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ABSTRACT

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

We use data from the 2012 and 2013 Well-being Module of the American Time Use Survey to understand maternal momentary well-being, and how these vary by educational attainment. We document that even after controlling for a wide set of maternal characteristics, higher educated mothers report lower levels of happiness and meaning, and higher levels of fatigue when engaging in child-related activities than mothers with lower educational attainment. Further analysis reveals that there is no education gap in momentary well-being among fathers and non-mothers. These findings are consistent with more educated mothers feeling the pressures from the ideology of intensive mothering, whereby mother's continuous time and attention is understood as being crucial for child development.

JEL Classification: J10

Keywords: mothering, momentary well-being, child care, ideology of intensive mothering,

time use

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Introduction

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 time spent with children, particularly among well educated mothers (Hays, 1996, p.54; Sullivan, 1997). Whereas less educated mothers may take on some features of intensive mothering (Edin & Kefalas, 2007; Macdonald, 2009; Damaske, 2011; Nomaguchi, Milkie & Denny, 2015), intensive mothering practices are more likely to characterize women of higher educational levels, who subscribe to more time-intensive forms of mothering in the form of conversation, reasoning and intellectual stimulation activities, the so-called "concerted cultivation" approach (Lareau, 2003). This paper sheds light on the effects of the intensive mothering ideology on maternal momentary well-being while engaging in child-related activities for high and low educated mothers.

We use the 2012 and 2013 Wellbeing Modules of the American Time Use Survey, which contains, alongside a 24-hour diary of activities, reported levels of momentary well-being (happiness, pain, sadness, stress and tiredness) associated to a particular activity in the diary. We find that higher educated mothers report lower levels of happiness and meaning, and higher levels of fatigue and stress than mothers with lower educational attainments when engaging in child-related activities. These findings hold after controlling for a wide set of socio-economic characteristics, the type of child-related activity mothers engage in, and for the fact that more educated mothers may systematically display higher levels of subjective life satisfaction than less educated mothers. We fail to see consistent differences in momentary well-being across the educational distribution for diary activities of fathers and non-mothers. This result further suggest that the more negative feelings while doing child-related activities on the part of higher educated mothers may have little to do with unobserved factors associated to education and class, and more to do with social pressures around bringing up children.

This paper contributes to the literature on several fronts. We first contribute to a growing literature looking at momentary well-being while engaging in child-related activities using time diary data. A set of the literature looks at momentary well-being associated to the type of child-related activity. For example, Offer (2014) and Gimenez-Nadal and Molina (2015) find that parents enjoy interactive child care to a higher extent

than more demanding child-related activities such as routine child care involving physical care. Similarly, Roeters and Gracia (2016) document that mothers report higher levels of meaningfulness and lower levels of stress while interacting with their children rather than when performing routine activities. Another second set of papers looks at how momentary well-being varies across socio-economic and demographic characteristics, such as employment and marital status (Meier et al., 2016) and gender, ie., across mothers and fathers (Connelly & Kimmel 2015; Musick, Meier & Flood, 2016; Roeters & Gracia, 2016). Our paper adds to this literature by looking at education, an important dimension of child care practices.

We also contribute to previous work looking at whether intensive mothering ideology affects maternal wellbeing (Nomaguchi, Milkie and Denny, 2015). These studies ask mothers directly about how they feel about not spending enough time with children (Milkie et al., 2004). The findings from this line of research show that the feeling of a time deficit with children is strongly associated with poorer maternal wellbeing (Nomaguchi, Milkie & Bianchi, 2005; Milkie et al., 2010). Compared to this line of work, which focuses on feelings about motherhood, we importantly contribute to this literature by looking at instant feelings while mothers engage in child-related activities.

Data

We use the nationally representative 2012 and 2013 American Time Use Survey Wellbeing Modules. ATUS respondents are first asked to fill out a diary describing the activities they engage in during a 24-hour period (from 4:00 am to 4:00 am the following day). The following day respondents are asked in a telephone interview about how they felt during three-randomly selected diary episodes, in what is called the day reconstruction method (see Kahneman et al., 2004). The wellbeing questionnaire excluded episodes in which the respondent engaged in personal care activities (including sleeping), and episodes shorter than five minutes (see Meier et al., 2016).

Our sample consists of mothers of ages 21–55 with children under 18 in the household, and includes all child-related episodes in a mother's diary. As pointed out in Folbre et al. (2005) and Folbre and Yoon (2007) human beings are multitasking beings and child care takes place while engaging in other activities, such as cleaning and shopping, as well as while being on-call (Milkie, Nomaguchi & Denny, 2015). We thus follow the literature and include in our sample episodes in the diary in which a mother

spends time with children (see Meier et al., 2016). Our sample includes 5,230 child-related episodes corresponding to 2,590 women.

We estimate random-effect models to study the association between maternal education and momentary well-being in child-related episodes as follows:¹

$$W_{i,i} = \alpha_{00} + \alpha_{01}Education_i + \alpha_{02}X_i + \alpha_{03}Z_i + \varepsilon_{j,i}$$
(1)

where $W_{j,i}$ represents mother's i reported momentary well-being in a given child-related episode j. 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. X_j are episode-level covariates and Z_i are person-level covariates commonly used in the literature (see Meier et. al., 2016 and Connelly & Kimmel 2015 among others). The vector $\varepsilon_{j,i}$ is a random error term.

Momentary well-being measures refer to feelings of happiness, meaningfulness, sadness, stress, and tiredness, and take values 0 (lowest level) to 6 (highest level) (see Meier et. al., 2016). Our main explanatory variable is a mother's educational level. 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). 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.

[Figure 1 here]

Figure 1 shows that mothers with higher educational attainment consistently report lower levels of momentary well-being when engaging in child-related 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

¹ We cannot estimate fixed effects models as education levels do not vary for a given respondent.

this negative education gradient in momentary well-being in child-related activities is in the feeling of sadness, although disparities across mothers with different educational attainment are smaller than in other feelings.

Maternal Momentary Wellbeing and Educational Attainment

Results from Figure 1 showed a negative relationship between maternal education and momentary-wellbeing across the five instant enjoyment measures. This relationship is however correlational, as there may be a wide set of confounding factors such as maternal employment, marital status, and race. We next turn to our regression results to shed more light onto the patterns reported in Figure 1.

Table 1 shows the estimates from Equation (1) after controlling for a wide set of person-level and episode-level variables. Together with maternal overall satisfaction with life, the most important variable predicting maternal momentary well-being across most of the five measures of momentary well-being is maternal educational attainment. Having a higher income is correlated with higher levels of happiness and meaning in child-related activities. Similarly to what is found in other studies, working mothers report higher levels of tiredness (and less sadness) than non-working mothers, but there is no effect on happiness feelings or the meaning attached to child-related activities (Meier et al., 2016). As expected women that are more satisfied with life also report higher levels of momentary well-being while doing activities with children. Episodelevel characteristics are generally not significant, with the exception of the nature of the child-related activity being done. For example, teaching-related activities are generally associated with lower levels of happiness and higher levels of stress (as found in other studies Offer, 2014; Roeters and Gracia, 2016; Gimenez-Nadal and Molina, 2015), albeit with higher levels of meaning. Housework-related activities while children are present, such as cleaning and shopping, are associated with lower levels of maternal momentary well-being. In contrast, leisure-related activities in which children are present, such as socializing, religious activities, and eating are associated with higher levels of maternal momentary well-being, particularly with positive happiness and meaning feelings.

Overall, results from Figure 1 continue to hold: more educated women consistently report lower levels of happiness and meaning, and less tiredness, during diary episodes

with children. Only the relatively small, negative association between educational attainment and feelings of sadness reported in Figure 1 stops being significant altogether with the inclusion of controls. Another important point is that the negative relationship between educational attainment and momentary wellbeing holds across the whole education distribution. For example, Mothers with 13-15 years of education, with 16 years of education, and more than 16 years of education presents values in happiness that are 0.30, 0.47 and 0.50 lower than mothers with less than a high school degree, which represents the 21, 34 and 37% of one standard deviation in happiness.

Exploring the Channels between Momentary-wellbeing and Maternal Education

The relative disadvantage of mothers with higher educational attainment across most of the momentary well-being measures shown in Table 1 is consistent with more educated mothers being more likely to feel the pressures of intensive mothering ideology. However, it is still possible that there may be some unobservable factor correlated to educational attainment that also affects maternal momentary wellbeing. To try to answer this question, we further look at the momentary well-being levels of fathers (when engaging in child-related activities) and non-mothers (across all the diary episodes). Fathers are generally less involved in child-related activities (Mattingly & Bianchi 2003; Sevilla, Gimenez-Nadal & Fernández, 2010) so intensive mothering ideology may not be so important for fathers, and will be totally irrelevant for non-mothers. Thus if we observed the same negative relationship between educational attainment and momentary wellbeing for the sample of fathers and non-mothers, we would conclude that the negative relationship observed in Table 1 for mothers is the result of an unobserved factor that has to do with educational attainment, and not necessarily the pressures from the intensive mothering ideology.

Results in Panels A and B in Table 2 show that there is indeed a weaker relationship between educational attainment and momentary well-being for fathers. Only fathers with a college degree or more, those at the top end of the educational distribution, report lower levels of momentary well-being, particularly for happiness and meaning, and there is no education gap among fathers with less than a college degree. Panel B in Table 2 shows a non-existent relationship between educational attainment and momentary well-being for non-mothers.

Conclusion

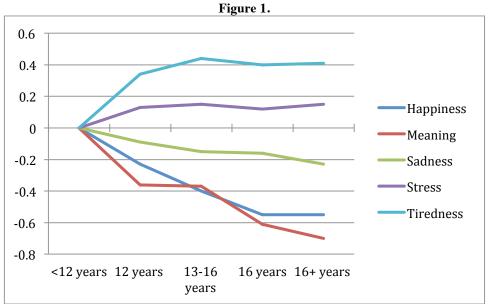
Consistent with the intensive mothering ideology, we find that higher educated mothers are more likely to report lower levels of momentary well-being while engaged in child-related activities in comparison to mothers with lower levels of education. This gap in well-being for mothers with different educational attainment holds even after controlling for the type of child-related activity, and person-specific characteristics such as reported levels of general satisfaction with life. We rule out that there is some unobserved factor related to education that simply affects momentary wellbeing by showing that there is no education gap in momentary well-being for a sample of fathers and non-mothers. Instead, the momentary well-being gap between mothers with different educational levels is consistent with cultural norms of intensive mothering affecting more educated mothers to a greater extent.

Previous evidence showed that low educated mothers do relatively 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, Ryan & Corey, 2012). Recently policy interventions developed to encourage less-educated parents to increase the time they spent with their children have high drop out rates, and only a small proportion of low educated parents take them up in the first place (Mayer et al., 2015). By looking at maternal momentary well-being in child-related activities this paper sheds light onto what motivates parents to engage in their children's development. In turn, a wider conceptualization of parental time that moves beyond the quantity of parental time can be used as important policy lever for improving children's later life outcomes, as well as parents' well-being.

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Notes: Sample consists of child-related episodes for mothers in the ATUS Well-Being Module 2012 and 2013. Coefficients are obtained from estimating regressions $Y_{ij} = \alpha_i + \beta Educaiton_i + \varepsilon_{ij}$, where Y_{ij} represents the value given to the reference feeling (Happiness, Meaning, Sadness, Stress and Tirredness) by individual "i" in episode "j", $Education_i$ represents the educational level of individual "i", and ε_{ij} represents the error term. The reference level of education are those individuals with less than 12 years of education.

Table 1. Educational attainment and momentary well-being for child-related episodes					
	(1)	(2)	(3)	(4)	(5)
Educational attainment	Happiness	Meaning	Sadness	Stress	Tiredness
Educational attainment					
12 years	-0.25***	-0.30***	(0.08)	(0.19)	0.37**
12.16	(0.09) -0.36***	(0.12) -0.29***	(0.10)	(0.13)	(0.15)
13-16 years	(0.09)	(0.11)	(0.16) (0.10)	(0.18) (0.13)	0.43*** (0.15)
16 years	-0.52***	-0.48***	(0.10) (0.14)	0.13)	0.13)
10 years	(0.10)	(0.12)	(0.11)	(0.13)	(0.16)
16+ years	-0.58***	-0.63***	-0.18*	0.30**	0.58***
•	(0.11)	(0.13)	(0.11)	(0.14)	(0.17)
Person-level Controls					
	(0,00)	(0.01)	0.01**	0.01*	(0.00)
Age	(0.00) (0.00)	(0.01) (0.01)	(0.00)	(0.01)	(0.00) (0.01)
Black	(0.05)	(0.01) (0.15)	(0.06)	-0.23**	-0.22*
2	(0.08)	(0.10)	(0.07)	(0.11)	(0.12)
Other race	0.16**	0.21**	(80.0)	(0.15)	(0.14)
	(80.0)	(0.09)	(80.0)	(0.10)	(0.13)
Working	(0.07)	(0.06)	-0.10**	(0.07)	0.19**
	(0.05)	(0.06)	(0.04)	(0.06)	(80.0)
Youngest child 6-12	(0.05)	(0.06)	(0.00)	-0.20***	-0.22**
V . 17112.17	(0.06)	(0.07)	(0.05)	(0.07)	(0.09)
Youngest child 13-17	(0.08) (0.08)	(0.01) (0.11)	(0.01)	-0.23**	(0.21)
Number of children	-0.13***	(0.11) (0.02)	(0.08) (0.02)	(0.11) 0.07*	(0.13) (0.03)
Number of children	(0.03)	(0.02) (0.04)	(0.02) (0.03)	(0.04)	(0.05)
\$25,000-\$74,999	(0.04)	(0.04) (0.02)	(0.06)	-0.22***	(0.01)
420,000 <i>4. 1922</i>	(0.06)	(0.08)	(0.06)	(0.08)	(0.10)
>\$75,000	-0.21***	-0.26***	(0.02)	(0.09)	(0.13)
•	(0.07)	(0.09)	(0.06)	(0.09)	(0.11)
SWB measure	0.20***	0.11***	-0.11***	-0.23***	-0.21***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
Episode-level controls					
Minutes in activity	(0.01)	0.10***	0.03**	(0.01)	(0.00)
1,2,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Market work	(0.11)	(0.11)	(0.02)	0.57***	(0.26)
	(0.14)	(0.18)	(0.10)	(0.19)	(0.19)
Care work (excluding childcare)	(0.02)	(0.47)	(0.24)	(0.01)	0.69*
	(0.29)	(0.29)	(0.18)	(0.34)	(0.42)
Cooking	(0.05)	0.51***	(0.01)	0.18**	(0.06)
	(0.07)	(0.08)	(0.05)	(0.09)	(0.10)
Cleaning	-0.44***	(0.09) (0.15)	(0.06)	0.51***	(0.05) (0.14)
Shopping	(0.12) -0.44***	-0.46***	(0.08) (0.04)	(0.13) 0.50***	-0.26**
Shopping	(0.12)	(0.14)	(0.08)	(0.14)	(0.12)
Other nonmarket work	-0.52***	-0.69***	0.13*	0.44***	(0.14)
	(0.09)	(0.13)	(0.07)	(0.11)	(0.11)
Socializing	0.26***	0.65***	(0.03)	(80.0)	-0.17**
	(0.05)	(0.07)	(0.04)	(0.06)	(0.07)
Education/religion	0.30**	0.76***	(0.04)	(0.07)	-0.45*
	(0.14)	(0.14)	(0.09)	(0.19)	(0.24)
Eating (also self-care and using services)	0.41***	0.40***	(0.02)	-0.30**	(0.00)
Basic childcare	(0.12) (0.01)	(0.14) 0.63***	(0.08) (0.00)	(0.14) 0.23***	(0.12) 0.25***
Dasie chiacare	(0.01) (0.06)	(0.07)	(0.00)	(0.07)	(0.08)
Play childcare	0.70***	1.29***	-0.16***	-0.19**	(0.03)
	(0.07)	(0.09)	(0.06)	(0.09)	(0.12)
Teaching childcare	-0.37**	0.91***	(0.10)	0.78***	(0.15)
-	(0.17)	(0.14)	(0.11)	(0.18)	(0.19)
Management childcare	(0.11)	0.59***	(0.00)	0.29***	-0.23*
	(0.09)	(0.10)	(0.07)	(0.11)	(0.13)
Constant	4.06***	3.72***	1.15***	2.44***	3.68***
	(0.19)	(0.25)	(0.18)	(0.26)	(0.31)

N° 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: ATUS Well-Being Module 2012 and 2013. Estimates from Equation (1) using a sample of mothers in child-related episodes. Standard erros in parethesis. *p < .05; **p < .01; ***p < .001

Table 2. Educational attainment and momentary well-being for fathers and non-mothers

	(1)	(2)	(3)	(4)	(5)
Momentary Well-being	Happiness	Meaning	Sadness	Stress	Tiredness
			Panel A: Male	es	
12 years	(0.14)	(0.01)	(0.19)	(0.15)	(0.14)
	(0.13)	(0.17)	(0.13)	(0.16)	(0.20)
13-16 years	(0.19)	(0.17)	-0.27**	(80.0)	(0.01)
	(0.13)	(0.17)	(0.13)	(0.16)	(0.20)
16 years	-0.36***	-0.37**	(0.19)	0.34**	(0.05)
	(0.14)	(0.17)	(0.13)	(0.16)	(0.20)
16+ years	-0.51***	-0.47***	(0.21)	(0.27)	(0.06)
	(0.15)	(0.18)	(0.13)	(0.17)	(0.21)
SWB measure	0.20***	0.14***	-0.12***	-0.22***	-0.22***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Constant	3.51***	3.27***	1.22***	2.75***	4.17***
	(0.29)	(0.34)	(0.24)	(0.31)	(0.39)
N° Observations	2,741	2,741	2,741	2,741	2,741
Number of women	1,502	1,502	1,502	1,502	1,502
		P	anel B: Non-Mo	thers	
12 years	(0.01)	(0.03)	(0.36)	(0.40)	(0.12)
	(0.22)	(0.33)	(0.26)	(0.30)	(0.31)
13-16 years	(0.04)	(0.13)	-0.64**	-0.52*	(0.20)
	(0.22)	(0.33)	(0.26)	(0.30)	(0.30)
16 years	(0.14)	(0.04)	-0.52**	(0.39)	(0.02)
	(0.23)	(0.34)	(0.27)	(0.31)	(0.32)
16+ years	(0.33)	(0.22)	-0.49*	(0.26)	(0.05)
	(0.24)	(0.35)	(0.27)	(0.32)	(0.33)
SWB measure	0.20***	0.15***	-0.17***	-0.26***	-0.24***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Constant	2.68***	1.55***	2.19***	3.47***	4.71***
	(0.33)	(0.45)	(0.34)	(0.43)	(0.48)
N° Observations	2,397	2,397	2,397	2,397	2,397
Number of women	815	815	815	815	815

Notes: 2012 and 2013 ATUS Well-Being Module. Estimates from Equation (1) using a sample of fathers in child-realted episodes (Panel A), and a sample of non-mothers in all the episodes reported in the diary. Standard errors in parenthesis. *p < .05; **p < .01; ***p < .001

APPENDIX

Table A1. Summary Statistics and Construction of Variables

Variable name		Description
Variable name	Mean or %	Description
Activity-Level variables (dependent variables)		
Momentary Well-Being (mean)		
Happiness	4.82	How happy did you feel during this time? Possible values: 0 to 6
Meaningfulness	(1.37) 4.96	How meaningful did you consider what you were doing? Possible values: 0
	(1.55)	to 6
Sadness	0.38 (1.06)	How sad did you feel during this time? Possible values: 0 to 6
Stress	1.30	How stressed did you feel during this time? Possible values: 0 to 6
Tiredness	(1.66) 2.51	How tired did you feel during this time? Possible values: 0 to 6
Activity-Level variables	(1.92)	
Type of child-related activity(%)		
Market work	1.97%	Dummy variable: "1" if the activity is market work, "0" otherwise
Adult care	0.34%	Dummy variable: "1" if the activity is care work, "0" otherwise
Cooking	5.67%	Dummy variable: "1" if the activity is cooking, "0" otherwise
Cleaning	4.50%	Dummy variable: "1" if the activity is cleaning, "0" otherwise
Shopping	8.56%	Dummy variable: "1" if the activity is shopping, "0" otherwise
Other nonmarket work	4.00%	Dummy variable: "1" if the activity is other nonmarket work, "0" otherwise
Television watching	20.92%	Dummy variable: "1" if the activity is TV watching, "0" otherwise
Socializing	20.85%	Dummy variable: "1" if the activity is socializing, "0" otherwise
Education/religión	1.68%	Dummy variable: "1" if the activity is socializing, "0" otherwise
Eating	4.59%	Dummy variable: "1" if the activity is eating, "0" otherwise
Basic childcare	13.48%	Dummy variable: "1" if the activity is basic childcare, "0" otherwise
Play childcare	6.69%	Dummy variable: "1" if the activity is play childcare, "0" otherwise
Teaching childcare	2.48%	Dummy variable: "1" if the activity is teaching childcare, "0" otherwise
Management childcare	4.26%	Dummy variable: "1" if the activity is management childcare, "0" otherwise
Duration of episode (mean)	1.70	Duration of activities, last episode of diary truncated to have diaries with 24 hours
	(1.82)	
Solo parenting (%)	84.44%	Dummy variable: "1" if no other adults were present, "0" otherwise
N (activities)	5,230	Duminy variable. I if no other addits were present, of otherwise
Person-Level Variables		
Age (mean in years)	37.15 (7.48)	Directly obtained from survey, measured in years.
Race (%)	(7.10)	Obtained from the variable "ptdtrace." "Other race" includes the white-black
White	81.51%	category, asians, and the rest of possible combinations
Black	11.12%	eategory, asians, and the rest of possible combinations
Other race	7.37%	
	7.5170	
Education (%)		
<12 years	7.72%	Dummy variable: "1" if respondent reports below high school degree, "0" otherwise
12 years	20.35%	Dummy variable: "1" if respondent reports having a high school degree, "0" otherwise
13-16 years	26.87%	Dummy variable: "1" if respondent has more than high school education but below a college degree, "0" otherwise
16 years	28.03%	Dummy variable: "1" if respondent reports having a college degree, "0" otherwise
16+ years	17.03%	Dummy variable: "1" if respondent reports having more than college degree, "0" otherwise
Employment status		
Not employed	35.10%	Dummy variable: "1" if respondent reports being working, "0" otherwise
Employed	64.90%	Daming variable. 1 If respondent reports being working, of otherwise
Number of children in household (9	%) 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%	
Family income (%)		
<25,000\$	23.82%	Information on household income was collected using 16 income brackets.
\$25,000-\$74,999	32.01%	Grouped into 3 for comparability issues.
>\$75,000	44.17%	
WB ladder (mean)	7.30	Please imagine a ladder with steps numbered from zero at the bottom to ten
, ,	(1.82)	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?
N individuals	2,590	

Notes: Data come from the 2012 and 2013 ATUS Well Being sample. Standard deviations in parenthesis. Standard deviations are shown in parenthesis.