.00	-0.00	-0.00	0.00	0.00	0.01	0.15
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.16)
Family Income (log)	-0.05*	0.10*	-0.05*	0.03	-0.01	-0.01	0.03	-0.01
	(0.02)	(0.05)	(0.02)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)
Child age (years)	0.03	-0.01	0.02	0.03	-0.03	-0.02	-0.05	0.03
	(0.04)	(0.04)	(0.04)	(0.06)	(0.03)	(0.03)	(0.04)	(0.05)
Child age^2	-0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.20		-0.32	-0.23	-0.07	-0.06	0.03	0.09
	(0.20)		(0.21)	(0.24)	(0.08)	(0.08)	(0.10)	(0.11)
Black (child)	0.20*		0.23**	0.31**	0.15***	0.15***	0.18*	0.15*
	(0.09)		(0.09)	(0.10)	(0.04)	(0.04)	(0.08)	(0.07)
Hispanic (child)	0.19*		0.19*	0.40***	0.05	0.04	0.19**	0.03
	(0.08)		(0.09)	(0.09)	(0.06)	(0.06)	(0.06)	(0.07)
Other race (child)	0.11		0.11	0.05	0.07	0.03	-0.11	0.15
	(0.09)		(0.08)	(0.11)	(0.07)	(0.07)	(0.07)	(0.13)
Male (child)	-0.17**		-0.16**	-0.18**	-0.05	-0.05	-0.08	0.05
	(0.05)		(0.05)	(0.06)	(0.03)	(0.03)	(0.04)	(0.04)
Biol. Mother	-0.29***	0.01	-0.28***	-0.18	-0.10*	-0.09	0.09	-0.11
	(0.08)	(0.09)	(0.08)	(0.10)	(0.05)	(0.05)	(0.06)	(0.07)
# of children in the family	-0.01	-0.02	-0.01	0.00	-0.03	-0.03	-0.02	0.01

	(0.02)	(0.04)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
cons	4.09***	2.55*	3.85***	2.81***	1.28***	1.25**	0.75	-0.71*
	(0.34)	(1.17)	(0.35)	(0.59)	(0.39)	(0.38)	(0.48)	(0.36)
N	1379	1379	887	431	776	768	431	633

Table B-1.3: LW- (Sample: Typical Diaries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables	OLS	Fixed Effects FE	Cumulative (1-lag) CU1	Cumulative (2-lag) CU2	Value Added (VA)	Cumulative VA (1-lag) CVA1	Cumulative VA (2-lag) CVA2	Restricted VA RVA
Active time	-0.01	0.04	-0.00	0.07	0.04	0.08	0.12**	-0.04
	(0.04)	(0.07)	(0.05)	(0.09)	(0.04)	(0.04)	(0.05)	(0.06)
Passive time	0.10**	0.01	0.09*	0.17*	0.02	0.06	0.11*	-0.04
	(0.03)	(0.05)	(0.05)	(0.09)	(0.03)	(0.04)	(0.05)	(0.05)
Active time (1-lag)			-0.05	-0.22*		-0.07*	-0.22***	
			(0.04)	(0.10)		(0.04)	(0.05)	
Passive time (1-lag)			-0.08	-0.20*		-0.09*	-0.18***	
			(0.05)	(0.09)		(0.04)	(0.05)	
Active time (2-lag)				-0.02			0.02	
				(0.06)			(0.03)	
Passive time (2-lag)				-0.00			-0.03	
				(0.06)			(0.03)	
LW (1-lag)					0.74***	0.74***	0.86***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	0.85		-0.16	1.31	1.16	1.30	1.59	1.69
	(1.15)		(1.46)	(2.19)	(1.13)	(1.13)	(1.15)	(1.69)
Part-time working (mom)	4.42***		3.77*	4.12	1.53	1.69	-0.01	2.25
	(1.31)		(1.62)	(2.41)	(1.27)	(1.27)	(1.27)	(1.82)
HS dropout (mom)	-2.59		-1.89	-3.56	0.20	0.20	1.38	2.96
	(1.50)		(1.88)	(2.95)	(1.49)	(1.49)	(1.55)	(2.20)
Some college (mom)	7.26***		7.64***	4.97*	1.96	2.20*	-1.50	1.23
	(1.11)		(1.40)	(2.17)	(1.10)	(1.10)	(1.16)	(1.64)
College+ (mom)	10.48***		9.77***	8.48***	2.15	2.15	0.10	1.69
	(1.28)		(1.60)	(2.43)	(1.27)	(1.26)	(1.30)	(1.92)
Hours of work (mom)		-0.09						
		(0.06)						
Years of education (mom)		2.07						
		(1.19)						
Parental warmth	-1.67*	1.84	-1.94	-2.86	-0.08	-0.04	0.38	-0.19
	(0.81)	(1.38)	(1.03)	(1.56)	(0.79)	(0.79)	(0.82)	(1.20)
Distress Index (mom)	-0.07	0.20	-0.04	-0.07	-0.13	-0.12	-0.21	-0.17
	(0.12)	(0.20)	(0.15)	(0.23)	(0.12)	(0.12)	(0.12)	(0.18)
Neighborhood	-1.02*	-0.53	-0.37	0.20	-0.16	-0.08	-0.00	0.01
	(0.44)	(0.84)	(0.57)	(0.85)	(0.44)	(0.44)	(0.45)	(0.64)
HH Cognitive scale	-0.21	-0.63**	-0.19	-0.12	-0.03	-0.06	-0.09	0.62
	(0.15)	(0.22)	(0.20)	(0.30)	(0.15)	(0.15)	(0.16)	(4.40)
Family Income (log)	0.56	0.67	0.93	1.53	0.66	0.72	0.76	0.57
	(0.48)	(0.83)	(0.67)	(1.26)	(0.49)	(0.50)	(0.66)	(0.71)
Child age (years)	0.71	0.47	0.26	1.43	1.42*	1.42*	2.14**	-1.46
	(0.73)	(0.96)	(0.93)	(1.39)	(0.70)	(0.70)	(0.73)	(1.52)
Child age^2	-0.07*	-0.06	-0.04	-0.10	-0.06*	-0.06*	-0.09**	0.05
	(0.03)	(0.04)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.06)
Low birth weight	2.10		3.47	2.34	0.14	0.07	-0.95	-3.32
	(1.71)		(2.22)	(3.40)	(1.70)	(1.70)	(1.78)	(2.50)
Black (child)	-6.32***		-6.92***	-6.12**	-3.15**	-3.14**	-0.73	-3.30
	(1.17)		(1.48)	(2.26)	(1.13)	(1.13)	(1.19)	(1.71)
Hispanic (child)	-1.13		-3.83	-4.39	-1.83	-1.75	-1.68	-4.06
	(1.67)		(2.05)	(3.14)	(1.66)	(1.65)	(1.64)	(2.47)
Other race (child)	-2.33		-3.22	-2.52	-2.09	-2.38	-1.08	-4.10
	(2.36)		(2.94)	(4.24)	(2.35)	(2.34)	(2.22)	(3.78)
Male (child)	-4.11***		-4.78***	-5.24**	-0.80	-0.62	-1.47	2.25
	(0.90)		(1.13)	(1.70)	(0.89)	(0.89)	(0.90)	(1.29)
Biol. Mother	-2.24	-6.76	-3.08*	-3.46	-0.46	-0.71	-0.18	-0.29
	(1.17)	(3.85)	(1.49)	(2.31)	(1.14)	(1.14)	(1.21)	(1.67)
# of children in the	-1.81***	-0.17	-1.39*	-2.34**	0.04	0.06	0.34	1.01

family								
	(0.45)	(1.00)	(0.59)	(0.90)	(0.45)	(0.45)	(0.48)	(0.65)
cons	110.87***	70.37***	111.05***	107.54***	12.92	13.31	-2.89	2.67
	(7.76)	(19.59)	(10.26)	(17.57)	(8.52)	(8.53)	(9.84)	(12.87)
N	1302	1302	839	412	707	702	410	578

Table B-1.4: AP (Sample: Typical Diaries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables	OLS	Fixed Effects FE	Cumulative (1-lag) CU1	Cumulative (2-lag) CU2	Value Added (VA)	Cumulative VA (1-lag) CVA1	Cumulative VA (2-lag) CVA2	Restricted VA RVA
Active time	-0.07	-0.04	-0.03	0.04	-0.02	-0.02	-0.01	-0.05
	(0.04)	(0.05)	(0.05)	(0.08)	(0.04)	(0.04)	(0.05)	(0.06)
Passive time	0.04	-0.02	0.02	0.13	-0.01	0.00	0.05	0.01
	(0.03)	(0.04)	(0.04)	(0.08)	(0.03)	(0.03)	(0.04)	(0.05)
Active time (1-lag)			-0.02	-0.10		0.01	-0.02	
			(0.04)	(0.08)		(0.03)	(0.05)	
Passive time (1-lag)			-0.07	-0.14		-0.03	-0.07	
			(0.04)	(0.08)		(0.03)	(0.04)	
Active time (2-lag)				-0.04			0.02	
				(0.05)			(0.03)	
Passive time (2-lag)				-0.02			0.01	
				(0.06)			(0.03)	
AP (1-lag)					0.67***	0.67***	0.82***	
					(0.03)	(0.03)	(0.03)	
Non-working (mom)	2.16*		2.06	3.04	1.81	1.76	0.44	1.45
	(1.02)		(1.31)	(1.91)	(1.01)	(1.01)	(1.10)	(1.58)
Part-time working (mom)	6.56***		5.70***	3.42	1.48	1.36	-1.60	-0.74
	(1.17)		(1.45)	(2.10)	(1.14)	(1.14)	(1.21)	(1.71)
HS dropout (mom)	-0.76		-0.86	-2.58	-0.60	-0.87	-1.01	1.72
	(1.35)		(1.68)	(2.59)	(1.33)	(1.34)	(1.49)	(2.07)
Some college (mom)	6.18***		5.92***	5.43**	1.20	1.00	0.05	-1.67
	(0.99)		(1.26)	(1.90)	(0.98)	(0.99)	(1.11)	(1.54)
College+ (mom)	8.52***		8.40***	10.72***	1.57	1.50	2.33	-2.20
	(1.14)		(1.43)	(2.11)	(1.14)	(1.13)	(1.25)	(1.80)
Hours of work (mom)		-0.01						
		(0.04)						
Years of education (mom)		1.36						
		(1.55)						
Parental warmth	-0.31	2.35*	-0.89	-1.36	0.23	0.20	-0.85	1.65
	(0.72)	(1.04)	(0.92)	(1.37)	(0.70)	(0.70)	(0.78)	(1.12)
Distress Index (mom)	-0.21	-0.10	-0.16	-0.12	-0.20	-0.19	-0.17	0.22
	(0.11)	(0.17)	(0.14)	(0.20)	(0.10)	(0.10)	(0.12)	(0.17)
Neighborhood	-1.83***	-0.34	-1.32**	-1.54*	-0.13	-0.16	-0.29	0.45
	(0.39)	(0.81)	(0.51)	(0.75)	(0.39)	(0.39)	(0.43)	(0.60)
HH Cognitive scale	0.54***	0.42*	0.62***	0.61*	0.33*	0.34*	0.44**	4.85
	(0.13)	(0.20)	(0.18)	(0.27)	(0.13)	(0.13)	(0.15)	(4.14)
Family Income (log)	0.88*	-0.67	1.13	0.10	0.50	0.48	-1.05	0.76
	(0.43)	(0.88)	(0.60)	(1.10)	(0.44)	(0.44)	(0.63)	(0.67)
Child age (years)	4.31***	3.99***	4.70***	5.47***	4.07***	4.08***	4.96***	-4.13**
	(0.65)	(0.76)	(0.84)	(1.21)	(0.63)	(0.63)	(0.69)	(1.43)
Child age^2	-0.20***	-0.16***	-0.21***	-0.24***	-0.18***	-0.18***	-0.21***	0.12*
	(0.03)	(0.03)	(0.04)	(0.05)	(0.03)	(0.03)	(0.03)	(0.06)
Low birth weight	-3.23*		-3.59	-5.13	-2.27	-2.30	-2.39	-0.78
	(1.53)		(1.98)	(2.97)	(1.51)	(1.51)	(1.70)	(2.34)
Black (child)	-9.23***		-9.66***	-10.21***	-3.93***	-3.89***	-3.07**	-1.43
	(1.05)		(1.32)	(1.97)	(1.03)	(1.03)	(1.16)	(1.61)
Hispanic (child)	-5.59***		-7.53***	-6.27*	-2.35	-2.21	-0.97	-2.71
	(1.48)		(1.84)	(2.74)	(1.48)	(1.48)	(1.58)	(2.31)
Other race (child)	-2.19		-1.72	-3.25	-0.36	-0.37	-0.53	4.96
	(2.11)		(2.63)	(3.70)	(2.10)	(2.09)	(2.11)	(3.54)
Male (child)	0.09		-0.23	0.05	0.89	0.79	-0.01	3.94**
	(0.80)		(1.01)	(1.48)	(0.78)	(0.78)	(0.85)	(1.21)
Biol. Mother	0.69	1.14	-0.22	-1.00	0.14	0.16	-0.18	0.40
	(1.04)	(5.32)	(1.33)	(2.01)	(1.02)	(1.02)	(1.15)	(1.58)

# of children in the family	-1.08**	-0.53	-0.75	-0.69	-0.37	-0.26	0.11	0.43
	(0.40)	(0.94)	(0.53)	(0.78)	(0.40)	(0.40)	(0.45)	(0.61)
cons	79.66***	63.75**	76.48***	85.68***	9.04	9.10	8.13	12.53
	(6.91)	(22.72)	(9.18)	(15.32)	(7.41)	(7.44)	(9.24)	(12.08)
N	1297	1297	834	410	703	698	407	574

Table B-2.1: BPI (Sample1)[22]

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	-0.01	-0.02	-0.00	0.01	0.00	-0.01
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Passive time	0.00	0.04*	0.01	0.00	0.01	0.01
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Active time (1-lag)			-0.01		-0.02	
			(0.01)		(0.02)	
Passive time (1-lag)			-0.01		-0.00	
			(0.02)		(0.02)	
BPI (1-lag)				0.64***	0.69***	
				(0.05)	(0.06)	
Non-working (mom)	-0.35		0.04	-0.65	-0.96	-0.40
	(0.37)		(0.48)	(0.50)	(0.61)	(0.73)
Part-time working (mom)	0.73*		0.90	0.90	1.09	1.74*
	(0.37)		(0.47)	(0.55)	(0.67)	(0.71)
HS dropout (mom)	-0.57		-0.20	-1.26	-0.26	-0.05
	(0.48)		(0.63)	(0.71)	(0.88)	(0.98)
Some college (mom)	-0.47		-0.02	0.76	1.52*	1.05
	(0.34)		(0.44)	(0.49)	(0.59)	(0.66)
College+ (mom)	-1.22**		-0.85	-1.16*	-1.22	-0.15
	(0.39)		(0.49)	(0.57)	(0.66)	(0.78)
Hours of work (mom)		0.01				
		(0.02)				
Years of education (mom)		0.53				
		(0.80)				
Parental warmth	-0.10	-0.37	0.03	-0.56	-0.77	-0.67
	(0.27)	(0.76)	(0.35)	(0.41)	(0.49)	(0.48)
Distress Index (mom)	0.45***	0.23	0.42***	0.19**	0.17*	0.26**
	(0.04)	(0.13)	(0.05)	(0.06)	(0.08)	(0.08)
Neighborhood	0.36**	0.13	0.60***	0.29	0.35	-0.01
	(0.14)	(0.33)	(0.18)	(0.20)	(0.24)	(0.27)
HH Cognitive scale	-0.07*	-0.09	-0.12**	-0.06	-0.04	1.91
	(0.03)	(0.06)	(0.04)	(0.05)	(0.06)	(1.82)
Family Income (log)	-0.15	0.11	0.06	-0.10	0.18	-0.07
	(0.19)	(0.56)	(0.27)	(0.28)	(0.39)	(0.41)
Low birth weight	-0.56		-0.75	-1.70*	-1.86*	-1.63
	(0.50)		(0.64)	(0.71)	(0.84)	(0.87)
Black (child)	-1.68***		-1.72***	-0.85	-0.73	-0.18
	(0.37)		(0.49)	(0.56)	(0.73)	(0.73)
Hispanic (child)	-0.95		-0.89	-0.27	-0.01	1.77
	(0.55)		(0.72)	(0.79)	(0.93)	(1.14)
Other race (child)	-1.71*		-2.08*	-0.49	-1.06	0.55
	(0.71)		(0.97)	(0.99)	(1.25)	(1.38)
Male (child age)	0.67*		0.32	0.65	0.24	0.96
	(0.27)		(0.35)	(0.39)	(0.47)	(0.53)
Biol. Mother	1.97***	-0.65	2.31***	0.76	0.95	0.97
	(0.37)	(1.38)	(0.49)	(0.56)	(0.74)	(0.71)
# of children in the	-0.23	-0.33	-0.44*	-0.22	-0.52	-0.15

[22] Sample 1: Kids age up to 6 years in wave 1 followed to wave 2.
Sample 2: Kids older than 6 years in wave 1 followed to wave 2.

family						
	(0.15)	(0.45)	(0.19)	(0.22)	(0.27)	(0.31)
cons	8.77***	1.32	6.11	5.97	4.51	1.22
	(2.54)	(10.97)	(3.50)	(3.68)	(4.74)	(5.13)
N	1594	1595	998	501	336	542

Table B-2.2: BPI (Sample:2)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	-0.00	-0.01	-0.00	-0.01	-0.02	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)
Passive time	0.00	-0.00	0.01	0.00	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Active time (1-lag)			0.00		0.01	
			(0.01)		(0.01)	
Passive time (1-lag)			-0.01		0.00	
			(0.01)		(0.01)	
BPI (1-lag)				0.73***	0.67***	
				(0.02)	(0.03)	
Non-working (mom)	0.26		0.53	0.28	0.33	1.02*
	(0.31)		(0.39)	(0.33)	(0.46)	(0.44)
Part-time working (mom)	0.76*		1.20**	0.30	0.60	0.21
	(0.31)		(0.38)	(0.34)	(0.44)	(0.46)
HS dropout (mom)	-1.01*		-1.58**	-0.41	-0.38	-1.05
	(0.44)		(0.54)	(0.51)	(0.77)	(0.60)
Some college (mom)	-0.98***		-0.95**	-0.21	-0.05	-0.09
	(0.28)		(0.34)	(0.30)	(0.39)	(0.40)
College+ (mom)	-0.54		-0.64	0.32	0.38	0.13
	(0.34)		(0.41)	(0.36)	(0.46)	(0.48)
Hours of work (mom)		-0.02				
		(0.01)				
Years of education (mom)		-0.23				
		(0.46)				
Parental warmth	-0.89***	-1.15**	-0.93***	-0.17	-0.31	-0.14
	(0.20)	(0.41)	(0.24)	(0.21)	(0.27)	(0.26)
Distress Index (mom)	0.55***	0.23***	0.56***	0.20***	0.23***	0.17***
	(0.03)	(0.06)	(0.04)	(0.04)	(0.05)	(0.05)
Neighborhood	0.53***	0.06	0.61***	0.10	0.19	0.03
	(0.12)	(0.22)	(0.14)	(0.12)	(0.16)	(0.16)
Cognitive scale	0.01	-0.01	0.00	-0.07*	-0.06	-0.67
	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(1.06)
Family Income (log)	0.05	0.20	0.11	0.29	0.36	0.30
	(0.14)	(0.24)	(0.16)	(0.16)	(0.18)	(0.20)
Low birth weight	0.93*		1.03	-0.04	0.55	0.17
	(0.44)		(0.53)	(0.46)	(0.57)	(0.59)
Black (child)	-0.77**		-0.41	-0.63*	-0.53	-0.07
	(0.29)		(0.36)	(0.31)	(0.41)	(0.40)
Hispanic (child)	-1.26*		-0.70	0.28	0.32	0.99
	(0.55)		(0.66)	(0.62)	(0.87)	(0.76)
Other race (child)	0.78		1.18	1.23	2.29*	1.07
	(0.62)		(0.75)	(0.70)	(0.95)	(0.90)
Male (child age)	0.91***		1.10***	0.39	0.54	-0.40
	(0.23)		(0.28)	(0.24)	(0.32)	(0.32)
Biol. Mother	1.32***	1.37	1.34***	1.37***	1.57***	1.04**
	(0.29)	(0.96)	(0.36)	(0.31)	(0.41)	(0.40)
# of children in the family	0.01	0.55*	-0.05	0.25*	0.22	0.43**
	(0.11)	(0.24)	(0.13)	(0.12)	(0.16)	(0.15)
cons	7.51***	11.78	6.48**	-1.45	-1.53	-3.18
	(1.88)	(6.10)	(2.20)	(2.05)	(2.49)	(2.53)
N	2391	2399	1559	1155	733	1286

Table B-2.3: PBS (Sample 1)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	0.00	0.00	0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00**	0.00	-0.01**	-0.00**	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00		0.00	
			(0.00)		(0.00)	
Passive time (1-lag)			0.00		0.00	
			(0.00)		(0.00)	
PBS (1-lag)				0.80***	0.80***	
				(0.03)	(0.03)	
Non-working (mom)	0.03		0.03	0.06*	0.06*	-0.03
	(0.05)		(0.05)	(0.03)	(0.03)	(0.04)
Part-time working (mom)	-0.10		-0.10	-0.01	-0.01	-0.03
	(0.06)		(0.06)	(0.02)	(0.02)	(0.04)
HS dropout (mom)	0.11		0.14	0.03	0.03	0.20*
	(0.09)		(0.08)	(0.04)	(0.04)	(0.08)
Some college (mom)	0.04		0.06	-0.01	-0.01	-0.01
	(0.05)		(0.05)	(0.03)	(0.03)	(0.05)
College+ (mom)	0.06		0.07	0.01	0.01	-0.01
	(0.05)		(0.05)	(0.02)	(0.02)	(0.05)
Hours of work (mom)		0.00				
		(0.00)				
Years of education (mom)		0.06				
		(0.09)				
Parental warmth	0.12**	0.09	0.12**	0.06*	0.06*	0.04
	(0.04)	(0.08)	(0.04)	(0.02)	(0.02)	(0.04)
Distress Index (mom)	-0.03***	-0.02	-0.03***	-0.01	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.03	-0.04	-0.03	0.00	0.00	-0.01
	(0.02)	(0.04)	(0.02)	(0.01)	(0.01)	(0.02)
Cognitive scale	-0.00	0.00	-0.00	0.01	0.01	0.05
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.13)
Family Income (log)	0.01	-0.06	0.01	-0.01	-0.02	-0.05
	(0.03)	(0.07)	(0.02)	(0.01)	(0.01)	(0.03)
Low birth weight	-0.15		-0.20*	-0.07	-0.07	0.05
	(0.08)		(0.08)	(0.04)	(0.04)	(0.08)
Black (child)	0.11		0.16*	0.03	0.03	0.03
	(0.09)		(0.08)	(0.03)	(0.03)	(0.05)
Hispanic (child)	0.24**		0.21*	0.01	0.02	-0.08
	(0.08)		(0.09)	(0.05)	(0.05)	(0.07)
Other race (child)	0.09		0.08	-0.03	-0.03	-0.02
	(0.07)		(0.08)	(0.05)	(0.05)	(0.11)
Male (child age)	-0.09*		-0.10*	-0.03	-0.03	-0.01
	(0.04)		(0.04)	(0.02)	(0.02)	(0.03)
Biol. Mother	-0.18**	-0.00	-0.19**	-0.05	-0.05	-0.02
	(0.06)	(0.19)	(0.06)	(0.03)	(0.03)	(0.05)
# of children in the family	0.00	-0.01	-0.01	-0.00	-0.01	0.05*
	(0.02)	(0.05)	(0.02)	(0.01)	(0.01)	(0.02)
cons	3.85***	3.67**	3.81***	0.85***	0.86***	0.23
	(0.34)	(1.21)	(0.33)	(0.18)	(0.18)	(0.34)
N	1912	1913	1274	1003	996	1017

Table B-2.4: PBS (Sample 2)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	0.00	0.00	-0.00	0.00	0.00	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	0.00	-0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			-0.00		-0.00*	
			(0.00)		(0.00)	
Passive time (1-lag)			-0.00		-0.00	
			(0.00)		(0.00)	
PBS (1-lag)				0.72***	0.73***	
				(0.03)	(0.03)	
Non-working (mom)	0.12*		0.13**	0.03	0.04	0.07
	(0.05)		(0.05)	(0.03)	(0.03)	(0.05)
Part- time working (mom)	0.00		-0.03	-0.00	0.00	0.03
	(0.05)		(0.05)	(0.03)	(0.03)	(0.05)
HS dropout (mom)	0.29***		0.27***	0.08*	0.07*	0.01
	(0.08)		(0.07)	(0.03)	(0.03)	(0.09)
Some college (mom)	0.09		0.10	0.05	0.05	0.01
	(0.06)		(0.05)	(0.03)	(0.03)	(0.06)
College+ (mom)	0.15*		0.16**	0.06*	0.06*	0.06
	(0.06)		(0.06)	(0.03)	(0.03)	(0.06)
Hours of work (mom)		-0.00				
		(0.00)				
Years of education (mom)		0.03				
		(0.05)				
Parental warmth	0.20***	0.18***	0.20***	0.09***	0.09***	0.01
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.03)
Distress Index (mom)	-0.03***	-0.01*	-0.03***	-0.01***	-0.01***	-0.01
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.04*	-0.00	-0.05*	-0.00	0.00	0.03
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)
HH Cognitive scale	-0.00	-0.00	0.00	0.00	0.00	-0.06
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.12)
Family Income (log)	-0.02	0.03	-0.02	-0.01	-0.01	-0.01
	(0.02)	(0.03)	(0.02)	(0.01)	(0.01)	(0.02)
Low birth weight	-0.24*		-0.25*	-0.05	-0.04	0.08
	(0.11)		(0.10)	(0.04)	(0.04)	(0.07)
Black (child)	0.13		0.14	0.04	0.04	-0.03
	(0.08)		(0.07)	(0.03)	(0.03)	(0.07)
Hispanic (child)	0.35***		0.35***	0.09*	0.10**	-0.13
	(0.08)		(0.08)	(0.04)	(0.04)	(0.10)
Other race (child)	0.06		0.06	0.06	0.06	0.02
	(0.09)		(0.09)	(0.04)	(0.04)	(0.10)
Male (child age)	-0.17***		-0.19***	-0.05**	-0.05**	0.05
	(0.04)		(0.04)	(0.02)	(0.02)	(0.04)
Biol. Mother	-0.09	-0.01	-0.08	-0.03	-0.03	-0.04
	(0.06)	(0.07)	(0.06)	(0.05)	(0.04)	(0.06)
# of children in the family	-0.01	-0.01	-0.00	0.00	0.00	-0.00
	(0.02)	(0.03)	(0.02)	(0.01)	(0.01)	(0.02)
cons	3.73***	2.78***	3.76***	0.83***	0.85***	-0.15
	(0.30)	(0.64)	(0.27)	(0.18)	(0.17)	(0.24)
N	2519	2527	1659	1669	1656	1070

Table B-2.5: LW (Sample 1)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	0.03	0.03	0.03	0.02	-0.00	-0.00
	(0.03)	(0.05)	(0.04)	(0.03)	(0.03)	(0.04)
Passive time	0.11***	-0.11	0.09*	0.01	-0.11***	-0.03
	(0.03)	(0.06)	(0.04)	(0.02)	(0.03)	(0.04)
Active time (1-lag)			0.03		0.03	
			(0.03)		(0.03)	
Passive time (1-lag)			0.07		0.17***	
			(0.04)		(0.03)	
LW (1-lag)				0.80***	0.81***	
				(0.02)	(0.02)	
Non-working (mom)	1.13		0.95	0.58	0.53	0.71
	(0.99)		(1.20)	(0.82)	(0.81)	(1.34)
Part- time working (mom)	2.49*		2.71*	-0.79	-0.82	-2.36
	(0.97)		(1.19)	(0.84)	(0.83)	(1.25)
HS dropout (mom)	-5.82***		-5.55***	-0.88	-0.80	2.43
	(1.26)		(1.57)	(1.14)	(1.13)	(1.73)
Some college (mom)	4.12***		3.69***	1.38	1.47*	1.01
	(0.91)		(1.09)	(0.75)	(0.74)	(1.19)
College+ (mom)	5.57***		5.32***	1.63	1.66	0.91
	(1.03)		(1.25)	(0.88)	(0.87)	(1.42)
Hours of work (mom)		0.02				
		(0.06)				
Years of education (mom)		4.81				
		(2.99)				
Parental warmth	-1.12	-3.09*	-1.27	-0.81	-0.80	-1.21
	(0.70)	(1.57)	(0.86)	(0.60)	(0.59)	(0.89)
Distress Index (mom)	0.05	-0.13	0.09	0.00	-0.01	-0.16
	(0.11)	(0.28)	(0.13)	(0.09)	(0.09)	(0.14)
Neighborhood	-0.50	0.01	-0.33	0.03	0.10	-0.08
	(0.36)	(0.93)	(0.43)	(0.30)	(0.30)	(0.48)
HH Cognitive scale	-0.54***	-0.34*	-0.47***	-0.37***	-0.33***	4.26
	(0.10)	(0.14)	(0.13)	(0.08)	(0.08)	(3.30)
Family Income (log)	0.85	-1.14	1.16	0.24	0.19	-0.40
	(0.49)	(1.41)	(0.60)	(0.44)	(0.44)	(0.68)
Low birth weight	-1.51		-2.14	-0.69	-0.80	-0.87
	(1.34)		(1.61)	(1.09)	(1.07)	(1.77)
Black (child)	-1.33		-0.95	-1.55	-1.30	-5.78***
	(0.96)		(1.16)	(0.80)	(0.79)	(1.28)
Hispanic (child)	-0.22		0.44	-0.53	-0.30	-2.91
	(1.46)		(1.81)	(1.30)	(1.29)	(2.00)
Other race (child)	1.43		1.92	-0.39	-0.14	-1.90
	(1.87)		(2.23)	(1.62)	(1.59)	(2.77)
Male (child age)	-3.13***		-3.59***	-0.71	-0.74	1.40
	(0.71)		(0.86)	(0.60)	(0.59)	(0.93)
Biol. Mother	-3.36***	-6.55	-2.96*	-0.68	-0.72	0.18
	(0.99)	(6.32)	(1.20)	(0.84)	(0.83)	(1.29)
# of children in the family	-1.76***	-1.77	-2.12***	-0.66*	-0.78*	0.41
	(0.39)	(1.25)	(0.48)	(0.33)	(0.33)	(0.53)
cons	105.72***	75.99*	101.35***	25.23***	23.79***	7.67
	(6.56)	(38.64)	(8.05)	(6.06)	(6.02)	(8.92)
N	1835	1836	1226	951	947	960

Table B-2.6: LW (Sample 2)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	0.04	0.06	0.04	0.03	0.10***	0.02
	(0.03)	(0.04)	(0.05)	(0.02)	(0.03)	(0.04)
Passive time	0.08**	0.08*	0.12**	0.06**	0.12***	0.05
	(0.03)	(0.04)	(0.04)	(0.02)	(0.02)	(0.04)
Active time (1-lag)			-0.01		-0.10***	
			(0.04)		(0.03)	
Passive time (1-lag)			-0.04		-0.12***	
			(0.04)		(0.02)	
LW (1-lag)				0.81***	0.82***	
				(0.01)	(0.01)	
Non-working (mom)	3.11**		2.43*	0.91	1.04	-1.02
	(1.02)		(1.23)	(0.73)	(0.72)	(1.42)
Part-time working (mom)	3.79***		3.07*	0.49	0.66	0.71
	(1.06)		(1.28)	(0.75)	(0.74)	(1.42)
HS dropout (mom)	-5.53***		-5.17**	-1.36	-1.46	1.05
	(1.41)		(1.74)	(1.03)	(1.02)	(1.95)
Some college (mom)	4.16***		3.86***	0.42	0.37	-0.33
	(0.92)		(1.11)	(0.66)	(0.65)	(1.27)
College+ (mom)	9.81***		10.09***	2.00*	1.90*	2.28
	(1.10)		(1.34)	(0.81)	(0.79)	(1.51)
Hours of work (mom)		-0.06				
		(0.05)				
Years of education (mom)		1.58				
		(1.03)				
Parental warmth	-0.70	1.07	-0.80	-0.38	-0.33	-0.33
	(0.62)	(1.04)	(0.76)	(0.45)	(0.44)	(0.81)
Distress Index (mom)	-0.30**	-0.33	-0.32*	-0.09	-0.11	-0.16
	(0.11)	(0.17)	(0.13)	(0.08)	(0.07)	(0.14)
Neighborhood	-0.71	0.02	-0.73	-0.34	-0.29	-0.54
	(0.38)	(0.69)	(0.45)	(0.27)	(0.26)	(0.53)
HH Cognitive scale	0.38***	0.08	0.29*	0.30***	0.22**	2.86
	(0.10)	(0.11)	(0.12)	(0.07)	(0.07)	(3.44)
Family Income (log)	0.79	-0.87	0.65	-0.05	-0.15	-0.61
	(0.47)	(0.81)	(0.58)	(0.34)	(0.33)	(0.65)
Low birth weight	-2.04		-3.17	-1.91	-2.02*	-2.52
	(1.42)		(1.72)	(1.03)	(1.01)	(1.95)
Black (child)	-7.37***		-6.94***	-1.47*	-1.44*	-2.24
	(0.95)		(1.16)	(0.69)	(0.68)	(1.30)
Hispanic (child)	-1.70		-4.04	-2.90*	-2.88*	-6.60**
	(1.76)		(2.18)	(1.31)	(1.29)	(2.46)
Other race (child)	-0.45		1.89	1.41	1.33	1.68
	(2.08)		(2.54)	(1.49)	(1.46)	(2.94)
Male (child age)	-3.35***		-3.36***	-0.65	-0.69	-0.38
	(0.75)		(0.91)	(0.54)	(0.53)	(1.03)
Biol. Mother	-1.22	-0.03	-1.78	-0.37	-0.66	0.69
	(0.95)	(3.15)	(1.16)	(0.69)	(0.68)	(1.28)
# of children in the family	-1.01**	0.45	-1.08*	0.01	0.01	0.82
	(0.36)	(0.69)	(0.44)	(0.26)	(0.25)	(0.49)
cons	101.49***	88.36***	104.88***	20.56***	22.63***	3.42
	(6.14)	(15.02)	(7.53)	(4.68)	(4.58)	(8.15)
N	2409	2417	1587	1554	1549	978

Table B-2.7: AP (Sample 1)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	-0.01	-0.03	0.03	-0.01	-0.02	-0.08
	(0.03)	(0.06)	(0.04)	(0.03)	(0.03)	(0.05)
Passive time	-0.01	-0.07	-0.07	-0.06**	-0.19***	-0.10*
	(0.03)	(0.05)	(0.04)	(0.02)	(0.03)	(0.04)
Active time (1-lag)			-0.03		0.01	
			(0.03)		(0.03)	
Passive time (1-lag)			0.10*		0.19***	
			(0.04)		(0.03)	
AP (1-lag)				0.81***	0.82***	
				(0.02)	(0.02)	
Non-working (mom)	2.91**		2.48*	0.56	0.54	0.25
	(1.01)		(1.23)	(0.83)	(0.81)	(1.38)
Part-time working (mom)	4.90***		4.55***	0.34	0.32	-2.08
	(0.99)		(1.22)	(0.85)	(0.82)	(1.30)
HS dropout (mom)	-2.84*		-1.76	1.26	1.03	2.65
	(1.30)		(1.62)	(1.14)	(1.12)	(1.79)
Some college (mom)	2.81**		2.90**	0.31	0.41	-0.50
	(0.93)		(1.12)	(0.76)	(0.74)	(1.23)
College+ (mom)	5.58***		5.90***	0.91	1.19	0.25
	(1.05)		(1.28)	(0.88)	(0.86)	(1.46)
Hours of work (mom)		-0.02				
		(0.05)				
Years of education (mom)		6.40				
		(3.95)				
Parental warmth	-1.40	-1.62	-1.75*	-0.50	-0.66	0.46
	(0.71)	(2.00)	(0.89)	(0.60)	(0.59)	(0.91)
Distress Index (mom)	-0.20	-0.52	-0.28*	-0.17	-0.17	0.15
	(0.11)	(0.29)	(0.13)	(0.09)	(0.09)	(0.15)
Neighborhood	-1.32***	-0.80	-1.12*	-0.42	-0.29	0.69
	(0.37)	(0.92)	(0.45)	(0.31)	(0.30)	(0.49)
HH Cognitive scale	-0.05	-0.25	-0.08	-0.20*	-0.16	5.25
	(0.11)	(0.17)	(0.13)	(0.08)	(0.08)	(3.41)
Family Income (log)	2.23***	-0.80	2.26***	0.65	0.49	-0.73
	(0.50)	(1.65)	(0.61)	(0.44)	(0.44)	(0.70)
Low birth weight	-2.27		-2.21	-0.35	-0.43	0.91
	(1.37)		(1.65)	(1.09)	(1.06)	(1.82)
Black (child)	-5.46***		-5.84***	-2.06*	-1.78*	-3.83**
	(0.98)		(1.19)	(0.81)	(0.79)	(1.32)
Hispanic (child)	-5.85***		-5.59**	-2.71*	-1.88	-1.50
	(1.50)		(1.87)	(1.32)	(1.29)	(2.06)
Other race (child)	-0.99		-1.08	-1.19	-0.88	0.66
	(1.91)		(2.29)	(1.62)	(1.58)	(2.84)
Male (child age)	-0.07		-0.42	0.27	0.22	3.19***
	(0.73)		(0.89)	(0.61)	(0.59)	(0.96)
Biol. Mother	1.17	-2.90	1.01	0.99	0.83	0.36
	(1.01)	(3.78)	(1.23)	(0.85)	(0.83)	(1.33)
# of children in the family	-1.12**	-1.40	-1.42**	-0.39	-0.51	0.73
	(0.40)	(1.31)	(0.49)	(0.33)	(0.33)	(0.55)
cons	92.42***	46.98	93.43***	20.55***	20.39***	4.27
	(6.71)	(53.86)	(8.27)	(6.02)	(5.90)	(9.19)
N	1825	1825	1219	943	939	952

Table B-2.8: AP (Sample 2)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Value Added (VA)	(5) Cumulative VA (1-lag) CVA1	(6) Restricted VA RVA
Active time	0.01	0.03	-0.00	0.00	0.04	0.06
	(0.02)	(0.04)	(0.04)	(0.02)	(0.02)	(0.04)
Passive time	0.02	-0.03	0.02	0.02	0.05*	-0.00
	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)
Active time (1-lag)			-0.00		-0.06*	
			(0.04)		(0.02)	
Passive time (1-lag)			0.01		-0.06**	
			(0.03)		(0.02)	
AP (1-lag)				0.74***	0.74***	
				(0.02)	(0.02)	
Non-working (mom)	2.96***		2.84**	1.09	1.16	0.38
	(0.79)		(0.97)	(0.62)	(0.61)	(1.20)
Part-time working (mom)	2.57**		2.15*	1.14	1.17	0.83
	(0.82)		(1.01)	(0.63)	(0.63)	(1.20)
HS dropout (mom)	-3.94***		-3.29*	-0.45	-0.56	1.02
	(1.10)		(1.38)	(0.87)	(0.87)	(1.66)
Some college (mom)	4.47***		4.50***	0.88	0.82	-2.51*
	(0.72)		(0.88)	(0.56)	(0.56)	(1.08)
College+ (mom)	9.46***		9.42***	2.19**	2.15**	-2.30
	(0.86)		(1.05)	(0.68)	(0.68)	(1.28)
Hours of work (mom)		-0.02				
		(0.03)				
Years of education (mom)		-0.65				
		(0.78)				
Parental warmth	0.40	0.59	0.42	0.28	0.31	-0.56
	(0.48)	(0.92)	(0.60)	(0.38)	(0.37)	(0.69)
Distress Index (mom)	-0.25**	-0.23*	-0.18	-0.04	-0.05	0.23
	(0.08)	(0.12)	(0.10)	(0.06)	(0.06)	(0.12)
Neighborhood	-0.84**	0.19	-1.12**	-0.60**	-0.58*	-0.27
	(0.29)	(0.48)	(0.36)	(0.23)	(0.23)	(0.45)
HH Cognitive scale	0.66***	0.53***	0.70***	0.64***	0.60***	8.97**
	(0.08)	(0.09)	(0.09)	(0.06)	(0.06)	(2.92)
Family Income (log)	1.00**	-0.10	1.23**	0.28	0.26	0.77
	(0.36)	(0.61)	(0.45)	(0.29)	(0.28)	(0.55)
Low birth weight	-2.89**		-3.05*	-0.70	-0.75	0.01
	(1.11)		(1.36)	(0.87)	(0.87)	(1.66)
Black (child)	-9.07***		-8.81***	-1.98***	-1.94**	0.50
	(0.74)		(0.91)	(0.59)	(0.59)	(1.10)
Hispanic (child)	-6.56***		-7.20***	-1.92	-1.86	-0.72
	(1.36)		(1.71)	(1.09)	(1.10)	(2.07)
Other race (child)	-5.31**		-4.96*	-0.77	-0.75	1.68
	(1.62)		(2.00)	(1.25)	(1.25)	(2.49)
Male (child age)	2.38***		2.36**	0.63	0.55	0.66
	(0.59)		(0.72)	(0.46)	(0.46)	(0.87)
Biol. Mother	-1.58*	-1.57	-1.30	-0.20	-0.26	-0.05
	(0.74)	(2.34)	(0.92)	(0.58)	(0.58)	(1.08)
# of children in the family	0.05	0.86	-0.07	0.03	0.02	0.34
	(0.28)	(0.52)	(0.35)	(0.22)	(0.22)	(0.42)
cons	91.60***	109.57***	89.90***	21.02***	21.63***	-18.42**
	(4.76)	(11.91)	(5.95)	(3.98)	(3.97)	(6.90)
N	2402	2402	1583	1550	1545	975

Table B-3.1: BPI (Interaction term: mother's work and education)[23]

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.01	-0.01	-0.01	-0.02	-0.00	-0.01	-0.02*	-0.01
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Passive time	-0.01	-0.00	-0.01	-0.01	-0.00	-0.00	0.02	-0.01
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Active time (1-lag)			0.01	0.02		0.01	0.02*	
			(0.01)	(0.02)		(0.01)	(0.01)	
Passive time (1-lag)			0.01	-0.01		0.00	-0.02*	
			(0.01)	(0.02)		(0.01)	(0.01)	
Active time (2-lag)				-0.00			0.00	
				(0.01)			(0.01)	
Passive time (2-lag)				0.02			0.01	
				(0.01)			(0.01)	
BPI (1-lag)					0.74***	0.75***	0.81***	
					(0.01)	(0.01)	(0.01)	
Full-time working (mom)	0.07	0.24	0.10	0.06	-0.18	-0.20	-0.05	0.01
	(0.25)	(0.43)	(0.31)	(0.47)	(0.22)	(0.22)	(0.25)	(0.38)
Part- time working (mom)	0.40	0.58	0.25	0.16	-0.12	-0.11	0.09	0.53
	(0.32)	(0.46)	(0.40)	(0.59)	(0.29)	(0.29)	(0.31)	(0.50)
College degree (mom)	-0.48	-0.49	-0.40	0.13	-0.10	-0.12	0.37	0.37
	(0.51)	(1.82)	(0.66)	(0.92)	(0.46)	(0.46)	(0.49)	(0.82)
PT*college	0.88	0.09	1.12	0.24	0.40	0.45	0.04	-1.43
	(0.66)	(0.91)	(0.84)	(1.20)	(0.59)	(0.59)	(0.63)	(1.03)
FT*college	-0.33	1.00	-0.20	-0.99	0.24	0.28	-0.21	0.03
	(0.56)	(1.00)	(0.72)	(1.02)	(0.51)	(0.50)	(0.54)	(0.88)
Parental warmth	-0.75***	-0.68**	-0.70***	-0.46	-0.38**	-0.40**	-0.24	-0.23
	(0.14)	(0.25)	(0.18)	(0.27)	(0.13)	(0.13)	(0.14)	(0.20)
Distress Index (mom)	0.51***	0.22***	0.48***	0.48***	0.18***	0.17***	0.10***	0.16***
	(0.02)	(0.04)	(0.03)	(0.05)	(0.02)	(0.02)	(0.02)	(0.04)
Neighborhood	0.51***	0.16	0.50***	0.34*	0.24**	0.23**	0.16	0.15
	(0.08)	(0.13)	(0.11)	(0.15)	(0.07)	(0.07)	(0.08)	(0.13)
HH Cognitive scale	-0.02	-0.10**	-0.03	0.03	-0.02	-0.01	-0.02	0.73
	(0.02)	(0.03)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.84)
Family Income (log)	-0.15	0.05	-0.25		-0.05	-0.06		0.11
	(0.10)	(0.16)	(0.14)		(0.10)	(0.09)		(0.16)
Child age (years)	0.15	0.27*	0.29	0.83***	0.43***	0.45***	0.66***	0.19
	(0.13)	(0.13)	(0.17)	(0.24)	(0.12)	(0.12)	(0.13)	(0.50)
Child age^2	-0.01	-0.02***	-0.02*	-0.04***	-0.02***	-0.02***	-0.03***	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)
Low birth weight	0.27		0.30	0.86	0.12	-0.00	0.65*	0.10
	(0.30)		(0.39)	(0.57)	(0.27)	(0.27)	(0.30)	(0.47)
Black (child)	-1.41***		-1.11***	-1.11**	-0.35	-0.33	-0.08	-0.44
	(0.21)		(0.27)	(0.40)	(0.19)	(0.19)	(0.21)	(0.32)
Hispanic (child)	-1.53***		-1.57***	-0.88	-0.52	-0.58	-0.22	-0.48
	(0.34)		(0.43)	(0.63)	(0.31)	(0.31)	(0.33)	(0.51)
Other race (child)	-0.46		-0.43	0.49	-0.10	-0.10	0.48	0.14
	(0.44)		(0.56)	(0.84)	(0.40)	(0.40)	(0.44)	(0.70)
Male (child)	0.75***		0.84***	0.85**	0.15	0.13	0.16	-0.48
	(0.16)		(0.21)	(0.31)	(0.15)	(0.15)	(0.16)	(0.25)
Biol. Mother (child)	1.22***	0.33	1.35***	1.89***	0.24	0.22	-0.01	0.46
	(0.21)	(0.52)	(0.27)	(0.37)	(0.19)	(0.19)	(0.20)	(0.31)
# of children in the family	-0.01	-0.02	-0.08	-0.07	-0.10	-0.11	-0.17	0.02
	(0.08)	(0.18)	(0.11)	(0.16)	(0.08)	(0.08)	(0.08)	(0.13)
cons	9.70***	9.03***	9.78***	2.48	1.28	1.33	-2.08	-0.48
	(1.54)	(2.12)	(2.01)	(2.07)	(1.41)	(1.41)	(1.10)	(3.89)
N	4808	4817	2933	1347	2677	2626	1345	2022

[23] The benchmark for comparison is mothers who did not finish college and those who are not working.

Table B-3.2: PBS (Interaction term: mother's work and education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Passive time	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Active time (1-lag)			0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Passive time (1-lag)			-0.00	0.00		0.00	0.00	
			(0.00)	(0.00)		(0.00)	(0.00)	
Active time (2-lag)				-0.00			-0.00	
				(0.00)			(0.00)	
Passive time (2-lag)				-0.00*			-0.00	
				(0.00)			(0.00)	
PBS (1-lag)					0.72***	0.73***	0.79***	
					(0.03)	(0.03)	(0.03)	
Full-time working (mom)	-0.13**	-0.04	-0.12*	-0.11*	-0.07**	-0.07*	-0.04	-0.13*
	(0.04)	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)	(0.06)
Part- time working (mom)	-0.13**	-0.10*	-0.13*	-0.14*	-0.08**	-0.08**	-0.03	-0.22**
	(0.04)	(0.05)	(0.05)	(0.07)	(0.03)	(0.03)	(0.03)	(0.07)
College degree (mom)	-0.01	0.15	0.00	0.06	-0.02	-0.01	0.00	-0.08
	(0.06)	(0.15)	(0.06)	(0.08)	(0.04)	(0.04)	(0.04)	(0.08)
PT*college	0.05	0.07	0.02	-0.06	0.05	0.05	-0.06	0.22*
	(0.08)	(0.09)	(0.09)	(0.12)	(0.05)	(0.05)	(0.06)	(0.10)
FT*college	0.12	-0.04	0.09	0.08	0.04	0.04	0.04	0.04
	(0.07)	(0.10)	(0.08)	(0.09)	(0.05)	(0.05)	(0.06)	(0.08)
Parental warmth	0.20***	0.13***	0.20***	0.20***	0.08***	0.07***	0.05	0.04
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Distress Index (mom)	-0.03***	-0.02***	-0.03***	-0.03***	-0.01**	-0.01**	-0.01	-0.01**
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Neighborhood	-0.03*	-0.02	-0.03	-0.04*	-0.00	-0.00	-0.02	-0.01
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
HH Cognitive scale	-0.00	0.01	0.00	0.00	0.00*	0.01*	0.01*	0.13
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.12)
Family Income (log)	-0.01	0.03	-0.00		0.01	0.01		0.01
	(0.02)	(0.02)	(0.02)		(0.01)	(0.01)		(0.02)
Child age (years)	0.00	-0.01	0.02	0.03	0.01	0.01	-0.01	-0.06
	(0.02)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.07)
Child age^2	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Low birth weight	-0.16*		-0.18*	-0.17	-0.05	-0.04	-0.03	0.07
	(0.07)		(0.07)	(0.09)	(0.04)	(0.04)	(0.06)	(0.05)
Black (child)	0.17**		0.16*	0.21*	0.04	0.04	0.10*	0.01
	(0.06)		(0.07)	(0.10)	(0.05)	(0.05)	(0.05)	(0.05)
Hispanic (child)	0.39***		0.39***	0.46***	0.10**	0.10**	0.15***	0.02
	(0.05)		(0.06)	(0.06)	(0.04)	(0.04)	(0.04)	(0.07)
Other race (child)	0.10		0.11	0.20*	0.05	0.04	0.14**	0.03
	(0.05)		(0.06)	(0.08)	(0.03)	(0.03)	(0.05)	(0.08)
Male (child)	-0.16***		-0.15***	-0.16***	-0.03	-0.03	-0.05*	0.03
	(0.03)		(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Biol. Mother (child)	-0.10*	-0.01	-0.08	-0.08	0.02	0.03	0.04	0.01
	(0.04)	(0.05)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
# of children in the family	0.02	0.01	0.01	0.02	0.00	0.00	0.01	0.02
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
cons	3.69***	3.40***	3.37***	3.39***	0.72***	0.68***	0.73***	-0.07
	(0.23)	(0.25)	(0.28)	(0.25)	(0.20)	(0.20)	(0.18)	(0.50)
N	4875	4884	3001	1386	2780	2733	1386	2080

Table B-3.3: LW (Interaction term: mother' work and education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	0.01	0.04	-0.00	0.02	-0.00	0.01	0.03	0.04
	(0.02)	(0.02)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Passive time	0.07***	0.02	0.05	0.01	0.01	0.01	-0.01	0.04
	(0.02)	(0.02)	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Active time (1-lag)			0.01	-0.02		-0.01	-0.05	
			(0.03)	(0.05)		(0.02)	(0.03)	
Passive time (1-lag)			0.02	0.11*		-0.00	0.02	
			(0.03)	(0.05)		(0.02)	(0.02)	
Active time (2-lag)				-0.00			-0.02	
				(0.03)			(0.02)	
Passive time (2-lag)				0.03			0.02	
				(0.04)			(0.02)	
LW (1-lag)					0.79***	0.79***	0.84***	
					(0.01)	(0.01)	(0.01)	
Full-time working (mom)	-1.07	-0.94	-1.90*	-2.04	-0.72	-0.70	-0.64	-0.09
	(0.75)	(1.34)	(0.96)	(1.36)	(0.63)	(0.63)	(0.70)	(1.05)
Part- time working (mom)	1.90*	-0.06	1.07	1.51	-0.37	-0.20	0.63	-0.73
	(0.96)	(1.34)	(1.24)	(1.77)	(0.81)	(0.81)	(0.90)	(1.35)
College degree (mom)	8.94***	-4.09	8.17***	9.45***	1.43	1.30	3.47*	-0.18
	(1.52)	(3.94)	(1.91)	(2.78)	(1.22)	(1.22)	(1.42)	(2.19)
PT*college	-4.06*	-6.18*	-5.21*	-4.04	-2.10	-2.06	-5.41**	-0.39
	(1.98)	(2.85)	(2.50)	(3.69)	(1.62)	(1.61)	(1.89)	(2.78)
FT*college	-1.67	0.33	-1.40	-1.26	0.70	0.74	-1.33	1.96
	(1.67)	(2.99)	(2.11)	(3.09)	(1.35)	(1.35)	(1.58)	(2.35)
Parental warmth	-0.50	-0.00	-0.58	-0.54	0.06	0.10	0.31	-0.43
	(0.42)	(0.61)	(0.56)	(0.83)	(0.36)	(0.36)	(0.43)	(0.55)
Distress Index (mom)	-0.21**	-0.20	-0.21*	-0.28*	-0.13*	-0.14*	-0.12	-0.09
	(0.07)	(0.11)	(0.09)	(0.13)	(0.06)	(0.06)	(0.07)	(0.10)
Neighborhood	-0.76**	0.11	-0.89**	-1.22**	0.05	0.07	-0.01	-0.07
	(0.25)	(0.38)	(0.32)	(0.46)	(0.21)	(0.21)	(0.24)	(0.34)
HH Cognitive scale	0.12	-0.32***	0.13	-0.05	0.11	0.08	0.11	4.12
	(0.08)	(0.09)	(0.10)	(0.15)	(0.06)	(0.07)	(0.08)	(2.28)
Family Income (log)	1.26***	-0.02	1.43***		0.43	0.43		-0.29
	(0.31)	(0.43)	(0.43)		(0.28)	(0.28)		(0.44)
Child age (years)	2.07***	1.15**	2.65***	2.33**	1.37***	1.32***	1.62***	-10.31***
	(0.39)	(0.37)	(0.50)	(0.74)	(0.33)	(0.32)	(0.38)	(1.36)
Child age^2	-0.10***	-0.08***	-0.13***	-0.11***	-0.06***	-0.06***	-0.07***	0.34***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.05)
Low birth weight	-1.76*		-1.92	-3.36	-0.17	-0.09	0.85	-2.35
	(0.90)		(1.19)	(1.74)	(0.78)	(0.78)	(0.90)	(1.26)
Black (child)	-6.44***		-6.71***	-6.24***	-2.58***	-2.46***	-0.38	-3.99***
	(0.63)		(0.83)	(1.22)	(0.55)	(0.54)	(0.63)	(0.88)
Hispanic (child)	-3.85***		-4.48***	-4.89**	-2.17*	-2.23*	0.39	-3.24*
	(1.02)		(1.32)	(1.86)	(0.88)	(0.88)	(0.96)	(1.42)
Other race (child)	0.92		1.45	2.51	0.71	0.77	3.02*	-2.65
	(1.34)		(1.73)	(2.55)	(1.15)	(1.15)	(1.31)	(1.98)
Male (child)	-3.54***		-3.12***	-2.61**	-0.30	-0.32	0.12	0.47
	(0.50)		(0.64)	(0.94)	(0.42)	(0.42)	(0.48)	(0.68)
Biol. Mother (child)	-1.04	1.12	-1.08	-3.31**	-0.12	-0.32	-1.76**	0.51
	(0.63)	(1.59)	(0.83)	(1.14)	(0.54)	(0.54)	(0.58)	(0.86)
# of children in the family	-1.48***	-0.01	-1.50***	-1.67***	-0.19	-0.18	-0.29	0.57
	(0.25)	(0.47)	(0.33)	(0.48)	(0.21)	(0.21)	(0.25)	(0.35)
cons	91.50***	104.26***	88.45***	106.13***	12.32**	12.59**	8.09*	74.37***
	(4.64)	(5.88)	(6.19)	(6.36)	(4.19)	(4.19)	(3.64)	(10.60)
N	4678	4687	2879	1332	2587	2561	1322	1905

Table B-3.4: AP (Interaction term: mother's work and education)

Variables	(1) OLS	(2) Fixed Effects FE	(3) Cumulative (1-lag) CU1	(4) Cumulative (2-lag) CU2	(5) Value Added (VA)	(6) Cumulative VA (1-lag) CVA1	(7) Cumulative VA (2-lag) CVA2	(8) Restricted VA RVA
Active time	-0.02	-0.00	-0.05	-0.01	-0.03	-0.03	-0.02	-0.02
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Passive time	0.02	-0.02	-0.00	-0.01	-0.00	0.01	-0.03	-0.00
	(0.02)	(0.02)	(0.02)	(0.04)	(0.01)	(0.02)	(0.02)	(0.02)
Active time (1-lag)			0.00	-0.02		-0.00	-0.01	
			(0.02)	(0.04)		(0.02)	(0.02)	
Passive time (1-lag)			0.01	0.03		-0.02	0.02	
			(0.02)	(0.04)		(0.02)	(0.02)	
Active time (2-lag)				-0.03			-0.00	
				(0.03)			(0.02)	
Passive time (2-lag)				0.05			0.02	
				(0.03)			(0.02)	
AP (1-lag)					0.68***	0.68***	0.83***	
					(0.01)	(0.01)	(0.02)	
Full-time working (mom)	-1.25	-0.78	-1.81*	-1.92	-0.39	-0.68	-0.28	-1.00
	(0.65)	(0.99)	(0.82)	(1.20)	(0.59)	(0.58)	(0.66)	(0.99)
Part- time working (mom)	0.82	1.10	0.02	1.37	0.38	0.16	1.41	-0.75
	(0.83)	(1.18)	(1.06)	(1.56)	(0.76)	(0.76)	(0.86)	(1.27)
College degree (mom)	9.19***	-2.43	9.56***	11.24***	3.09**	2.93**	2.30	-0.93
	(1.31)	(4.96)	(1.63)	(2.44)	(1.15)	(1.13)	(1.35)	(2.06)
PT*college	-2.34	-3.43	-3.49	-4.63	-1.91	-1.60	-3.39	-0.45
	(1.71)	(2.49)	(2.13)	(3.24)	(1.51)	(1.50)	(1.78)	(2.61)
FT*college	-3.57*	0.46	-4.74**	-5.84*	-1.56	-1.40	-2.29	0.71
	(1.45)	(2.68)	(1.80)	(2.72)	(1.26)	(1.25)	(1.49)	(2.21)
Parental warmth	-0.12	0.05	0.19	-0.11	0.39	0.41	-0.20	-0.34
	(0.37)	(0.60)	(0.48)	(0.73)	(0.34)	(0.34)	(0.40)	(0.52)
Distress Index (mom)	-0.23***	-0.23*	-0.26**	-0.31**	-0.07	-0.10	-0.17**	0.15
	(0.06)	(0.09)	(0.08)	(0.12)	(0.06)	(0.06)	(0.06)	(0.09)
Neighborhood	-1.08***	-0.07	-1.15***	-1.59***	-0.33	-0.27	-0.08	-0.13
	(0.21)	(0.30)	(0.27)	(0.41)	(0.20)	(0.19)	(0.22)	(0.32)
HH Cognitive scale	0.54***	0.51***	0.59***	0.56***	0.34***	0.31***	0.56***	3.57
	(0.07)	(0.08)	(0.08)	(0.13)	(0.06)	(0.06)	(0.07)	(2.14)
Family Income (log)	1.66***	0.01	1.73***		0.39	0.32		0.62
	(0.27)	(0.44)	(0.36)		(0.26)	(0.26)		(0.42)
Child age (years)	4.39***	3.93***	4.69***	4.96***	2.99***	2.91***	3.52***	-12.04***
	(0.34)	(0.35)	(0.43)	(0.65)	(0.31)	(0.30)	(0.36)	(1.28)
Child age^2	-0.20***	-0.17***	-0.21***	-0.22***	-0.14***	-0.14***	-0.15***	0.37***
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.05)
Low birth weight	-2.89***		-2.35*	-3.06*	-0.30	-0.29	0.74	-0.13
	(0.78)		(1.02)	(1.53)	(0.73)	(0.72)	(0.85)	(1.19)
Black (child)	-9.05***		-8.97***	-8.55***	-3.19***	-3.13***	-1.72**	-1.00
	(0.55)		(0.71)	(1.07)	(0.52)	(0.51)	(0.60)	(0.83)
Hispanic (child)	-7.07***		-6.95***	-7.09***	-2.47**	-2.57**	-0.60	0.76
	(0.88)		(1.12)	(1.64)	(0.83)	(0.82)	(0.91)	(1.33)
Other race (child)	-3.62**		-3.15*	-0.81	-0.48	-0.47	0.08	0.48
	(1.16)		(1.47)	(2.24)	(1.08)	(1.07)	(1.24)	(1.86)
Male (child)	1.02*		1.31*	1.09	1.02*	1.05**	0.06	1.20
	(0.43)		(0.55)	(0.83)	(0.40)	(0.39)	(0.45)	(0.64)
Biol. Mother (child)	0.12	1.19	0.44	-1.04	-0.09	-0.15	-0.14	1.12
	(0.55)	(1.52)	(0.71)	(1.00)	(0.51)	(0.51)	(0.55)	(0.81)
# of children in the family	-0.91***	-0.56	-1.04***	-1.46***	-0.51*	-0.59**	-0.58*	0.31
	(0.22)	(0.39)	(0.28)	(0.42)	(0.20)	(0.20)	(0.23)	(0.33)
cons	71.98***	84.48***	70.16***	89.69***	15.84***	17.60***	2.21	83.54***
	(4.02)	(6.18)	(5.28)	(5.60)	(3.91)	(3.89)	(3.48)	(10.00)
N	4663	4672	2869	1325	2575	2549	1316	1893

APPENDIX C

Multiple Correspondence Analysis

Table C-1: Description of variables

Variables	Description
Activity type	1: PE&SE/2:PE&NOS/3:PE&SNE/4: PNE&SE/5: PNE&NOS/6: PNE&SNE*
Eng	1: the mother is engaged in the activity 0: the mother is only present and not engaged
Time	4: 6am-12pm/3:12pm-6pm/2:6pm-12am/1:12am-6am
Adultwith	1: there is another adult with the mom during the activity 0: the mother is alone with the child during the activity
Nokids	1: there are no other kids with the mother and the child during the activity. 0: there is other kids with the mother and the child
SleepEnough	1: if the child is getting enough sleep by age (min 10h<6years old/ min 9h for 6-12 years/ min 8h for older kids) 0: the child did not get enough sleep

* P: primary activity/ S: secondary activity/ E: enriching activity/ NE: not enriching activity/ NO: no other activity

Table C-2- Summary statistics (All years)

Variables	N	mean	Std.	min	max
Activity type	120,835	3.977	1.471	1	6
Eng	120,835	0.581	0.493	0	1
Time	120,835	2.919	0.796	1	4
Adult with	120,835	0.520	0.500	0	1
No kids	120,835	0.314	0.464	0	1
Sleep Enough	120,835	0.814	0.389	0	1
Q. Index	120,835	2.48e-09	1.000	-1.949	2.331
Q. Index (rescaled)	120,835	2.949	1.000	1	5.280
dur (hours)	120,835	0.613	0.632	0.0167	12.75
Quality adjusted time	120,835	1.964	2.367	0.0167	49.25

Table C-3- STATA Output- Method: Burt/ adjusted inertias

Dimension	% of Principal Inertia
Dimension 1	50.12
Dimension2	9.79

Observation: *120835*
Total Inertia: *0.0116*
Number of axes: 2

Table C-4- STATA Output- Standard Coordinates

Categories		Dimension 1	Dimension 2
Activity type			
	1	2.251	0.803
	2	2.159	-0.806
	3	2.614	-0.480
	4	-1.316	2.118
	5	-0.503	-1.247
	6	-0.667	-1.194
Eng.			
	0	1.663	-1.173
	1	-1.200	0.846
Time			
	1	0.005	-5.452
	2	0.752	0.813
	3	-0.104	0.490
	4	-0.789	-1.554
Adultwith			
	0	-0.877	-1.107
	1	0.811	1.024
Nokids			
	0	0.630	0.505
	1	-1.374	-1.102
SleepEnough			
	0	0.239	-0.155
	1	-0.055	0.035

REFERENCES

Amato, P., & Rivera, F. (1999). Paternal involvement and children's behavioral problems. *Journal of Marriage and the Family*, 61, 375–384.

Asselin, L. M. (2002). Composite indicator of multidimensional poverty. *Multidimensional Poverty Theory*.

Asselin, L. M., & Anh, V. T. (2008). Multidimensional poverty and multiple correspondence analysis. In *Quantitative approaches to multidimensional poverty measurement* (pp. 80-103). Palgrave Macmillan UK.

Becker, G., (1965). A theory of the allocation of time. *Economic Journal*, 75, 375-385.

Becker, G. (1991). A treatise on the family. Cambridge, MA: Harvard University Press.

Becker, G. S., & Tomes, N. (1994). Human capital and the rise and fall of families. In *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education (3rd Edition)* (pp. 257-298). The University of Chicago Press.

Bernal, R. (2008). The effect of maternal employment and child care on children's cognitive development. *International Economic Review,* 49(4), 1173-1209.

Bernal, R. & Keane, M. (2011). Child care choices and children's cognitive achievement: The case of single mothers. *Journal of Labor Economics*, 29(3), 459-512.

Bianchi, S., (2000). Maternal employment and time with children: Dramatic change or surprising continuity? *Demography,* 37(4), 401-414.

Cameron, S. V., & Heckman, J. J. (1998). *Life cycle schooling and dynamic selection bias: Models and evidence for five cohorts* (No. w6385). National Bureau of Economic Research.

Carneiro, P. and M. Rodriguez. (2009). Evaluating the Effect of Maternal Time on Child Development Using the Generalized Propensity Score. *Institute for the Study of Labor, 12th IZA European Summer School in Labor Economics.*

Carneiro, P., Meghir, C., & Parey, M. (2013). Maternal education, home environments, and the development of children and adolescents. *Journal of the European Economic Association*, *11*(s1), 123-160.

Craig, H. (2007). How employed mothers in Australia find time for both market work and childcare. *Journal of Family and Economic Issues*, 28, 69–87

Cunha, F. & Heckman, J. (2007). The technology of skill formation*. American Economic Review, 97* (2), 31–47.

Cunha, F. & Heckman, J. (2008). Formulating, identifying and estimating the technology of cognitive and non-cognitive skill formation*. Journal of Human Resources,* 43(4), 738-782.

Davis-Kean, P. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, 19, 294–304.

Del Boca, D., & Mancini, A. L. (2013). Parental Time and Child Outcomes: Does Gender Matter?. *Bank of Italy Occasional Paper*, (187).

Del Boca, D., Monfardini, C. & C. Nicoletti. (2012). Self Investments of Adolescents and their Cognitive Development. *IZA Discussion Paper* 6868.

Del Bono, Emilia; Francesconi, Marco; Kelly, Yvonne; Sacker, Amanda (2014). Early Maternal Time Investment and Early Child Outcomes, *IZA Discussion Papers*, No. 8608.

Dunifon, R., Hansen, A. T., Nicholson, S., & Nielsen, L. P. (2013). *The Effect of Maternal Employment on Children's Academic Performance* (No. w19364). National Bureau of Economic Research.

Fiorini, M., & Keane, M. P. (2014). How the allocation of children's time affects cognitive and non-cognitive development. *Journal of Labor Economics, 32*(4), 787-836.

Folbre, N., Yoon, J., Finnoff, K. & Fuligni A. (2005). By What Measure?: Family Time Devoted to Children in the United States. *Demography,* 42(2), 373-390.

Fox, L., Han, W., Ruhm, C., & Waldfogel, J. (2013). Time for children: Trends in the employment patterns of parents, 1967–2009. *Demography*, 50, 25–49.

Gauthier, A. H., Smeeding, T. M., & Furstenberg, F. F., Jr. (2004). Are parents investing less time in children? Trends in selected industrialized countries. *Population & Development Review*, 30, 647–671.

Guryan, J., Hurst, E. & Kearney, M. (2008). Parental education and parental time with children, *Journal of Economic Perspectives*, 22(3), 23-46.

Greenacre, M. (2007). *Correspondence analysis in practice*. CRC press.

Hasher, L., Goldstein, D & May, C. (2005) It's About Time: Circadian Rhythms, Memory and Aging. In C. Izawa & N. Ohta *eds. Human Learning and Memory: Advances in Theory and Application* Kansas: Lawrence Erlbaum Associates.

Heckman, J., Stixrud, J., & Urzua, E. (2006). The effects of cognitive and non-cognitive abilities on labor market outcomes and social behavior. *Journal of Labor Economics, 24* (3), 411-482.

Heiland, F., Price, J., & Wilson, R. (2014). Maternal employment and time investments in children. *Review of Economics of the Household*, 1-15.

Hsin, A.and C. Felfe. 2014. "When Does Time Matter? Maternal Employment, Children's Time With Parents, and Child Development." *Demography* 51(5):1867-1894.

Kalenkoski, C., Ribar, D. & Stratton, L. (2007). The effect of family structure on parents' child care time in the United States and the United Kingdom. *Review of Economics of the Household* 5(4), 353-384.

Kalenkoski, C. & Foster, G. (2008). The quality of time spent with children in Australian households. *Review of the Economics of the Household 6(3)*, 243-266.

Keane, M. & K. Wolpin. (1997). The Career Decisions of Young Men." *Journal of Political Economy*, 105(3): 473-522.

James-Burdumy, S. (2005). The effect of maternal labor force participation on child development. *Journal of Labor Economics 23(1)*, 177-211.

Milkie, M.A., K.M. Nomaguchi, & K.E. Denny. (2015). Does the Amount of Time Mothers Spend With Children or Adolescents Matter? *Journal of Marriage and Family* 77(2), 355-372.

Moro-Egido, A. (2012). Changing trends of mothers' active and passive childcare times. *Journal of Family and Economic Issues*, 33, 11–23.

Panel Study of Income Dynamics, public use dataset. Produced and distributed by the Institute for Social Research, Survey Research Center, University of Michigan, Ann Arbor, MI.

Ruhm, C. (2004). Parental employment and child cognitive development. *Journal of Human Resources*, 39, 155–192.

Ruhm, C. (2008). Maternal employment and adolescent development. *Labour Economics*, 15(5), 958-983.

Sandberg, J., & Hofferth, S. (2001). Changes in parental time with children, 1981–1977. *Demography*, 38, 423–436.

Sayer, L.C., Bianchi, S.M. & Robinson, J.P. (2004). Are parents investing less in children? Trends in mothers' and fathers' time with children. *American Journal of Sociology*, 110(1), 1-43.

Stafford, F., & Yeung, W. J. (2004). The distribution of children's developmental resources. *Contributions to Economic Analysis*, *271*, 289-313.

Stewart, J. (2010). The time of maternal work and time with children. *Industrial and Labor relations review*, 64(1), 181-200.

Todd, P. & Wolpin, K. (2003). On the specification and estimation of the production function for cognitive achievement. *Economic Journal* 113(485), 3-33.

Todd, P. &Wolpin, K. (2007). The production of cognitive achievement in children: home, school and racial test score gaps. *Journal of Human Capital*, 1(1), 91-136.

Waldfogel, J., Han, W., & Brooks-Gunn, J. (2002). The effects of early maternal employment on child cognitive development. *Demography*, 39, 369–392.

Yeung, J., Linver, M., & Brooks-Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. *Child Development*, 73, 1861–1879.

Zick, Cathleen D., & W. K. Bryant. (1996). A New Look at Parents' Time Spent in Child Care: Primary and Secondary Time Use. *Social Science Research,* 25, 260–80.

ABSTRACT

MATERNAL EMPLOYMENT, QUALITY TIME AND CHILDREN OUTCOMES

by

AHLAM EL YAMAN

May 2017

Advisor: Dr. Allen Charles Goodman

Major: Economics

Degree: Doctor of Philosophy

In this paper, I explore two relationships using the three waves of the Child Development Supplement of the Panel Study of Income Dynamics. In the first model, I assess the effect of maternal employment on the quantity and quality of time spent with the child. I use child and family fixed estimation and I also look at whether this relationship varies according to the mother's educational attainment, the gender and the age of the child. In the second model, I estimate child production functions to examine the effects of quantity and quality of mother-child time on children's behavioral and cognitive development. I use value added production function models and I test two measures of quality time: (1) simply active (engaged) versus passive time, and (2) a quality time index constructed via Multiple Correspondence Analysis. Results indicate that working 40 hours per week reduces mother-child time by 4.8 hours, of which 2.4 hours are quality time. I find no significant effect of mother-child time on either cognitive or non-cognitive measures. Child cognitive outcomes are mainly affected by the mother's educational attainment, while non-cognitive outcomes are shaped by her warmth and psychological distress, and neighborhood safety. I conclude that parent's education, parenting style, mother's distress, and neighborhood characteristics have more impact on child development than does mother's time input. Policies targeting child outcomes should focus more on those elements, and less on mother-child time and mother's employment.

AUTOBIOGRAPHICAL STATEMENT

EDUCATION

Ph.D. Economics, Wayne State University, Michigan   May 2017
M.A. Economics, Eastern Michigan University, Michigan   April 2008
Field of concentration: International Economics and Development
M.A. Economics, Saint Joseph University, Beirut, Lebanon   June 2004
Field of concentration: Economic Policy
B.A. Economics, Saint Joseph University, Beirut, Lebanon   May 1999

RESEARCH FIELD

Labor Economics, Health Economics, Macroeconomics

TEACHING EXPERIENCE (USA)

Wayne State University: Principles of Macroeconomics, Health Economics,
                            Intermediate Macroeconomics.
University of Michigan- Dearborn: Health Economics
Oakland University: Health Economics, Global Macroeconomics

AWARDS

Wayne State University: Department of Economics
- Graduate Teaching Assistantship (2010-2015)
- Samuel M. Levin Economics Award for Best Graduate Essay (2013)
- Nominated for the "2016 Garrett T. Heberlein Endowed Award for Excellence in Teaching" for Graduate Students

Eastern Michigan University: Department of Economics
- Graduate Excellence Award (2008)

CONFERENCE PRESENTATIONS

Southern Economics Association, Washington D.C., November 2016
Lifespan Alliance Graduate Research Day, Wayne State University, February 2017
Graduate and Postdoctoral Scholars Research Symposium, Wayne State University, March 2017
H2D2 Research Day 2017, University of Michigan, Ann Arbor, March 2017