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Intensive Mothering and Well-being: The Role of Education and Child Care Activity

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ABSTRACT

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The ideology of intensive mothering, whereby mother's time is thought of as crucial for child development, continues to be the dominant cultural framework in the United States. Yet there is little evidence about how mothers differ in their child care experiences from large representative surveys. We use data from the Well-being Module of the American Time Use Survey to understand emotions in mothering experiences, and how these vary by maternal educational attainment and the type of child care activity mothers engage in. We document that, compared to less-educated mothers, higher educated mothers report lower happiness and meaning, and higher levels of fatigue when engaging in mothering activities. The gap in momentary wellbeing among mothers across the educational distribution does not depend on the type of child care activity and suggests that intensive mothering practices are more likely to pressurize the most-educated women, who may subscribe to more time-intensive forms of mothering.

JEL Classification: J10

Keywords: mothering, emotional well-being, education gradient, child care, ideology of intensive mothering, time use

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Introduction

The assumption in the intensive-mothering ideology that less maternal time is detrimental for children has been the cornerstone of the long lasting debates on the effects of maternal employment and child development (Bianchi, 2000; Hays, 1996). New available time diary data coupled with children outcomes has allowed to test this assumption directly. Using large representative surveys a number of studies have documented a positive relationship between certain types of maternal child care on a child's subsequent intellectual and social development (some examples are Cunha, Heckman & Schennach, 2010; Del Boca, Flinn & Wiswall, 2014; Hsin and Felfe, 2014). Recently, others studies have found evidence that parental time may be particularly harmful to children when parents, mothers in particular, are stressed, sleep-deprived, and anxious (Milkie, Nomaguchi & Denny; 2015). To the extent that the effect of maternal time on child development is mediated by how mothers experience this time, providing a more nuance conceptualization of child care that takes into account maternal experiences while engaging in child care activities may reconcile these seemingly contradictory findings. This article addresses this gap in the literature by looking at mothering experiences, focusing specifically on maternal education and the type of child care activity as important aspects associated with mothers' feelings in everyday mothering practices.

We center the analysis on mothers' feelings in mothering experiences because the ideology of intensive mothering assigns women the main responsibility for child rearing and thus play central role for child development (Kotila, Schoppe-Sullivan & Dush, 2013), while fathers are given a secondary role (Rizzo, Schiffrin & Liss, 2013). Compared to fathers, mothers do most of the childcare and the management tasks related to child care (Bianchi, Robinson & Milkie, 2006; Raley, Bianchi & Wang, 2012). All these factors

may explain why mothers could experience child care activities differently in comparison to fathers (Connelly & Kimmel 2015; Musick, Meier & Flood, 2006; Roeters & Gracia, 2016). In supplemental analysis we also look at a sample of fathers (and non-mothers) to gauge a better understanding on mothers' experiences while engaging in child care activities.

Our focus on maternal education is justified by the heavy weight given to this dimension of social class in the child care research literature (Ramey & Ramey, 2010; Guryan, Hurst & Kearney, 2008; Kalil, Ryan & Corey, 2012, Amuedo-Dorantes & Sevilla, 2014; Borra & Sevilla, 2015; Kalil & Mayer, 2016). Intensive mothering practices are arguably more likely to resonate among women of higher educational levels. In the US, more educated mothers are more likely to engage in structured and educational activities, which positively predict child development (Hsin & Felfer, 2014). More importantly the gap in developmentally-enhancing child care time has increased between women at the top and women at the bottom of the educational distribution over the last decades in the US, contributing to the emergence of "diverging destinies" of children born to mothers with different educational attainment (McLanahan, 2004). In this way education becomes the vehicle for the adoption of new norms about mothering (Rizzo, Schiffrin & Liss, 2013), resulting in higher educated mothers subscribing to more time-intensive forms of mothering in the form of conversation, reasoning and intellectual stimulation activities, and conforming to the so-called "concerted cultivation" approach as status maker differentiating higher from lower social classes (Lareau, 2003).

To understand why more educated women are more likely to feel the pressures from intensive mothering norms it becomes fundamental to devise an empirical test about how mothers experience child care across the educational distribution. We exploit novel information from a new module in the 2012 and 2013 American Time Use Surveys, which

collected, alongside the diary, information on momentary well-being (happiness, pain, sadness, stress and tiredness) during the course of several diary episodes. This information allows us to get a better understanding of everyday mothering experiences and how they vary by key socio-economic characteristics such as maternal education, and the nature of child care activity mothers engage in.

An Assessment of Mothering and Maternal Well-being

Generally mothers' well-being is assessed by subjective measures of well-being from questions such as "All things considered, how satisfied are you with your life as a whole these days?" (Aassve, Goisis & Sironi, 2012; Andersson, Glass & Simon, 2016; Stanca, 2012). Compared to momentary well-being measures which are directly related to activities performed during the day, subjective well-being reports may be subject to response bias because of pre-conceived beliefs on what is socially desirable, as well as to ex-post rationalization (Kahneman & Krueger, 2006). These biases are less likely to occur in momentary well-being measures because they are directly linked to activities and thus less affected by the filter of memory. In this way, momentary well-being measures are immune to biases resulting from the adaptation to new life events, or from individuals' predisposition to adjust their subjective well-being to changes in life circumstances (e.g., Lucas et al., 2003).

There are two ways of assessing momentary well-being using diaries. One methodology is to use self-reported measures of how enjoyable activities are, in the spirit of the literature on process benefits and experienced utility. Juster and Stafford (1985) defined process benefits as the "direct subjective consequences from engaging in some activities to the exclusion of others." The concept of experienced utility has been proposed more recently by Kahneman et al. (2004) to refer to a "continuous hedonic flow

of pleasure or pain", which goes back to the earliest conceptions of utility, from Jeremy Bentham through Francis Ysidro Edgeworth and Alfred Marshall.

Both lines of research use time-use diaries together with information on a set of emotions to assess individuals' subjective well-being. The process-benefits approach uses activity enjoyment ratings in which respondents rate on a scale from 0 to 10 how much they generally enjoyed a type of activity (e.g., Juster & Stafford, 1985). The information gathered this way offers a global and retrospective interpretation of feelings about activities, although they may not serve as a good predictor of the instantaneous satisfaction experienced in any given instance of the activity (Gershuny & Halpin, 1996).

The literature on experienced utility has proposed the experience sampling method as a superior way for collecting objective instantaneous well-being information. Experience sampling was developed to collect information on people's reported feelings in real time in natural settings during selected moments of the day (Csikszentmihalyi, 1990; Stone & Schiffman, 1994). Under this method, participants carry a handheld device (such as a beeper) that prompts them several times during the course of the day (or days) to answer a set of questions immediately, such as questions asking about their physical location, the activities in which they were engaged just before they were prompted, or the people with whom they were interacting. They also report their current momentary experience by indicating the extent to which they feel the presence or absence of various feelings, such as feeling angry, happy, tired, or impatient (Steptoe, Wardel & Marmot, 2005; Kahneman & Krueger, 2006). The experience sampling method (ESM) has been limited to assess mothers' experiences while engaging in child care activities from selected and relatively small samples in the United States and Australia (e.g., Knouse et al., 2008; Offer, 2014). Experience sampling has never been applied to a representative population sample because it is technically challenging to implement, as well as extremely burdensome for

the respondent, resulting in relatively low response and retention rates (Soupourmas et al., 2005).

Alternative methods to the ESM of collecting data on hedonic experiences (or momentarily well-being) are less burdensome on the respondent and less costly to implement. The "yesterday diary" method and the day reconstruction method (DRM) both collect information on how the respondent experienced all or some of his or her activities of the previous day, as described by a time-use diary. The well-being estimates from DRM have been shown to be equally reliable to those gathered using ESM (Kahneman et al., 2004). Similarly, Knabe et al. (2010) have shown that momentary assessments obtained through either the "yesterday diary" methodology or the DRM are comparable and equally reliable.

The conventional "yesterday diary" method used in time-budget surveys (Szalai, 1972) collects information on the levels of instant enjoyment for all the episodes in the diary, as in the examples from the 1985 and 2015 UK Time Diary Surveys, and the United States American Heritage Time Use Survey (see Sevilla, Gimenez-Nadal & Gershuny, 2012). The DRM, which collects information on how the respondent experienced all or some of the activities he or she engaged in during the previous day, as described in a time-use diary, is used in the Well-being Module in the American Time Use Survey. The DRM combines elements of experience sampling and time diaries, and is designed specifically to facilitate accurate emotional recall. Respondents are first asked to fill out a diary summarizing episodes that occurred in the preceding day. Next they describe each episode by indicating: when the episode began and ended; what they were doing (by selecting activities from a provided list); where they were; and with whom they were interacting.

A rich set of qualitative studies has extensively documented mothering experiences over the past two decades under particular conditions (Garey, 1999; Edin & Kefalas,

2007; Nelson, 2010; Villalobos, 2014) or at specific stages (Fox, 2009; Nelson, 2010). Similarly, quantitative research analyzing health and well-being outcomes related to parenting has shown that parenting can be related to both, high levels of enjoyment joy (Senior, 2014), as well as to lower psychological well-being (McLanahan & Adams 1987; Evenson & Simon, 2005; Hansen, 2012; Stanca, 2012). These a priori contradicting findings have recently generated vast amount of research attempting to unpack how parents' characteristics influence the costs and rewards of parenthood (Nomaguchi & Milkie 2003; Woo & Raley, 2005; Margolis & Myrskylä, 2011; Aassve, Goisis & Sironi, 2012). Only recently new research has emerged which harness the advantages of counting on nationally representative samples to investigate how parenting activities (as opposed to parenthood) are experienced differently across key dimensions that potentially shape mothers' lives (Kahneman et al., 2004). In this way, the availability of data on momentary assessments has attracted the attention of researchers interested in how parenting is experienced differently across key dimensions, such as gender (Connelly & Kimmel, 2015; Roeters & Gracia, 2016; Musick, Meier & Flood, 2016), the employment and marital status (Meier et al., 2016), and the type of child care activity (Nelson, Kushlev & Lyubomirsky, 2014; Offer, 2014). We contribute to the recent literature interested in how feelings in time with children are shaped by the context in which mothering takes place by looking at mothers' educational attainment and the type of child care activity as a driver of maternal daily experiences with children.

Intensive Mothering, Mothers' Education, and Mothers' Child care Experiences

Starting in the mid-1970s the amount of time mothers spent with children rose exponentially, and had almost doubled by 2010 from about an hour per day in the 1970s (Sayer, Bianchi & Robinson, 2004; Bianchi, Robinson, & Milkie; 2006; Aguiar & Hurst,

2007; Ramey & Ramey, 2010). The increase in child care was twice as big for college-educated parents: whereas less educated mothers increased child care time by 4 hours per week, college-educated mothers increased their child care time by more than 9 hours per week (Ramey & Ramey, 2010). The diverging trends in child care time by maternal educational achievement has given rise to a positive education gradient in time spent in child care time in most of the developed world (see Dotti Sani & Treas, 2016). In the US, even after controlling for a wide set of socio-economic characteristics, women with less education than a high school degree spend about 12 hours per week in child care, while college-educated women spend about 16 hours in child care per week (Guryan et al., 2008; Amuedo-Dorantes & Sevilla, 2014).

The positive education gradient in child care time is hard to pair up with conventional economic theories. In the US there has been dramatic increases in wages (particularly for college-educated individuals). Women with higher educational levels tend to also have lower fertility rates (Mathews & Ventura, 1997; Monte & Ellis, 2014), and a higher labor force participation (BLS, 2016). Thus the fact that more educated mothers do more child care is particularly puzzling because it challenges the economic principle of opportunity cost (Sayer, Gauthier & Furstenberg, 2004; Guryan, Hurst & Kearney, 2008; England & Srivastava, 2013). It is also in sharp contrast to the negative education gradient researchers have observed for the amount of time allocated to home production (Hill &Stafford, 1974; Robinson & Godbey, 1985; Sayer, Gauthier & Furstenberg, 2004; Aguiar & Hurst, 2007; Kimmel & Connelly, 2007; Guryan, Hurst & Kearney 2008: Gimenez-Nadal & Sevilla, 2012) and leisure (Sevilla, Gimenez-Nadal & Gershuny, 2010).

The "intensive mothering" ideology understood as a maternal ideal that is "child-centered, expert-guided, emotionally absorbing, labor-intensive, and financially

expensive", has been brought forward as a likely explanation to the increases in child care time, particularly among well educated mothers (Hays, 1996, p.54; Sullivan, 1997). Whereas less educated mothers subscribe to some of the central elements of intensive-mothering ideology, for example expressing the importance of "being there" and "sacrifice" as the virtue of "good" mothering (Edin & Kefalas, 2007; Macdonald, 2009; Damaske, 2011), intensive mothering practices are more likely to resonate among women of higher educational levels, who may subscribe to more time-intensive forms of mothering in the form of conversation, reasoning and intellectual stimulation activities, conforming to the so-called "concerted cultivation" approach as status maker differentiating higher from lower social classes (Lareau, 2003).

Previous work has tested whether intensive-mothering ideology places very high standards on mothers in terms of the "appropriate" amount of time they should spend with their children, by asking mothers directly about how they felt about not spending enough time with children (Milkie et al., 2004). These studies have been informative about the feeling of a time deficit with children, showing that being pressured for time with children is a strong predictor of poorer maternal well-being (Nomaguchi, Milkie & Bianchi, 2005; Milkie et al., 2010). Compared to these previous studies, which focus on feelings about motherhood, we importantly contribute to this literature by looking at the actual practice of mothering and instant feelings while engaging in child care. In particular we test whether more educated women are more likely to subscribe to intensive mothering practices by exploring mothers' momentary well-being during child care activities across the educational distribution.

Intensive Mothering and Mothers' Child care Experiences across Child Care Activities

The premise that more time with mothers is a key assumption of intensive mothering (Hays, 1996), and a growing number of papers show the beneficial effect of maternal time on child development, particularly in developmentally-enhancing activities and for certain ages of the child (Kalil & Mayer, 2016). Research has shown that the benefit from maternal time and attention in several domains such as cognition (Lugo-Gil & Tamis-LeMonda, 2008), academic achievement (Bernal & Keane, 2011), language acquisition (Leibowitz, 1977; Rowe, 2008), and behavior (Laird et al, 2003; Vandell et al., 2010). Given the important role played by maternal time on the intergenerational transmission of human capital, the increasing gap in the allocation of maternal time resources between children growing up to more educated mothers and less educated mothers has been argued to perpetuate inequality across generations (Kalil, 2013), as well as to contribute to the "diverging destinies" of children born to mothers of different educational backgrounds over the past several decades (McLanahan, 2004).

A deeper understanding of how mothers with different educational achievement experience child care is bound to depend on the type of child care activities mothers engage in. The ideology of intensive mothering views mothers' engagement in developmentally-relevant child care activities as vital for the later success of their children in an increasingly competitive environment. In the US, college-educated mothers spend 1.5 more hours per week on developmental child care activities than non-college educated mothers (Amuedo-Dorantes & Sevilla, 2014; Hsin & Felfe, 2014). Not only do the most educated mothers spend more time in child-enhancing activities, but they also adapt according to environmental constraints, such as the college-competitive setting and a child's age. For example, Ramey and Ramey (2010) show that the increasing gap in

child care time between mothers with a college and non-college degree was driven particularly by mothers spending time in extra-curriculum activities as a way to get their children into college. Similarly, Borra and Sevilla (2015) showed that mothers in the UK devoted more time to studying with their children than less educated mothers, reflecting the greater emphasis on academic achievement in the UK college admission process compared to the US. Kalil, Ryan and Corey (2012) showed that a "developmental gradient" characterizes the positive education gradient in mothers' time, by which mothers with higher levels of education specialize in age-appropriate developmentally-relevant activities to a greater extent than lesser educated women.

Whereas developmentally-relevant activities impose a higher or lower mental toll on mothers, particularly most educated mothers, remains an empirical question. Developmentally-enhancing child care activities may arguably put a higher mental toll on mothers mental resources and well-being, particularly for highly educated mothers who perceived these activities as fundamental to their children's success. Alternatively, higher educated mothers may have the material and mental resources to select themselves into parenting practices that may not only help boost children's talents through structured daily activities, extensive conversations, and reasoning activities, but also give them higher satisfaction (Lareau, 2003). For example, Hsin and Felfe (2014) showed that more educated mothers, when employed, tend to swap out "unstructured" time, which is related to poorer child outcomes, and maintain higher amounts of educational and structured time, which is related to better child outcomes. Compared to higher educated mothers, lesser educated mothers may lack the necessary resources, knowledge, and skills and may not be able to engage in more rewarding child care-activities.

There is a growing set of quantitative research that has provided evidence on how maternal enjoyment varies specifically with the type of child care activity, Offer (2014)

found that parents enjoy interactive child care (i.e., socializing and playing with children) to a higher extent than more demanding child care activities such as routine child care (i.e., physical care). Using a somewhat less selective sample, Roeters and Gracia (2016) found that mothers experienced interactive child care as more meaningful and less stressful activity than routine child care. Using a representative sample of parents in the US, Gimenez-Nadal and Molina (2015) documented for that child care activities related with the supervision and teaching of children are found to be more enjoyable than child care activities related to the basic needs of children. To our knowledge there are no studies looking at whether the type of child care activity affects mothers' experiences in child care differently according to maternal education.

Potential Confounders

A number of person-level and diary-episode specific features may confound associations between mothers' educational achievement and their experience in time with children. We consider time in sleep and in leisure activities, as it has been shown that these activities allow mothers' to recuperate from the demands from children, thus affecting their experiences in parenting (Smith-Coggins et al. 1994; Munakata et al. 1997). Yet access to sleep and leisure vary by mothers' education. For example, Sevilla, Gimenez-Nadal and Gershuny (2012) find that compared to the least-educated women, the most-educated women have less leisure time (including time for personal care), and also experience more fragmented free time and spend more leisure time in the presence of children. More educated mothers differ on many other dimensions from the least educated. For example, more educated mothers are more likely to work and be married, which have been shown to be correlated to how mothers experience child care (Meier et al., 2016). More educated mothers tend to have fewer children, have a higher household

income, and are more likely to be nonwhite than less educated mothers (BLS, 2016). In our analyses we take into account these and other person-level characteristics that are correlated with well-being and maternal education, including whether there is another earner in the household, the number of household children, and the age of youngest child. We also account for the fact that higher educated mothers may systematically display different levels of subjective life satisfaction compared to less educated mothers.

Episode-level controls include the day of the week, the time of day, and whether there is another adult while engaging in child care. Solo care or mothering alone can be more stressful and difficult than parenting with another adult (Blair-Loy, 2003; Folbre et al., 2005). We know that mothers spend an important proportion of their child care time in shared activities with the spouse (Craig, 2006). Yet Kalil, Ryan and Corey (2012) showed that the least educated mothers engage in a substantially higher proportion of solo care than the most educated mothers. We also control for the duration of the episode. Gershuny (2013) showed that there are decreasing marginal returns to child care activities. To the extent that less educated mothers reach decreasing returns sooner than mothers with higher education controlling for the heterogeneity in the duration of child care activities for mothers with different educational levels is crucial. Thus, by controlling for the duration of the child care episode we assure that the differences in maternal reported levels of well-being across different educational groups is a result of how mothers experience child care, as opposed to how long they spend doing child care.

Research Questions

Intensive mothering practices are more likely to pressurize the most-educated women, who may subscribe to more time-intensive forms of mothering. Yet we know little about

how mothers across the educational distribution differ in their child care everyday experiences. Do the most educated mothers experience child care as a more negative experience than the least educated mothers as a result from subscribing to prevailing norms about good motherhood? Or do the most educated mothers tailor time with children in ways that optimize child development and their own well-being to a greater extent than less-educated mothers? Our study answers these questions by examining how educational achievement and the type of child care activities are associated with mothers' experiences with children.

Data and Empirical Strategy

Data came from three cross-sections of the American Time Use Survey Well-being Module for the years 2012 and 2013.[1] The ATUS is a nationally representative cross-sectional survey of families the Bureau of Labor Statistics launched in 2003 to collect information about individual's time use during a given (diary) day. ATUS sample members are drawn from Current Population Survey (CPS) respondents, in the two to five months following their exit from the CPS. From an eligible household, one individual aged 15 or older is invited to participate in the ATUS, and they report on their activities over a 24-hour period from 4:00 a.m. of a specified day until 4:00 a.m. of the following day. The 50 % of diaries are about weekend days (25 % Saturday, and 25% Sunday), and 50 % are about weekdays (10 % each day), including holidays.

In 2010, 2012, and 2013 a Well-being Module was added to the ATUS diary-data to capture how individuals felt and daily emotions associated to their diary activities. All ATUS respondents were eligible for participation in the module, and there was minimal

[1] We present here results from the years 2012 and 2013. We do not use 2010 because in this year there was not information on subjective well-being. The results did not change when we included the year 2010.

nonresponse (ATUS, 2014). The purpose of the Well-being Module was to capture how individuals felt during selected activities during the diary, and was fielded from January through December, 2010. Respondents were first asked to fill out a diary summarizing episodes of the preceding day, as well as where, when, and with whom it occurred.

Participants reported how they felt in three randomly selected diary episodes of at least 5 minutes in duration.[2] 34,565 men and women ages 15 and older completed the module over the three ATUS cycles, for a total of 102,633 activities. We examine five key well-being measures related to how respondents felt during each episode for the pooled cross-section: Happiness, Pain, Sadness, Stress and Tiredness. Respondents were asked to report the intensity of their feelings along these five categories on a scale from 0 ("Not at all") to 6 ("Very Much"). The anchor, "Not at all," is a natural zero point that is likely to have a common meaning across respondents for these descriptors.[3]

Modeling Approach

Our sample consists of all episodes in a mother's diary that include child care episodes as described below, where a mother is defined as a woman with a child below the age of eighteen in the home. We limit our sample to parenting activities of mothers ages 21–55 with children under 18 in the household. In all, the subjective well-being sample of the ATUS includes 6,645 women; 4,080 are between the ages of 21 and 55 and have a child under 18 in the household. As noted in the introduction, the conceptualization of child

[2] Personal care activities (e.g., sleeping, grooming) as well as activities where the respondent didn't know or refused to report what they were doing were not eligible for selection.

[3] The overall values are calculated using the duration weights of the episodes included in the ATUS Well-Being Module, quite importantly to to compensate for those activities that were underrepresented. There was an error in the activity selection process, and due to a programming error in the data collection software, certain activities were less likely than others to be selected for follow-up questions. The last eligible activity in each respondent's time diary was incorrectly excluded from the random selection process in most cases. As a result, eligible activities that occurred at or near the end of the diary are underrepresented in the data. For example, the last eligible diary activity often is a long spell of TV watching; because of the selection error, TV watching is underrepresented in the Well-being Module data and the average duration of activities selected for the module is shorter than the average duration of all eligible diary activities.

care is far from straight forward. We excluded 1,408 cases (35 % overall; or 31% among the most educated and 28 among the least educated) for whom there were no activities with children among the three randomly selected for inclusion in the well-being module. For one-third of mothers in the well-being module there were no child care episodes selected. In the diary only 5% reported no activities with children throughout the diary day. There were no differences in non-reporting across the educational distribution. Fifteen percent of women in our sample are with children during one of the well-being module episodes, 36 % are with children during two episodes, and 48 % are with children during all three selected episodes. We also drop cases that are missing one or more well-being reports. The final sample consists of 2,590 women reporting 5,230 episodes with children.

We rely on random-effect models, also referred to as multilevel or mixed models in the literature, to account for the multilevel nature of our data in which episodes are nested within individuals (Allison, 2009). We use xtreg, robust re in Stata for quantitative response variables. Our dependent variables are the multiple dimensions of affect, which are scored 0–6 and treated as quantitative variables. The basic model can be written as follows:

$$W_{j,i} = \alpha_{00} + \alpha_{01} Education_i + \alpha_{02} Development\_Childcare_{j,i} +$$
$$+\alpha_{03} Education_i \; Development\_Childcare_{j,i} + \alpha_{04} X_j + \alpha_{05} Z_i + \upsilon_{0i} + \varepsilon_{j,i} \quad (1)$$

where $W_{j,i}$ represents mother's *i* reported well-being (happiness, pain, stress, sadness and tiredness) in a given child care-related episode *j*. *Development_Child care*$_{i,j}$ is a dummy variable that indicates whether mother's *i* engaged in a developmentally child care activity during a given diary-episode *j* or not. As usually done in the well-being literature,

we assume that momentary well-being measures are cardinal (Ferrer-i-Carbonell & Frijters, 2004). Our coefficient of interest is β, which tells us how a mother's well-being varies with her educational attainment. The vector υ_{0i} is a person-specific random error term representing unobserved characteristics of individual *i* and assumed independent of $\boldsymbol{X}_j$ (episode-level covariates) and Z_i (person-level covariates).

Random-effect models yield a weighted average of within- and between-level estimates. Compared to fixed effects models, random-effects provide estimates for characteristics that are invariant across individuals and episodes. This allows us to study the association between momentary well-being in various episodes with children, accounting for individuals characteristics that structure the day-to-day (such as educational attainment) as well as the episode-level context of mothering activities (such as the type of child care activity mothers engage in). This methodology is similar results are obtained with OLS models when clustering the error term $\varepsilon_{j,i}$ at the individual level to take into account the scaling effect of individuals when reporting their instant enjoyment (Kahneman & Krueger, 2006).

For each of our five dependent variables we estimate three models. The first model includes the indicators for educational attainment. The second model adds multiple exogenous controls. In the third model we add a set of endogenous measures that may themselves be influenced by educational attainment and therefore may mediate linkages between these characteristics and feelings while parenting.

Momentary well-being

For the episodes where a mother reports being with children, we assess the emotions using the following five questions: (1) How happy did you feel during this time? (2) How

meaningful did you consider what you were doing? (3) How sad did you feel during this time? (4) How stressed did you feel during this time? (5) How tired did you feel during this time? For each question, response options ranged from 0 (e.g., did not experienced the emotion at all) to 6 (e.g., the emotion was extremely strong).

These five questions captures critical dimensions of affect, defined according to Russell's (1980) model of affect. In particular, happiness, sadness and stress capture the positive/high arousal, negative/low arousal, and negative/high arousal emotions, respectively. Although the ATUS does not include an indicator for positive, low-arousal emotions, previous research indicates that positive emotions highly correlate with each other, minimizing the need for multiple indicators (Kapteyn et al., 2013). An additional indicator is included for fatigue (negative, low arousal), although we should expect a high correlation with other negative emotions. Regarding the emotion for meaning, Stone and Mackie (2013) argued that it is important because it often crosses the positive-negative dimension given it covers a purpose- related dimension. All in all, these five emotions offer a broad and multidimensional view of emotions in parenting.

Mother's Educational Attainment and Type of Child care Activity

Our first key independent variable is a mother's educational level. To explore how women with different educational attainments experience child care we define a mothers education as in Guryan, Hurst and Kearney (2008): Below high school degree (below 12 years of education), with a high school degree (with 12 years of education), more than high school education but below a college degree (between 13 and 16 years of education), college degree (with 16 years of education) and more than college degree (above 16 years of education).

We construct our second key independent variable, developmentally enhancing child care, as time with children spent in activities that were "interactive" or enriching for the child. These include routine tasks such as feeding, bathing, and physically caring for the child, playing, reading to the child or helping with homework, and planning, organizing, and monitoring the child's life outside the home (see Bianchi, Robinson, & Milkie, 2006). The developmental stages for which each activity is best suited has shown to change with the age of the child (Kalil, Ryan & Corey, 2012). Because we only have the mother's diary we do not necessarily know the age of the child that is present in the diary episode. Yet, by using an aggregate measure of developmentally enhancing child care we can ensure that it is more likely that mothers of children with different ages do the kind of active parenting that reflect types of parental investments best suited to a particular developmental period.

Studies examining parental time with children usually focus on time specifically reported as "child care" and performed as the primary (or main) activity, for example, engaged in play, teaching, and management (e.g., Kalil, Ryan & Corey, 2012; Raley, Bianchi & Wang, 2012). However child care reported as a primary activity provides only a partial picture, as it does not capture all the time that parents spend with children. As pointed out in Folbre et al. (2005) and Folbre and Yoon (2007), human beings are multitasking beings. Child care can thus occur while engaging in other activities, such as cleaning and shopping, which eludes a clear categorization. In fact, mounting evidence from some time-use surveys suggests that child care reported as primary activity substantially underreports total child care time (e.g., Budig & Folbre, 2004; Folbre & Bittman, 2004; Bianchi, Wright & Raley, 2005; Sevilla, Gimenez-Nadal & Fernandez, 2010). A recent estimate by Offer (2014) revealed that only about one-quarter of all time with children is spent in direct interaction. Here we take a comprehensive approach and

conceptualize parenting broadly to include any activity mothers report doing with their children. This notion of child care is very close to the so-called *accessible time* (Milkie, Nomaguchi & Denny, 2015), as it captures the total amount of time mothers are "on–call", independently of whether they are participating in child care activities directly.

Controls

We control for a rich set of person- and episode-level variables in our models; descriptive statistics for these measures are shown in Table 3 in the appendix. We add controls in two steps, starting with basic socio-demographic characteristics of mothers and features of their diary days and the nature of the diary episode. At the person level, these include age in years, race/ethnicity (White, Black, other), number of children (one, two, three or more), age of youngest child (under 6, 6–12, and 13–18), season of the diary report (winter, spring, summer, fall), and whether the diary was reported on a weekend day. At the episode level, these include whether the episode took place at home or elsewhere, episode duration in minutes, and the time of day (4 a.m. to 9 a.m., 9 a.m. to 2 p.m., 2 p.m. to 5 p.m., 5 p.m. to 9 p.m., and 9 p.m. to 4 a.m.).

Our second set of controls is potentially more endogenous to the processes linking employment and partnership status to feelings in mothering. At the person level, this set includes family income (<$25,000, $25,000–74,999, ≥$75,000, missing) and whether there is another earner in the household. To account for the fact that higher educated mothers display different levels of subjective life satisfaction than less educated mothers, we use information from the 2012 and 2013 Well-being module on the following question: "Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. If the top step is 10 and the bottom

step is 0, on which step of the ladder do you feel you personally stand at the present time?".

We also include two indicators of sleep and three indicators of leisure. Total hours of sleep is a continuous variable that registers the number of hours mothers report sleeping on the diary day. We also include the number of sleep episodes to account for interruptions in sleep. Total hours of leisure is measured analogous to total hours of sleep. Episodes of leisure is a count variable indicating how many distinct leisure activities are reported on the diary day. Finally, total hours of leisure with children only indicates how many hours of a mother's leisure is potentially "contaminated" by child-related responsibilities with no other adult present (e.g., Mattingly and Bianchi 2003). At the episode level, we control for solo parenting (using the "who with?" questions to assess whether the respondent engaged in the parenting episode without another adult present) and the hours mothers reported with children (in any episode) prior to the indexed episode. We also control for a total of 14 activity types in any given episode (following the activity coding in Aguiar & Hurst 2007; Kahneman et al. 2004; Kalil, Ryan & Corey, 2012): market work, care work (exclusive of child care), cooking, cleaning, shopping, other nonmarket work, television watching, socializing, education/religious events, eating, basic child care, playing with children, teaching children, and managing children's activities and schedules.

Results

In this section we describe results in Tables 1-2 and Figure 1. These results highlight patterns of mothers' activities with children, their momentary well-being in these activities, and how patterns in mothering experiences vary by educational attainment, the type of childcare activity, and the intersection between these two key features of mothers' lives.

Table 1 shows that mothers with higher educational attainment consistently report lower levels of momentary well-being when engaging in child care activities. The higher the educational attainment, the lower the reported levels of happiness and meaning, and the higher the reported levels of stress and fatigue. The only exception to this negative education gradient in momentary well-being in child care activities is in the emotion of sadness, although disparities across mothers with different educational attainment are smaller than in other feelings. In our sample of mothers, 7.6 % of mothers do not have a high school degree, 20.4% have a high school degree, 27% have more than a high school degree, 28% have a college degree, and 17% have a post graduate degree. More educated mothers consistently report less happiness and less meaning, and higher levels of stress and fatigue, than lesser educated mothers.

Table 1 also compares developmental child care activities with the rest of activities done in the presence of children. In our sample mothers engage in developmentally enhancing child care activities in 31% of the episodes in which children are present. We find that mothers report higher levels of happiness, meaning, as well as higher levels of stress and tiredness during developmental child care activities. Differences across different child care activities are relatively large and statistically significant at the 95% level, and represent 6.5% of one standard deviation of happiness, 31% of one standard deviation of meaning, 23% of one standard deviation of stress and 11% of one standard deviation of tiredness.

Table 2 shows generalized linear models (GLM) with random effects predicting each of the five emotions in activities with children. Model 1 includes mother's educational status, the type of child care activity the mother engages in during that particular diary episode, and the interaction between educational attainment and the type of child care activity. Model 2 adds controls for basic socio demographic characteristics of mothers

and characteristics of their diary days and the nature of the diary episode. Model 3 augments Model 2 to include controls for factors that are potentially endogenous to educational attainment and feelings in parenting activities. We present the coefficients of interest (the coefficients on the education dummies, the coefficient on developmentally supportive activities, and the coefficient on the interaction). Mothers with less than high school in non-developmentally supportive child care activities are the reference group in all models. Table 4 in the appendix shows the regression coefficients for all the variables in Model 3.

The coefficients of the education dummies change very little across the three models for each of the five measures of instant well-being, and the qualitative results from Table 1 continue to hold. Only in the case of feeling of sadness do the significant associations in Model 1 stop being statistically significant with the inclusion of controls. The relatively small, negative association between educational attainment and feelings of sadness reported in Table 1 stops being significant altogether. Mothers also report higher levels of happiness and meaning during developmentally supportive activities as previously found in Table 1. Compared to the results in Table 1 however, differences across developmentally supportive activities and the rest of child care activities disappear for feelings of tiredness and stress once we control for demographics, particularly the well-being ladder capturing subjective satisfaction. All in all the results from Table 2 show that our initial findings are robust to a rich set of socio demographic controls and other cofounders that the literature argues could account for associations among educational attainment and momentary well-being in child care activities.

To ease the exposition across educational attainment and type of child care combinations, Figure 1 shows predicted values of each emotion in time with children, setting all categorical controls to their modal categories and holding all continuous

variables at their weighted mean values. As in Table 1 and 2, we observe that more educated women consistently report lower levels of happiness and meaning while doing childcare, and a positive educational gradient in all types of child care for tiredness. For developmentally child care episodes, the difference in predicted levels of happiness between mothers with less than 12 years of education, and those with more than 16 years of education is 0.6, which represents a difference of 44% [5.2-4.6/1.36*100] of one standard deviation in happiness during developmentally child care activities. For other child care activities, the difference in predicted levels of happiness between mothers with less than 12 years of education, and those with more than 16 years of education is 0.54, which represents a difference of 39% [5.11-4.57/1.38*100] of one standard deviation in happiness during these child care episodes.

The difference in predicted levels of feelings of meaning during developmentally enhancing child care episodes between mothers with less than 12 years of education, and those with more than 16 years of education is 0.6, which represents a difference of 42% [5.39-4.88/1.20*100] of one standard deviation in the emotion of meaning during developmentally child care activities. For the remaining child care time, the difference in predicted levels of meaning between mothers with less than 12 years of education, and those with more than 16 years of education is 0.85, which represents a difference of 52% [5.16-4.31/1.64*100] of one standard deviation in meaning during these child care episodes.

Finally, the difference in predicted levels of feelings of tiredness during developmentally child care episodes between mothers with less than 12 years of education, and those with more than 16 years of education is -0.36, which represents a difference of 19% [2.37-2.73/1.91*100] of one standard deviation in tiredness during developmentally child care activities. For the other child care activities, the difference in

predicted levels of happiness between mothers with less than 12 years of education, and those with more than 16 years of education is 0.38, which represents a difference of the 20% [2.04-2.42/1.94*100] of one standard deviation in tiredness during these child care episodes.

Figure 3 also shows that mothers report higher levels of happiness and meaning during developmental child care episodes, in comparison with other child care episodes. According to the estimates in Model 3 in Table 2, mothers report a difference of 0.30 (16% of a standard deviation) in the levels of happiness and meaning during developmental child care episodes in comparison to other child care episodes. The difference between mothers with higher and lowest educational levels is 0.55 (34% of one standard deviation) for emotions of meaning. Figure 3 further shows that differences in emotions across the maternal educational distribution are not driven by the type of child care activity mothers engage in (Table 2 shows that interaction terms between educational categories and developmental child care episodes are not statistically significant at standard levels).

Additional Analysis: Spillovers Effects Across the Day

The relative disadvantage of mothers with higher educational attainment across most of the momentary well-being measures regardless of the type of child care activities, motivated supplemental analysis to examine whether the negative education gradient in maternal momentary well-being was also present in episodes where mothers were engaged in activities that did not involve children, i.e., diary episodes when children are not present.

Table 5 shows a negative education gradient in mothers experiences of time when children are not present. Given that we are accounting for general levels of life satisfaction, these results can only be driven by more educated mothers assessing more negatively their experiences in daily life, rather than being more pessimistic in their subjective life evaluations. In turn, this result may suggest that it may not be the maternal time per se that is important to mothers' momentary assessments of well-being, but something else such as spillovers from child care activities to other activities throughout the day, or vice versa.

To check the direction of these potential spillover mechanisms we further looked at a sample of non-mothers and their experiences of everyday life activities. We did not find the negative education gradient in momentary well-being we found for the sample of mothers (Table 6), which suggests that differences in momentary well-being across all diary activities for the sample of mothers is likely to be related to the experience of mothering across the educational spectrum, rather than vice versa.

We also explored whether there was a negative education gradient in momentary well-being for a representative sample of fathers (Table 7). We found an emerging negative education gradient for fathers at the top end of the educational distribution. In particular we found that fathers with a college-degree or more record lower levels of momentary well-being than fathers with no college degree, particularly for happiness and meaning. All fathers attached more meaning (and less sadness) to developmentally enhancing child care activities. In contrast to mothers, we did find that fathers with more than a college degree differentially assigned higher levels of meanings (and lower levels of sadness) to developmentally supportive activities than lesser educated fathers.

Conclusion

Consistent with the intensive mothering ideology, we find that higher educated mothers are more likely to report lower levels of momentary well-being while engaged in child care activities in comparison to mothers with lower levels of education. This increasing gap in well-being as we move up the maternal educational distribution holds even after controlling for a wide range of context-specific characteristics, such as the type of child care activity, and person-specific characteristics such as reported levels of subjective well-being. We also find spillovers effects from the increased pressures and strains on mothers' child care responsibilities onto everyday life. We did not find a negative education gradient in momentary well-being for non-mothers, which suggests that differences in momentary well-being across all diary activities for the sample of mothers is likely to be related to the experience of mothering across the educational spectrum, rather than vice versa.

Previous quantitative studies have tested the emotional burden imposed by intensive-mothering ideology by showing that feelings of a time deficit with children leads to poorer maternal well-being (Nomaguchi, Milkie, & Bianchi, 2005; Milkie et al., 2010). Whereas these studies are very informative about the experience of intensive motherhood and maternal well-being, we know little about how the actual practice of parenting and feelings about time with children are shaped by mothers' educational backgrounds. Recent work has beginning to document how mothers experience mothering by looking at their emotions during child care activities with a focus on key dimensions that potentially shape mothers' lives, which includes gender (Connelly & Kimmel, 2015; Roeters & Gracia, 2016; Musick, Meier & Flood, 2016), employment and marital status (Meier et al., 2016), and the type of child care activity (Nelson, Kushlev & Lyubomirsky, 2014; Offer 2014). We contribute to these literature by focusing on mothering, as opposed

to motherhood experiences, and by focusing specifically on maternal education and the type of child care activity as important aspects associated with mothers' feelings in everyday mothering experiences.

Previous evidence showed that low educated mothers do less child care (Guryan, Hurst & Kearney, 2008), especially the type of child care aimed at increasing a child's human capital (e.g., Altintas, 2016). The divergence in child care time across maternal education has been claimed to be one of the factors behind the diverging destinies of children born to mothers from different educational backgrounds (McLanahan, 2004; Kalil, 2013). Recent policy interventions aim to encourage less-educated parents to increase the time they spent with their children, particularly in developmentally relevant activities such as reading as the Parents and Children Together Program (PACT). Yet existing programs intended to increase parental engagement have failed because of low take up rates and high drop out rates (Mayer et al., 2015). By looking at maternal momentary well-being while engaging in child care activities this paper moves beyond the *quantity* of time, and proposes a wider conceptualization of maternal time that can be used as an important policy lever for improving children's development as well as mothers' well-being.

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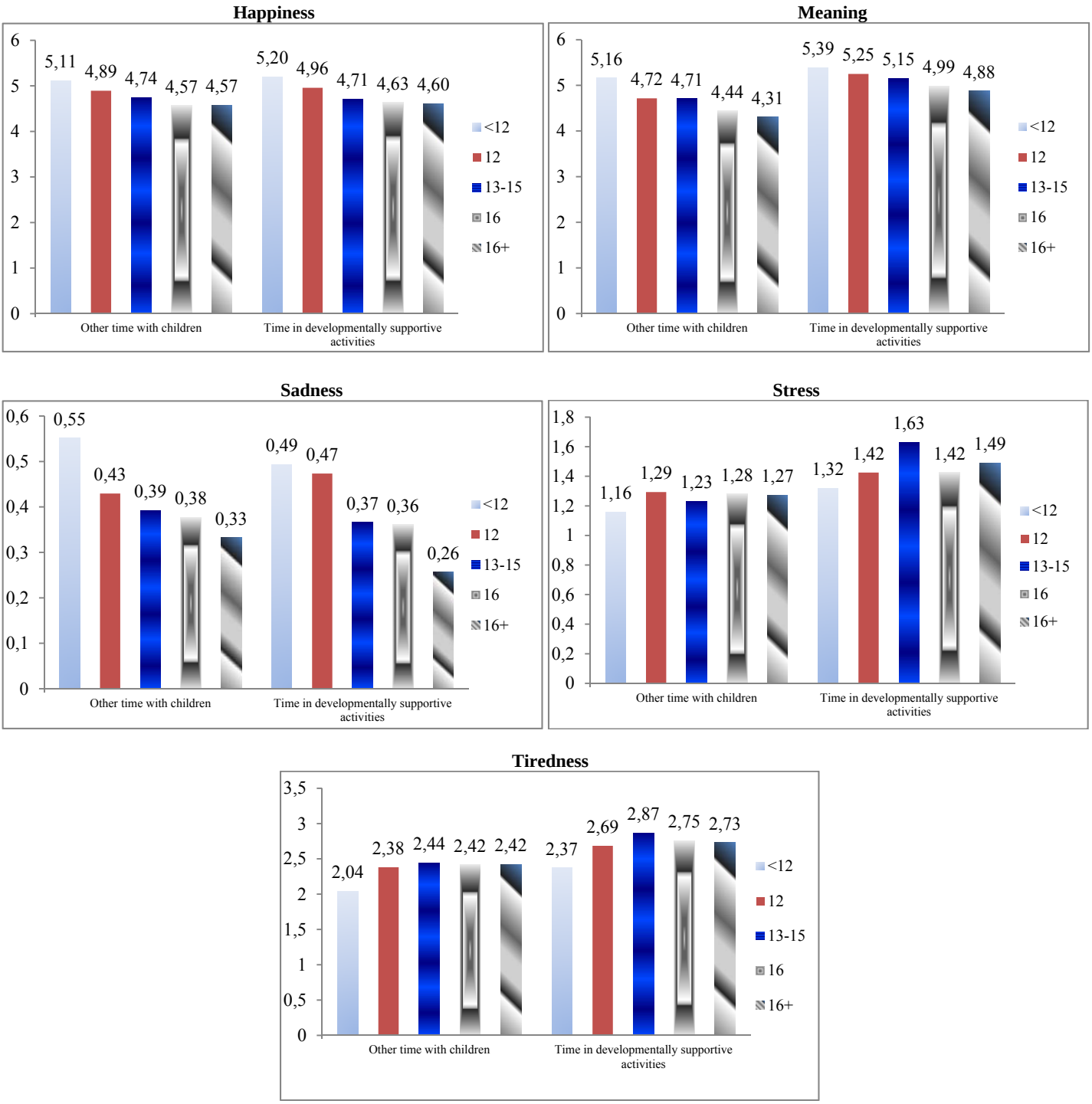
Figure 1. Mothers' predicted levels of feelings in time with children by education and type of child care



Note: Predicted values are generated from full models (Model 3, Table 5). Categorical controls are set to their model category, and continuous variables to their weighted mean values.

Table 1. Means and standard deviations of mother's feelings in activities with children by education

	Education					Time with children	
	<12 years	**12 years**	**13-16 years**	**16 years**	**16+ years**	**Developmental child care**	**Other time with children**
Happiness	5.16	4.96*	4.81**	4.58**	4.70**	4.88	4.79*
	(1.39)	(1.48)	(1.40)	(1.28)	(1.18)	(1.36)	(1.38)
Meaning	5.48	4.99**	4.95**	4.78**	4.80**	5.34	4.82**
	(1.21)	(1.64)	(1.63)	(1.51)	(1.46)	(1.20)	(1.64)
Sadness	0.56	0.46	0.35**	0.31**	0.29**	0.38	0.38
	(1.33)	(1.22)	(1.02)	(0.87)	(0.82)	(1.06)	(1.06)
Stress	1.23	1.29	1.30	1.33	1.34	1.58	1.20**
	(1.66)	(1.81)	(1.71)	(1.54)	(1.51)	(1.75)	(1.62)
Tiredness	2.28	2.47	2.54*	2.53*	2.65**	2.66	2.45**
	(2.02)	(1.97)	(1.96)	(1.81)	(1.82)	(1.94)	(1.91)
Percentage of mothers	7.72	20.35	26.87	28.03	17.03	-	-
Number of observations (activities)	438	1,077	1,387	1,455	873	1,644	3,586
Number of observations (women)	200	527	696	726	441	-	-

Notes: Data come from the 2012 and 2013 ATUS Well Being sample, mothers and the household has at least one child under 18 in the household. Ns are unweighted, means are weighted.

"<12 years" includes parents with less than 12 years of education. "12 years" includes parents with 12the grade but not diploma, high school graduates, diploma or equivalent. "13-16 years" includes parents with some college but not degree, associate degree (occupational7vocational), and associate degree (academic program). "16 years" includes parents with Bachelor's degree (BA, MS, BS). "16+ years" includes parents with Master's degree (MA, Ms, MEng, Med, BSW), Professional school degree (MD, DDS, DV) and Doctoral degree (PhD, EdD, etc.).

*p<.05 **p<0.01 (difference from contrast group).

Table 2. Generalized linear models with random effects of mothers' feelings in activities with children[ab]

	Happiness			Meaning			Sadness			Stress			Tiredness		
	M1	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**
12 years	-0.20*	-0.24**	-0.18*	-0.43***	-0.44***	-0.38***	-0.13	-0.10	-0.11	0.11	0.16	0.11	0.35**	0.31*	0.28*
	(0.11)	(0.11)	(0.11)	(0.13)	(0.14)	(0.13)	(0.11)	(0.11)	(0.11)	(0.14)	(0.15)	(0.14)	(0.16)	(0.16)	(0.16)
13-16 years	-0.35***	-0.41***	-0.29***	-0.43***	-0.43***	-0.35***	-0.16	-0.12	-0.16	0.05	0.14	0.06	0.40**	0.40**	0.33**
	(0.10)	(0.11)	(0.10)	(0.13)	(0.13)	(0.13)	(0.11)	(0.11)	(0.11)	(0.14)	(0.14)	(0.14)	(0.16)	(0.16)	(0.16)
16 years	-0.52***	-0.58***	-0.44***	-0.71***	-0.70***	-0.54***	-0.18*	-0.11	-0.15	0.10	0.20	0.14	0.38**	0.41**	0.40**
	(0.10)	(0.11)	(0.11)	(0.13)	(0.13)	(0.13)	(0.10)	(0.11)	(0.11)	(0.14)	(0.14)	(0.14)	(0.16)	(0.16)	(0.17)
16+ years	-0.52***	-0.59***	-0.47***	-0.84***	-0.85***	-0.69***	-0.23**	-0.17	-0.18	0.09	0.21	0.15	0.38**	0.41**	0.45**
	(0.11)	(0.12)	(0.12)	(0.13)	(0.14)	(0.15)	(0.11)	(0.11)	(0.12)	(0.15)	(0.15)	(0.16)	(0.17)	(0.18)	(0.18)
12 years* developmental	-0.11	-0.13	-0.17	0.28*	0.24	0.21	0.13	0.13	0.15	0.06	0.05	0.08	-0.02	0.02	0.04
	(0.17)	(0.17)	(0.17)	(0.16)	(0.16)	(0.16)	(0.13)	(0.13)	(0.13)	(0.20)	(0.20)	(0.20)	(0.24)	(0.23)	(0.23)
13-16 years* developmental	-0.16	-0.16	-0.16	0.18	0.13	0.15	0.04	0.04	0.06	0.29	0.27	0.27	0.11	0.08	0.07
	(0.17)	(0.17)	(0.16)	(0.16)	(0.16)	(0.16)	(0.13)	(0.13)	(0.13)	(0.19)	(0.19)	(0.19)	(0.23)	(0.22)	(0.22)
16 years* developmetnal	-0.09	-0.10	-0.14	0.28*	0.22	0.19	0.06	0.06	0.09	0.07	0.06	0.09	0.03	0.04	0.06
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.12)	(0.12)	(0.12)	(0.19)	(0.19)	(0.19)	(0.22)	(0.21)	(0.21)
16+ years* developmental	-0.14	-0.15	-0.21	0.32*	0.25	0.22	0.02	0.03	0.06	0.16	0.16	0.22	0.04	0.02	0.04
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.16)	(0.12)	(0.12)	(0.12)	(0.20)	(0.20)	(0.20)	(0.23)	(0.23)	(0.22)
Developmental Child care	0.18	0.21	0.30**	0.25*	0.30**	0.55***	-0.08	-0.08	-0.10	0.00	-0.02	-0.02	0.21	0.04	-0.12
	(0.14)	(0.14)	(0.15)	(0.13)	(0.13)	(0.14)	(0.11)	(0.11)	(0.12)	(0.17)	(0.17)	(0.17)	(0.20)	(0.19)	(0.20)
Constant	5.08***	5.52***	4.65***	5.15***	4.93***	4.45***	0.56***	0.42***	0.99***	1.21***	1.12***	2.95***	2.09***	2.07***	3.97***
	(0.09)	(0.18)	(0.27)	(0.11)	(0.23)	(0.34)	(0.10)	(0.16)	(0.24)	(0.12)	(0.24)	(0.36)	(0.14)	(0.28)	(0.41)
Nº Observations	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230
Number of women	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590

Notes: Number of observations (activities)=5,230; number of observations (women)=2,590

[a]M2 controls included, not shown for: age, race/ethnicity, employment status, whether lives has a partner, number and ages of children, season of diary report, whether a weekend day, and time of day.

[b] M3 controls included, not shown for: age, race/ethnicity, employment status, whether lives has a partner, number and ages of children, season of diary report, whether a weekend day, time of day and family income, whether there is another earner in the household, sleep, leisure, solo parenting, prior time with children, type of parenting activity, and well-being ladder.

*p < .05; **p < .01; ***p < .001

APPENDIX

Table 3. Means (SDs) and percentages of activity- and person-level characteristics of mothers participating in activities with children

Characteristic	Mean or %
Emotions (mean)	
Happiness	4.82
	(1.37)
Meaningfulness	4.96
	(1.55)
Sadness	0.38
	(1.06)
Stress	1.30
	(1.66)
Tiredness	2.51
	(1.92)
Activity Level	
Type (%)	
Market work	1.97%
Care work (excluding child care)	0.34%
Cooking	5.67%
Cleaning	4.50%
Shopping	8.56%
Other nonmarket work	4.00%
Television watching	20.92%
Socializing	20.85%
Education/religion	1.68%
Eating (also self-care and using services)	4.59%
Basic child care	13.48%
Play child care	6.69%
Teaching child care	2.48%
Management child care	4.26%
Activity location (%)	
Public	70.48%
Home	29.52%
Minutes in activity (mean)	1.70
	(1.82)
Solo parenting (%)	84.44%
Time of day (%)	
4 a.m.-9 a.m.	29.97%
9 a.m.-2 p.m.	42.45%
2 p.m.-5 p.m.	38.41%
5 p.m.-9 p.m.	20.42%
9 p.m.-4 a.m.	6.99%
N (activities)	5,230
Person Level	
Age (mean in years)	37.15
	(7.48)
Race (%)	
White	81.51%
Black	11.12%
Other race	7.37%
Education (%)	
<12 years	7.72%
12 years	20.35%
13-16 years	26.87%
16 years	28.03%
16+ years	17.03%
Employment status	
Not employed	35.10%

Employed	64.90%
Family structure (%)	
Partnered parent	26.10%
Single parent	73.90%
Number of children in household (%)	
1	34.17%
2	42.74%
3+	23.09%
Age of youngest children (%)	
<6 years	47.95%
6-12 years	37.45%
13+ years	14.59%
Weekend diary day (%)	51.78%
Season of diary day (%)	
Winter	27.14%
Spring	24.75%
Summer	23.17%
Autum	24.94%
Sleep	
Hours (mean)	8.85
	(2.01)
Number episodes sleep	2.18
Leisure (mean)	
Total hours	6.46
	(3.18)
Number of episodes	2.18
Total hours with children only	4.14
	(3.05)
Family income (%)	
<25,000$	23.82%
$25,000-$74,999	32.01%
>$75,000	44.17%
Other earner (incl. partner) in household (%)	45.83%
WB ladder (mean)	7.30
	(1.82)
N persons	2,590

Notes: Data come from the 2012 and 2013 ATUS Well Being sample, mothers and the household has at least one child under 18 in the household. Ns are unweighted, means are weighted. Standard deviations are shown in parenthesis.

Table 4. Full generalized linear models with random effects of mothers' feelings in activities with children

Key Measures of interest	Happiness M3	Meaning M3	Sadness M3	Stress M3	Tiredness M3
Controls (step one)					
Employed	0.08	0.13	-0.10	-0.10	0.04
	(0.07)	(0.09)	(0.07)	(0.09)	(0.10)
Partnered	0.06	0.11	-0.10	-0.13	-0.11
	(0.07)	(0.09)	(0.07)	(0.10)	(0.10)
Age	0.00	0.01	0.01**	0.01*	0.00
	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Black	0.05	0.15	0.03	-0.24**	-0.21*
	(0.08)	(0.10)	(0.08)	(0.11)	(0.12)
Other race	0.17**	0.20**	0.07	-0.18*	-0.23*
	(0.08)	(0.09)	(0.08)	(0.10)	(0.13)
Youngest child 6-12	-0.07	0.04	-0.01	-0.13*	-0.20**
	(0.06)	(0.07)	(0.05)	(0.07)	(0.08)
Youngest child 13-17	0.08	0.00	-0.03	-0.17	-0.22*
	(0.08)	(0.11)	(0.08)	(0.11)	(0.13)
Number of children	-0.15***	-0.05	0.00	0.07*	0.02
	(0.03)	(0.04)	(0.03)	(0.04)	(0.05)
Spring	-0.01	-0.04	0.01	0.00	0.04
	(0.06)	(0.08)	(0.05)	(0.08)	(0.09)
Summer	-0.05	0.03	0.03	0.05	0.03
	(0.06)	(0.08)	(0.05)	(0.08)	(0.09)
Autum	-0.01	0.03	0.02	0.01	0.02
	(0.06)	(0.07)	(0.05)	(0.08)	(0.09)
Weekend	0.08	-0.07	-0.01	-0.09	-0.05
	(0.05)	(0.06)	(0.04)	(0.06)	(0.07)
Home	-0.05	-0.03	-0.05	0.05	0.27***
	(0.05)	(0.06)	(0.04)	(0.06)	(0.06)
Minutes in activity	0.02	0.12***	0.02	0.02	-0.04
	(0.03)	(0.02)	(0.01)	(0.02)	(0.03)
9 a.m.-2 p.m.	-0.05	-0.08	0.03	0.05	0.10*
	(0.04)	(0.05)	(0.03)	(0.05)	(0.05)
2 p.m.-5 p.m.	-0.03	-0.02	-0.02	-0.08*	0.42***
	(0.04)	(0.05)	(0.03)	(0.05)	(0.06)
5 p.m.-9 p.m.	-0.02	0.09	0.04	-0.12**	0.92***
	(0.05)	(0.06)	(0.04)	(0.06)	(0.07)
9 p.m.-4 a.m.	-0.14*	0.01	0.12*	0.11	0.50***
	(0.08)	(0.09)	(0.07)	(0.09)	(0.12)
Controls (step two)					
$25,000-$74,999	-0.05	-0.02	-0.02	-0.20**	-0.04
	(0.06)	(0.08)	(0.06)	(0.09)	(0.10)
>$75,000	-0.22***	-0.22**	0.08	-0.05	-0.14
	(0.07)	(0.09)	(0.07)	(0.10)	(0.12)
Other earner in household	-0.06	-0.19**	0.00	0.00	0.06
	(0.07)	(0.09)	(0.07)	(0.10)	(0.10)
Sleep (hours)	-0.01	0.00	0.03**	-0.05**	-0.05**
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
·Episodes of sleep	-0.26**	-0.15	-0.07	-0.08	-0.41**
	(0.13)	(0.16)	(0.14)	(0.20)	(0.19)
Leisure (hours)	-0.03**	-0.03**	0.01	-0.02*	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Episodes of leisure	0.07	-0.03	0.05	0.17	0.52***
	(0.11)	(0.13)	(0.12)	(0.17)	(0.15)
Leisure with children only	0.03***	0.02	-0.02	-0.02	-0.02
	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Solo parenting	-0.15***	-0.10	-0.01	0.16**	0.04
	(0.05)	(0.07)	(0.05)	(0.06)	(0.07)
Market work	-0.12	0.08	0.00	0.49***	-0.17
	(0.14)	(0.18)	(0.10)	(0.19)	(0.17)
Care work (excluding child care)	-0.04	0.46	0.23	0.00	0.70*
	(0.29)	(0.29)	(0.18)	(0.34)	(0.41)
Cooking	0.01	0.54***	0.00	0.09	-0.14
	(0.08)	(0.09)	(0.06)	(0.09)	(0.10)
Cleaning	-0.43***	-0.09	0.08	0.42***	0.10
	(0.13)	(0.15)	(0.08)	(0.13)	(0.14)

Shopping	-0.46***	-0.43***	0.02	0.49***	-0.04
	(0.12)	(0.14)	(0.08)	(0.14)	(0.12)
Other nonmarket work	-0.48***	-0.66***	0.15*	0.39***	0.04
	(0.10)	(0.14)	(0.08)	(0.11)	(0.11)
Socializing	0.26***	0.66***	-0.01	-0.08	-0.22***
	(0.06)	(0.08)	(0.04)	(0.07)	(0.08)
Education/religion	0.25*	0.75***	-0.04	-0.04	-0.29
	(0.14)	(0.14)	(0.09)	(0.19)	(0.23)
Eating (also self-care and using services)	0.41***	0.41***	-0.03	-0.29**	0.02
	(0.12)	(0.14)	(0.08)	(0.14)	(0.11)
SWB measure	0.20***	0.11***	-0.11***	-0.22***	-0.19***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
Constant	4.65***	4.45***	0.99***	2.95***	3.97***
	(0.27)	(0.34)	(0.24)	(0.36)	(0.41)
Nº Observations	5,230	5,230	5,230	5,230	5,230
Number of women	2,590	2,590	2,590	2,590	2,590

Notes: Number of observations (activities)=5,230; number of observations (women)=2,590

*p < .05; **p < .01; ***p < .001

Table 5. Linear models with random effects of mothers' feelings in activities without children

	Happiness			Meaning			Sadness			Stress			Tiredness		
	M1	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**
12 years	-0.22	-0.22	-0.27**	-0.34**	-0.31*	-0.29*	-0.09	-0.09	-0.03	-0.13	-0.11	-0.05	0.25	0.25	0.30*
	(0.13)	(0.14)	(0.13)	(0.16)	(0.16)	(0.16)	(0.13)	(0.13)	(0.13)	(0.18)	(0.18)	(0.17)	(0.19)	(0.19)	(0.18)
13-16 years	-0.34***	-0.37***	-0.35***	-0.34**	-0.28*	-0.21	-0.16	-0.13	-0.11	-0.14	-0.08	-0.08	0.15	0.14	0.17
	(0.13)	(0.13)	(0.13)	(0.15)	(0.16)	(0.16)	(0.13)	(0.13)	(0.13)	(0.17)	(0.17)	(0.16)	(0.18)	(0.18)	(0.18)
16 years	-0.42***	-0.44***	-0.44***	-0.70***	-0.56***	-0.43***	-0.30**	-0.25**	-0.17	-0.24	-0.12	-0.09	0.01	0.01	0.11
	(0.12)	(0.13)	(0.14)	(0.15)	(0.16)	(0.16)	(0.12)	(0.13)	(0.13)	(0.17)	(0.17)	(0.17)	(0.18)	(0.18)	(0.19)
16+ years	-0.59***	-0.61***	-0.64***	-0.95***	-0.79***	-0.64***	-0.31**	-0.27**	-0.15	-0.07	0.07	0.12	0.11	0.12	0.21
	(0.13)	(0.14)	(0.15)	(0.16)	(0.17)	(0.18)	(0.13)	(0.14)	(0.14)	(0.18)	(0.18)	(0.18)	(0.19)	(0.20)	(0.20)
Constant	4.61***	4.66***	3.69***	4.66***	4.56***	4.39***	0.77***	0.51***	1.27***	1.70***	1.92***	3.87***	2.42***	2.54***	4.15***
	(0.11)	(0.23)	(0.33)	(0.14)	(0.28)	(0.40)	(0.12)	(0.19)	(0.30)	(0.16)	(0.27)	(0.40)	(0.17)	(0.30)	(0.44)
Nº Observations	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167
Number of women	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285

Notes: Number of observations (activities)=4,167; number of observations (women)=2,285

*p < .05; **p < .01; ***p < .001

Table 6. Linear models with random effects of feelings in activities for non-mothers

	Happiness			Meaning			Sadness			Stress			Tiredness		
	M1	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**
12 years	-0.05	-0.13	-0.10	-0.16	-0.10	-0.01	-0.46*	-0.36	-0.31	-0.42	-0.26	-0.30	-0.15	-0.08	-0.07
	(0.24)	(0.23)	(0.23)	(0.30)	(0.31)	(0.33)	(0.27)	(0.27)	(0.26)	(0.31)	(0.32)	(0.31)	(0.30)	(0.30)	(0.30)
13-16 years	-0.01	-0.11	-0.09	-0.10	-0.03	0.09	-0.82***	-0.69***	-0.56**	-0.62**	-0.45	-0.42	-0.30	-0.27	-0.23
	(0.23)	(0.23)	(0.23)	(0.30)	(0.31)	(0.33)	(0.26)	(0.26)	(0.25)	(0.30)	(0.31)	(0.31)	(0.30)	(0.29)	(0.30)
16 years	-0.15	-0.27	-0.26	-0.29	-0.13	0.01	-0.85***	-0.67**	-0.46*	-0.61**	-0.39	-0.26	-0.16	-0.12	0.06
	(0.24)	(0.24)	(0.24)	(0.31)	(0.32)	(0.34)	(0.26)	(0.27)	(0.27)	(0.31)	(0.32)	(0.32)	(0.30)	(0.30)	(0.31)
16+ years	-0.26	-0.41	-0.41	-0.47	-0.33	-0.20	-0.91***	-0.72***	-0.44	-0.48	-0.28	-0.14	-0.20	-0.19	-0.02
	(0.24)	(0.25)	(0.25)	(0.32)	(0.33)	(0.35)	(0.27)	(0.27)	(0.27)	(0.32)	(0.32)	(0.33)	(0.32)	(0.32)	(0.33)
Constant	4.56***	3.80***	2.54***	4.53***	2.55***	2.05***	1.32***	1.51***	2.10***	1.89***	2.48***	4.19***	2.51***	3.03***	4.90***
	(0.22)	(0.34)	(0.49)	(0.29)	(0.44)	(0.61)	(0.25)	(0.34)	(0.46)	(0.29)	(0.44)	(0.59)	(0.28)	(0.47)	(0.65)
Nº Observations	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283
Number of women	805	805	805	805	805	805	805	805	805	805	805	805	805	805	805

Notes: Number of observations (activities)=2,283; number of observations (women)=805

*p < .05; **p < .01; ***p < .001

Table 7. Linear models with random effects of fathers' feelings in activities with children[ab]

	Happiness			Meaning			Sadness			Stress			Tiredness		
	M1	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**
12 years	-0.20	-0.21	-0.15	-0.02	-0.08	-0.13	-0.31**	-0.30**	-0.22	-0.38**	-0.33*	-0.25	-0.09	-0.17	-0.20
	(0.15)	(0.15)	(0.15)	(0.19)	(0.19)	(0.19)	(0.15)	(0.15)	(0.14)	(0.18)	(0.18)	(0.17)	(0.22)	(0.21)	(0.21)
13-16 years	-0.24	-0.25*	-0.16	-0.17	-0.25	-0.26	-0.48***	-0.46***	-0.33**	-0.25	-0.15	-0.08	-0.05	-0.13	-0.18
	(0.15)	(0.15)	(0.15)	(0.19)	(0.19)	(0.20)	(0.14)	(0.14)	(0.14)	(0.18)	(0.18)	(0.18)	(0.21)	(0.21)	(0.21)
16 years	-0.44***	-0.45***	-0.36**	-0.39**	-0.45**	-0.48**	-0.46***	-0.44***	-0.25*	-0.01	0.09	0.22	-0.11	-0.07	-0.07
	(0.15)	(0.15)	(0.15)	(0.19)	(0.19)	(0.19)	(0.14)	(0.14)	(0.14)	(0.18)	(0.18)	(0.18)	(0.21)	(0.20)	(0.21)
16+ years	-0.56***	-0.59***	-0.51***	-0.54***	-0.64***	-0.67***	-0.55***	-0.52***	-0.32**	-0.17	-0.01	0.10	-0.07	0.00	0.01
	(0.15)	(0.15)	(0.16)	(0.19)	(0.19)	(0.20)	(0.14)	(0.14)	(0.14)	(0.18)	(0.18)	(0.19)	(0.21)	(0.21)	(0.22)
12 years* primary child care	-0.03	0.02	0.12	0.04	0.13	0.27	0.26	0.23	0.19	0.59*	0.58*	0.47	-0.19	-0.27	-0.32
	(0.25)	(0.24)	(0.24)	(0.25)	(0.26)	(0.25)	(0.18)	(0.19)	(0.19)	(0.31)	(0.31)	(0.31)	(0.38)	(0.37)	(0.36)
13-16 years* primary child care	-0.11	-0.10	0.01	-0.08	-0.06	0.11	0.36*	0.37*	0.33*	0.60**	0.65**	0.56*	0.09	-0.08	-0.11
	(0.23)	(0.23)	(0.23)	(0.24)	(0.25)	(0.24)	(0.19)	(0.20)	(0.19)	(0.29)	(0.29)	(0.29)	(0.37)	(0.36)	(0.35)
16 years* primary child care	0.00	0.04	0.14	-0.05	0.00	0.16	0.34*	0.34*	0.31*	0.47*	0.50*	0.41	0.16	-0.05	-0.10
	(0.23)	(0.22)	(0.22)	(0.25)	(0.26)	(0.25)	(0.18)	(0.18)	(0.18)	(0.28)	(0.29)	(0.29)	(0.36)	(0.35)	(0.34)
16+ years* primary child care	-0.02	0.01	0.11	0.30	0.34	0.49**	0.50***	0.50***	0.49***	0.50*	0.56*	0.47	-0.15	-0.38	-0.45
	(0.23)	(0.23)	(0.23)	(0.25)	(0.26)	(0.25)	(0.18)	(0.19)	(0.18)	(0.28)	(0.29)	(0.29)	(0.38)	(0.36)	(0.35)
Primary Child care	0.23	0.21	0.13	0.51**	0.46**	0.55**	-0.40**	-0.40**	-0.32*	-0.51*	-0.56**	-0.39	0.20	0.16	0.08
	(0.21)	(0.21)	(0.21)	(0.22)	(0.22)	(0.23)	(0.17)	(0.17)	(0.17)	(0.26)	(0.26)	(0.27)	(0.34)	(0.33)	(0.32)
Constant	5.10***	4.84***	3.67***	4.90***	4.31***	4.28***	0.76***	0.75***	1.22***	1.25***	2.01***	3.34***	2.20***	2.45***	4.51***
	(0.13)	(0.29)	(0.40)	(0.17)	(0.36)	(0.47)	(0.14)	(0.25)	(0.32)	(0.17)	(0.34)	(0.44)	(0.19)	(0.40)	(0.52)
Nº Observations	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741
Number of women	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502	1,502

Notes: Number of observations (activities)=2,741; number of observations (men)=1,502

[a]M2 controls included, not shown for: age, race/ethnicity, employment status, whether lives has a partner, number and ages of children, season of diary report, whether a weekend day, and time of day.

[b] M3 controls included, not shown for: age, race/ethnicity, employment status, whether lives has a partner, number and ages of children, season of diary report, whether a weekend day, time of day and family income, whether there is another earner in the household, sleep, leisure, solo parenting, prior time with children, type of parenting activity, and well-being ladder.

*p < .05; **p < .01; ***p < .001