

The Effect of Maternal Employment on Child Obesity

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Abstract

Obesity has been a major concern for the United States and most other industrialized countries over the past few decades. More than one third of children and adolescents in the United States are obese or overweight. Child obesity is of particular interest because overweight children are more likely to be overweight as adults, and such adults are exposed to various diseases. During the same period that witnessed an increase in child obesity, an important change that occurred was the increase in maternal employment. This study is an attempt to analyze the relationship between maternal employment and child obesity. This study used data from the National Longitudinal Survey of Youth (NLSY)79, child/young adults, 1986-2010 cohorts obtained from the Bureau of Labor Statistics (BLS) website. The results of this study show that maternal employment is significantly and positively correlated with child obesity.

Keywords: child obesity, maternal employment, overweight children.

Obesity has been a major concern for the United States and most other industrialized countries over the past few decades. Research has proven that there are many health concerns associated with obesity for both children and adults (Araneo, 2008). Overweight children are more likely to have a high cholesterol level, high blood pressure, abnormal glucose tolerance, and all of which lead to a higher risk of cardiovascular disease at a later stage in life (Araneo, 2008). In addition, there are other health risks associated with obesity like asthma, hepatic steatosis, sleep apnea, and type-2 diabetes (CDC, 2007). What makes child obesity the center of attention is that overweight children are also more likely to be overweight as adults (Bouchard, 1997; Guo et al., 2002) and such adults are more vulnerable to diseases like coronary heart disease, diabetes, atherosclerosis, colorectal cancer, hypertension, gall bladder disease, breast cancer, endometrial cancer, colon cancer, and osteoarthritis (Power et al., 1997; Wolf and Colditz, 1998).

The proportion of overweight children between the ages of 6 and 11 in the United States rose from 7% in 1980 to 18% by 2012 (Ogden et al., 2014). In 2012, more than one third of children and adolescents in the United States were overweight or obese (Ogden et al., 2014). There are various explanations given to this increase in obesity over the past few decades. Cutler et al. (2003) and Philipson and Posner (2003) indicated that cheaper, fattening foods and sedentary lifestyles which are the result of technological advancement are the major contributing factors for obesity while Chou et al. (2004) pointed out that a decrease in smoking and an increase in fast food restaurants are the major factors for obesity. Another important change that occurred during the same period is the increase in female labor force participation. The labor force participation

rate of mothers with children under the age of 18 increased from 47% in 1975 to 71 % in 2006 (U.S. Department of Labor, Bureau of Labor Statistics, 2007). Since any potential explanation for the increase in childhood obesity must also involve changes in parental lifestyle (Patrick and Nicklas 2005; Golan and Crow 2004; Ebbeling et al., 2002), it might be worthwhile to focus on the increase in maternal employment during this period which might possibly be related to the rise in childhood obesity during the same period.

Economic theory has put forward different channels through which maternal employment affects childhood bodyweight. The first one was the positive relationship between maternal employment and childhood obesity. The explanation to this is that mothers who work have less time to cook at home and are more inclined to buy meals from fast food restaurants or prepare more ready to eat meals that have higher fat density than meals cooked at home (Fertig et al., 2009). In addition, mothers who work may have less time available to supervise their children's meals and activities which implies that children of working mothers are more likely to spend more time watching TV and eating junk food than engaging in outside activities (Fertig et al., 2009). On the other hand, mothers who work earn more income and the findings (Gordon-Larsen et al., 2003; Zhang and Wang, 2004a, b) revealed a negative relationship between socio-economic status and obesity. The explanation to this is that mothers who work earn more income which enables them to provide better quality food for their children and to enroll their children in organized activities that can help reduce their weight (Fertig et al., 2009).

Child obesity poses a serious concern that needs to be addressed due to its negative health implications at a later stage in life. One possible explanation for the increase in child obesity overtime is maternal employment. Accordingly, the purpose of this paper is to analyze the relationship between maternal employment and child obesity along with the mechanisms through which maternal employment might influence child obesity. In addition, this investigation will identify some other factors that contribute to child obesity apart from maternal employment. In order to achieve this objective, data from the National Longitudinal Survey of Youth's NLSY79 child/young adults 1986-2010 cohorts were used. Samples of children aged 2 to 15 in the year 2010 were utilized to carry out the analysis. Probit regression was used to predict the probability that a child will be overweight given that the mother works, or not, along with other explanatory variables.

Contribution of the Study

There has been much research on the effect of maternal employment on child obesity. These studies used data from different sources including NLSY which was also used in this paper. However, there has been a limited attempt in previous studies that used NLSY to make use of the detailed child and parent specific characteristics that might also contribute to child obesity. In line with this, data on the physical activities of the child was included, whether the child has been in constant child care during the first year, and whether the child was living with the father, as these are also factors that might contribute to child obesity as evidenced by previous research.

Literature Review - Factors Contributing to Childhood Obesity

Genetic and Environmental Factors

The Center for Disease Control and Prevention has suggested that obesity could be caused by genetic factors, environmental factors and some diseases or drugs. Of the environmental factors, quantity and the quality of the food consumed as well as physical activity have been identified as the major factors contributing to obesity (CDC, 2009). Overweight and obese children usually have a lower than usual consumption of breast milk combined with premature initiation into complementary nutrition, skipped breakfasts, increased consumption of simple sugars and neutral fat rich foods for snack, and higher consumption of energy-dense foods later in the day as well as insufficient consumption of fruits and vegetables. In addition, the secondary or exogenous causes of obesity were found to be factors associated with lifestyle including lack of opportunities to participate in moderate and intense physical activity in schools (Dietz, 1990).

Parental Lifestyle

According to Akil and Ahmed (2011), obesity, which is strongly associated with lifestyle behaviors, may be characterized by low levels of physical activity or high consumption of energy-dense foods, or both. They added that even though obesity is caused by many factors, in most cases, weight gain was the result of excess calorie consumption and inadequate physical activity. Therefore, in order to maintain healthy weight, there must be a balance between energy consumption and expenditure.

Patrick and Nicklas (2005) pointed out that change in parental lifestyle like busy and hurried family meal structure and eating habits are major factors contributing to child obesity. As evidenced by various studies, family and social environments have played an important role in the development of children's eating patterns. Busy families usually rely on ready-to-eat food from fast food restaurants. Hurried families do not have enough time to sit down and eat meals together as a family. In addition, there has been an increase in the portion of meals taken, which may have also contributed to rising obesity trends. Other characteristics of the family, like income level, also contribute to child obesity with children from low income families having to eat fewer fresh fruit and vegetables and more of high calorie foods.

Socio-economic profile

Stamatakis et al. (2010) used data from the nationally representative household-based health survey for England from 1997 to 2007. The data include 15,271 white children (7880 boys) between the ages of 5 and 10 years. The results of their study showed that there are signs that the overweight and obesity trend stabilized between the years 2004 to 2007, but social disparities widened during the same period. Although the obesity trend has stabilized during this period, children from lower socio-economic strata have not benefited from this trend. That is, there is higher prevalence of the obesity rate among children from a lower socio-economic background

(lower income and manual occupation households) as compared to children from a higher socioeconomic background (higher income and non-manual occupation).

In a similar study carried out in Japan by Watanabe et al. (2011), the presence of family members, mainly grandparents who cared for children in place of the mothers, influenced children's obesity rate and lifestyles. The authors' aim was to see the effects of maternal employment and the presence of grandparents on children's obesity. They sampled 2114 children aged 3 to 6 years old. Their findings suggested that maternal employment was associated positively with irregular mealtimes, unfixed snacking times, bedtimes after 10 p.m., and nighttime sleep duration of less than 10 hours, which all translate to a higher BMI (Body Mass Index). However, the presence of three-generation families was associated negatively with irregular mealtimes which implied lower BMI of children. Therefore, the authors suggest that grandparents who care for pre-school children in place of mothers are more likely to contribute to childhood obesity than maternal employment.

Fetig et al. (2009) investigated the relationship between maternal employment and child obesity and found that results varied according to mothers' level of education. For less educated mothers, more hours of working were positively associated with more time spent in school by children which in turn led to lower BMI. For more educated mothers, however, this relationship was not significant.

In addition to income and education level, there has been evidence documented by several studies that child obesity rates also vary by race and marital status. A study conducted by Araneo (2008) revealed that Hispanic children have a higher probability of becoming obese compared to white children, and Black children with least educated mothers have a higher probability of becoming overweight. In a similar research done by Huffman et al. (2010), Black children from single-parent households had significantly higher BMI compared to white children. This result was to be consistent with the findings of Caprio et al. (2008) that obesity is more prevalent in the non-white population of the United States (Caprio et al., 2008).

Akil and Ahmed (2011) claimed that there are significant disparities in the availability of food stores in neighborhoods that vary in ethnicity, which had an implication on the prevalence of obesity rates across the different ethnic groups. The availability of supermarkets has been associated with healthier diets, higher vegetable and fruit consumption, and lower rates of obesity. In addition, minority population groups have had less access to facilities for physical exercise, which is linked to lower physical activity and higher BMI. In line with this, African American and Hispanic neighborhoods have 50% to 70% fewer chain supermarkets than white and non-Hispanic neighborhoods. The authors claimed that this partly explains the higher obesity rates among African Americans compared to whites. Their findings suggested that an increase in obesity prevalence increase with unemployment rates, poverty levels and percentage of people receiving SNAP benefits. This shows that a higher obesity rate is common among people with lower income and less education, particularly among women and certain ethnic groups. However, they found income to not significantly correlate with the obesity rate.

Huffman et al. (2010) suggested that single parents often experience role strain while trying to balance their role as a wage earner along with other parental responsibilities. Moreover, poverty has been associated with single-parent households, especially female-headed households. Accordingly, the authors attempted to explore if there was significant difference in the prevalence of obesity between children from single-parent households and those from dual-parent households. Their findings indicated that children from single-parent households tend to be more overweight than those from dual-parent households. One of the reasons for this might be the fact that children from single-parent households tend to consume more calories and fat than those from dual-parent households. Their research also showed that children of female-headed households consume more total fat, saturated fat and sweetened beverages, and also spend more than two hours a day watching TV/video than children of dual family households. The proportion of overweight children from single-parent households was more than those from dual-parent households, i.e. 41% Vs 31%. However, household income was not significantly correlated with children's weight status in both single-parent and dual-parent households.

Relationship Between Maternal Employment and Child Obesity

Recently, several studies that investigated the possible relationship between maternal employment and child obesity have been conducted. Fetig et al. (2009) used the data from Child Development Supplement of the Panel Study of Income Dynamics to analyze the channels through which maternal employment affects child obesity. The major assumption the authors made was that maternal employment affects the number and composition of meals taken by a working mother's children as well as the nature of their activities, which in turn influence calorie intake and spending, and thereby affecting the child's BMI. First, they used the OLS estimation method using a child's percentile BMI (pBMI) as a dependent variable explained by maternal employment (MWH).

$$pBMI = \beta_0 + \beta_1 \ln(MWH)_i + \beta_2 TV_i + \beta_3 X_i + \mu$$
 where TV_i is the average number of time spent on watching TV and X_i is the control variable for the characteristic of child and family.

In addition, they also used two sets of the Probit regression model with the dependent variables representing whether the child is overweight or at risk of being overweight (BMI percentile above 85) or simply overweight (BMI percentile above 95). Their findings indicated that the only three channels which significantly affected a child's percentile BMI are the number of meals, the time spent reading/talking/listening to music, and the time spent watching TV. The authors found that first, more hours of working by mothers resulted in higher children's BMI through the mechanism of fewer meals. That is to say that mothers who work more hours have children who are more likely to skip meals which increases their BMI. Second, more hours working is associated with less time spent in reading/talking/listening to music by children which in turn is associated with higher BMI. Third, more hours working is positively related to more time spent in watching TV which in turn is positively associated with higher BMI.

Araneo (2008) used a similar approach to study the relationship between maternal employment and child obesity using the data from The Fragile Families and Child Wellbeing Study. This study used a probit regression model of the form:

$$P(\text{Child Overweight}) = \alpha_0 + \alpha_1 \text{Part-Time} + \alpha_2 \text{Full-Time} + \alpha_3 X + \varepsilon$$

where P (Child Overweight) is the probability that a child is overweight as a dependent variable. Part-time and full-time are binary variables that indicate whether the mother is employed part-time or full-time and ε is the error term. X includes control variables for child and mother characteristics like mother's race, child's sex, child's age, and so on. The findings indicated that full-time maternal employment results in a higher probability of a child being overweight, but this effect was significant only for highly educated mothers. For highly educated mothers who work part-time, however, this relationship does not hold. For less educated mothers, no such significant effect was seen whether the mother was employed full-time or part-time.

Using matched mother-child data from the National Longitudinal Survey of Youth (NLSY), Anderson et al. (2004) found that for mothers with the highest socio-economic status, a 10-hour increase in average hours worked per week increases the likelihood that the child is overweight by 1.3 percentage points. In addition, children who belonged to highly educated mothers, white mothers or high-income families are more likely to be overweight if their mothers work more hours per week. For children from these sub-groups, a 10- hour increase in average hours worked per week lead to an increase in the likelihood that the child is overweight by 1 to 4 percentage points. The study also found that Black children are significantly more likely to be overweight than other groups. When the regressions were run separately for the three race groups, maternal employment significantly predicted higher weight for white children only. Furthermore, children who were breastfed were less likely to be overweight by about 2.3 percentage points (Anderson et al., 2004).

Anderson et al. (2003) used the American Time Use Surveys for 2003-2006 data set to analyze the mechanisms through which maternal employment affects childhood obesity. This research used a probit model where the dependent variable equalled one if the mother reported that she spent time in any of the activities like eating with children, grocery shopping, cooking, playing with children, child care and supervising children. In addition, the OLS estimation technique was also used in which the dependent variable was the log of the number of minutes spent in those activities and the regressor was an indicator variable that equalled one if the mother worked for pay. The findings of this research confirmed that maternal employment is associated with a lower probability of and a reduction in time spent on grocery shopping and cooking, and a higher probability of buying ready to eat foods which in turn leads to higher BMI of children. Moreover, working mothers were less likely to eat and play with their children. In addition, this study also found that employed mothers spend less time in child care and supervision of their children all of which contribute to higher BMI (Anderson et al., 2003).

Hawkins et al. (2008) investigated 13,113 children at the age of three who were born in the UK. They found that 23% of children were overweight and that children were more likely to be overweight for every 10 hours a mother worked per week. More specifically, the likelihood of

children being overweight increased with the number of hours the mother worked per week. However, this relationship was found to be significant only for those children from families with the highest level of income. Furthermore, the authors found no evidence for a relationship between the number of hours a partner works or maternal (as well as paternal) duration of employment and early childhood overweight. Their findings also indicated that the intensity of maternal employment was associated with childhood obesity only for families from the highest income groups. One possible explanation for this might be that these children may have had greater access to convenience foods and/or fewer opportunities for physical activity. The implication of this finding was that long hours of maternal employment rather than lack of money may hamper children's access to healthy food and physical exercise. In addition, an interaction between hours worked by the mother and the type of day care showed that children in formal arrangements might be at a higher risk of being overweight if their mothers worked more hours. This study also revealed that children that were breastfed had a lower risk of being overweight.

Data

The major source of data for this study was the National Longitudinal Survey of Youth, NLSY79 using the child/young adults 1986-2010 cohort obtained from the Bureau of Labor Statistics (BLS) website. The NLSY79 is a nationally representative sample of 12,686 men and women who were born in the years 1957 to 1964 and were surveyed for the first time in the year 1979. The NLSY79 children and young adults is a survey of the children of the women from the NLSY1979 collected annually through 1994 and interviewed every two years. The reason for using this data set was because it is nationally representative which means that women and children from all ethnic backgrounds, education levels and social status are included. In addition, it provides detailed information regarding parent and child specific characteristics which are useful for analysis. For the purpose of this study, samples of children from the age of 2 to 15 in the year 2010 were used.

Research Methodology

The econometric model used to analyze the NLSY79 data was probit regression. The dependent variable in this case is whether the child is overweight or not. The explanatory variables are various socio-economic as well as parental and child specific characteristics affecting the probability of the child being overweight. The full model is described below:

$$P(\text{Overweight}) = \beta_0 + \beta_1 \text{agechildyr} + \beta_2 \text{breasfed} + \beta_3 \text{childcare} + \beta_4 \text{fathlive} + \beta_5 \text{agemoth} + \beta_6 \text{grademoth} + \beta_7 \text{hhmemund} + \beta_8 \text{chimakebed} + \beta_9 \text{chiclearm} + \beta_{10} \text{chichores} + \beta_{11} \text{avhrweek} + \beta_{12} \text{chisex} + \beta_{13} \text{racechi_black} + \beta_{14} \text{racechi_hispanic} + \beta_{15} \text{logaveearn} + \mu$$

Whereby,

agemoth = age of mother

grademoth = highest grade completed by mother

hhmemund = number of household members who are underage

chimakebed = No of times child is expected to make his/her own bed

chichores = No of times child is expected to do household chores
chiclearm = No of times child is expected to clean his/her own room
avhrweek = average hours per week worked by mother
racechi_black = dummy for race if the child is Black
racechi_hispanic = dummy for race if the child is Hispanic
logaveeearn = log of average quarterly earnings (4 quarters before birth and 8 quarters after birth)
agechildyr = age of child in year
breasfed = whether the child is breast fed or not
childcare = whether the child has been in childcare
fathlive = whether the child lives with his/her father
chisex = sex of the child

Results

Table 1 presents simple descriptive statistics. The average age of mothers in the sample is about 48 years old. The average highest educational level accomplished by the mothers in the sample is 14, indicating that on average, mothers have at least a high school diploma. In addition, on an average, mothers work 21 hours per week. The number of hours worked by the mothers was calculated by taking the average number of hours per week the mother worked for four quarters before the birth of the child and eight quarters after the birth of the child. The standard deviation for this variable is extremely high (16.91) indicating that there is a lot of variability in the average number of hours per week worked by the mothers in the sample. On an average, children in the sample are below 12 years of age.

Table 1:
Descriptive Statistics

Variable	N	Mean	STD
agemoth	1067	47.5	1.89
grademoth	1067	14	2.77
hhmemund	1064	2	1.08
chimakebed	612	3.9	1.52
chichores	614	3.9	1.36
chiclearm	611	4.4	1.13
avhrweek	1067	21	16.91
logaveeearn	797	8	1.34
agechildyr	1067	11.5	2.74

Table 2 shows that about 18% of the children in our sample were overweight. There is an even distribution of male and female children in our sample as 49.95% of the children are males while the remaining 50.05% are females. About 66% of the children were breastfed. In addition,

44% of the children had been in regular child care during the first year. In terms of racial background, about 25 % of the children are Black, 21% are Hispanic, and the remaining 54% are non-Black and non-Hispanic. About 70% of the children in the sample lived with their father.

Table 2

Frequency Distribution

Variable	Frequency (in percentage)
Child sex (male)	49.95
Breastfed	66.51
Childcare	44.4
Overweight	17.81
Black children	24.84
Hispanic Children	21.27
Non-Black and Non-Hispanic	53.89
Father lives with the child	70.22

Table 3 shows that only five variables were significant in explaining the variation in the probability of a child being overweight. In particular, the age of the child was significant at a 1%

Table 3

Probit Estimates (Coefficients and Robust Standard Errors)

Variables	Coef.	Robust Std. Err.
agechildyr	-0.181***	0.059
breasfed	-0.372**	0.161
childcare	-0.249	0.169
fathlive	-0.234	0.161
agemoth	-0.012	0.037
grademoth	-0.115***	0.032
hhmemund	0.04	0.08
chimakbed	0.009	0.062
chiclearm	-0.043	0.075
chichores	-0.005	0.059
chisex	0.215	0.151
avhrweek	0.018**	0.008
racechi_black	-0.119	0.203
racechi_his~c	-0.38*	0.22
logaveearn	-0.043	0.081
_cons	3.911	2.036

Note: coefficients are statistically significant at the *10% significance level, **5% significance level, or ***1% significance level.

significance level, whether the child was breastfed or not was significant at a 5% significance level, the highest level of education attained by the mother was found to be significant at a 1% significance level, the race of the child was significant at a 10% significance level while the average number of hours per week worked by the mother was significant at a 5% significance level. The coefficients reported above indicate the direction and strength of the association between the dependent variable and each explanatory variable. For instance, the age of the child was negatively correlated with the probability of the child being overweight while the average number of hours per week worked by the mother was positively correlated with the probability of the child being overweight. However, these coefficients do not represent the actual marginal effect of the explanatory variables on the dependent variable. Therefore, it was necessary to calculate the marginal effects to estimate the extent to which each of the independent variables listed above affect the probability of the child being overweight. Table 4 shows these marginal effects.

From Table 4, if the child is breastfed, the probability of him/her being overweight declines by 9.4 percentage points. For each year of mother's education, the probability of the child being overweight goes down by 2.7 percentage points. For each additional hour per week worked by the mother, the probability of the child being overweight increases by 0.4 percentage points. As the child grows older by one year, the probability of that child being overweight goes down by 4.2 percentage points.

Table 4
Marginal Effects

Variables	dy/dx	Robust Std. Err.
agechildyr	-0.042	0.014
breasfed	-0.094	0.043
childcare	-0.059	0.041
fathlive	-0.057	0.041
agemoth	-0.003	0.009
grademoth	-0.027	0.007
hmemund	0.009	0.019
chimakbed	0.002	0.014
chiclearm	-0.01	0.017
chichores	-0.001	0.014
chisex	0.05	0.036
avhrweek	0.004	0.002
racechi_black	-0.027	0.044
racechi_his~c	-0.078	0.039
logaveearn	-0.009	0.019

Discussion

The regression result confirms that maternal employment (as captured by the average number of hours per week worked by the mother) is associated with a high probability of the child being overweight. However, the mechanisms through which maternal employment affects child obesity are not statistically significant. Some of these mechanisms included in the model are: the number of times the child is expected to clean his/her own room; the number of times the child is expected to do household chores; and the number of times the child is expected to make his/her own bed. Maternal employment is assumed to affect child obesity through these channels. The rationale behind this assumption is that an employed mother has less time to supervise the activities of her children. and thereby, the children decide what to do, what to eat and how to spend their time when they are at home or elsewhere, which in turn has a negative implication on their weight. Children not supervised by their mothers are more likely to eat unhealthy food and spend more time in activities that do not involve physical exercise like watching TV. However, for the sample from NLSY79 data used for this study, none of these channels turn out to be significant.

A rather surprising result is that of child care. The result of this study shows that children who have been in child care during first year are less likely to be overweight than those who were not in child care although this relationship is not statistically significant. Average quarterly income is negatively correlated with the probability of the child being overweight, which implies that children with parents of higher income are less likely to be overweight than those with lower income holding all other things constant. However, this relationship is not significant either. In addition, the race of the child turned out to be a significant factor in explaining child obesity for Hispanic children. The probability of a Hispanic child being overweight is less by 7.8 percentage points compared to a non-Hispanic and non-Black child. Although some studies like that of Huffman et al. (2010) showed that children from single-parent households tend to be more overweight than children from dual-parent households, my findings revealed that whether the father lives with the mother or not is not a significant factor explaining child obesity. Although several studies like that of Stamatakis et al. (2010) and Akil and Ahmed (2011) found that children from lower socio-economic strata (captured by household income level) tended to be more overweight than children from higher socio-economic strata, my findings show no significant relationship between income level and child obesity.

Conclusion

The increase in childhood obesity is more likely to be associated with change in parental lifestyle. One of these changes in parental lifestyle is the increase in a mother's labor force participation during the past few decades. Therefore, it is more likely that the increase in maternal employment is associated with the increase in child obesity. Accordingly, this paper investigates the possible relationship between child obesity and maternal employment and if this relationship is indeed significant.

The results of this study confirm that maternal employment is significantly and positively correlated with child obesity. This is similar to the findings of Fetig et al. (2009) and Anderson et

al. (2003). The results of this research also suggest that the more educated the mother is, the less likely her child is to be overweight. In addition, breast feeding reduces the likelihood of the child to be overweight. Hispanic children are less likely to be overweight than their non-Black and non-Hispanic counterparts. Moreover, the older the child gets, the less likely it is for him/her to be overweight.

Although maternal employment was found to be significantly and positively related to child obesity, none of the channels through which maternal employment affects child obesity like the number of times the child is expected to clean his/her own room, the number of times the child is expected to do household chores, and the number of times the child is expected to make his/her own bed were found to be significant. Thus, further research is needed to find the significant mechanisms through which maternal employment influences child obesity. Therefore, this study can further be improved with a larger sample size and more complete information on children's activities like time spent watching TV, time spent playing outdoors, and the types of meals taken, as these were found to be significant factors influencing child obesity in previous studies. Moreover, with a larger sample size and more complete information on each of the variables, cross-group comparisons might have given a much better understanding of the topic. Grouping the sample by educational attainment of the mother and by age of the children might have rendered a better result as the activities of a two-year old child are quite different from that of a 12-year old. By the same token, the effect of maternal employment on child obesity might be different for more educated mothers as compared to the less educated ones.

The findings of this research show that for mothers who work more hours, their children are more likely to be overweight. Therefore, policy makers, companies and institutions should design policies that would encourage family-friendly work environments that allow working mothers to attain good work-life balance. In addition, breast feeding is also another significant factor that helps reduce child obesity. Accordingly, the government as well as companies and institutions should aim at implementing policies that allow working mothers to breast feed their babies. One way to achieve this can be through mandating extended maternity leave that allows mothers to breast feed their babies for a pro-longed period of time. Finally, the result of this study also shows that more educated mothers are less likely to have obese children. Therefore, more effort should be exerted by the government and school officials to educate mothers.

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