Nonstandard Work in Dual-Earner Families and Children's Outcomes.

Associations of dual-earner work schedules, arranged work hours and children's outcomes from the 2002 NSAF

Ashish Bajracharya
Cornell University
Department of Policy Analysis and Management
426C Martha Van Rensselaer Hall
Ithaca, NY 14853
ab377@cornell.edu

Paper prepared for the
Annual Meeting of the *Population Association of America* (PAA) 2007
New York, NY
March 29-31, 2007

I am grateful to Rachel Dunifon, Dan Lichter and Jane Waldfogel
for their helpful comments.

Introduction

In recent years, there has been a remarkable shift in the dynamics of work and family in the United States. Dramatic social changes have transformed the work and family lives of millions of Americans. On one hand, changes in technology, demographics and trends in the demand for goods and services have moved us into a 24/7 economy, drastically increasing the prevalence of jobs during nonstandard hours (e.g. evening hours, night hours, varying or rotating shifts etc.) (Presser, 2003). On the other hand, an astounding number of women have entered the labor force, making dual-earner couples the most predominant form of family in the United States (Presser, 2003; Bianchi, 2000). As a result, how parents, particularly dual-earners, combine their market work and their child rearing responsibilities, and the consequences of these decisions on their children's wellbeing has become a topic of interest for researchers and policymakers alike (Ross Phillips, 2002).

A burgeoning literature has begun to address the impacts of nonstandard work for various social, family and individual outcomes. In this literature, only a few studies to date have addressed the impacts of these work schedules on child wellbeing. A majority of the studies that examine children's outcomes explicitly (e.g. Han, 2005; Bogen & Joshi, 2002, Heymann, 2000a; Dunifon, Kalil & Bajracharya, 2005) have focused on the consequences of nonstandard working schedules among mothers, often with inconsistent conclusions. Despite the growing number of dual-earner couples working diverse schedules and raising children simultaneously, the literature on nonstandard work among these families remains surprisingly lacking. Given the aforementioned trends, it has become increasingly important to study the impacts of the joint decisions that parents

make about the hours they work on various aspects of their family lives. More importantly, given the crucial importance of these decisions for the wellbeing of their children, the literature needs to address this particular issue specifically.

The main goal of this paper is to study how work-family strategies that dual-earner families with children employ when one or both of the parents work nonstandard schedules affect children's behavioral, school and health outcomes. Using data from the 2002 wave of National Survey of America's Families (NSAF) from the Urban Institute, I aim to ask the following questions:

1) Among dual-earner couples, how do husbands and wives organize their daily working schedules? To what extent do couples willingly arrange schedules in order to facilitate child care?
2) How does the manner in which dual-earner couples organize their schedules affect different aspects of family life such as mental wellbeing of parents and parenting stress?
3) Are there associations between various arrangements of parents' nonstandard or standard work schedules and the behavioral, health and school outcomes of their children? Do the aforementioned family factors mediate these associations?
4) Are there significant differences in the association of arrangements of parental work schedules and children's outcomes when parents choose to arrange their work schedules so that they are able to take turns in caring for their children?

This study is specifically aimed at adding to the sparse literature on nonstandard work among dual earners and their impacts on children. In particular, as the first study to explicitly consider parents' decisions to work certain schedules, it aims fill certain voids

in the literature that prior empirical research and data have not been able to address. Results from this study are likely to be of interest to researchers and policy makers for the formation of more family-friendly work policies that are designed to benefit workers employed in nonstandard jobs and their children.

Background

In the past several decades, the American labor force has undergone some dramatic changes, radically transforming the face of work and family life of millions of Americans. Over the last thirty years, few changes have been dramatic as the increase in paid labor market employment of women with children (Bianchi, 2000; Hoffman & Youngblade, 1999). Bianchi (2000) portrays this increase as the most revolutionary change in the American family in the twentieth century.

The movement towards a 24-7 economy has also become quite evident, not only in our daily lives as consumers, but also in the temporal nature of the labor force (Presser, 2003). With the rapid growth in the service economy and the subsequent increase in demand for female employment, the hours and days of their employment have become more diverse, along with those of men (Presser, 1995). According to Presser (1999), by 1997, 26.5% of full-time employed men and 32.8% of full-time employed women were working nonstandard hours, up from 22.1% and 15.5% respectively in 1980. These changes have been particularly profound for married women with children, and are likely to significantly alter the personal and economic wellbeing of their families and their children (Presser, 1995). An extensive literature has documented the associations between nonstandard work and the health and wellbeing of workers and some aspects of their family lives (see Presser, 2003 for review). However, as Han & Waldfogel

(forthcoming) note, only a limited amount of research exists that relate parental nonstandard work with their children's outcomes.

The majority of the literature that examines the relationship between parental work and children's developmental and cognitive outcomes has examined the effects of maternal employment on child development (Ross Phillips, 2002). A review of this literature suggests that there are no negative associations between maternal employment and achievement or behavioral outcomes in school-aged and older children (e.g. Belsky, 1990; Hoffman, 1989). A number of studies that examined the associations between maternal employment and cognitive and behavioral adjustment of younger children have found that there might be some negative effects if the employment occurs early in the first year of the child's life (Belsky & Eggebeen, 1991; Han, Waldfogel & Brooks-Gunn, 2001). But when children's outcomes are analyzed for longer term impacts, the evidence isn't entirely consistent (see Waldfogel, Han and Brooks-Gunn, 2002 for an extensive review of this literature). This suggests that the influence of parental employment on children's development could vary differentially by the age of the child and could also be dependent on various factors such as marital status and economic status of parents (Harvey, 1999). More importantly, the conditions of work, including types of schedules and hours worked by the parent can be of consequence to children.

With over one fifth of all employed Americans working some form of nonstandard hours, these schedules are no longer atypical in the American labor force (Presser, 2003). As a result, there has been an increased interest in investigating the consequences of working nonstandard hours on family functioning (Presser, 2003). A number of empirical studies that have examined the impact of working nonstandard hours

on adults' wellbeing have confirmed potential negative effects on adult's psychological, physical and sociological well-being (for review, see Han, 2005). With an abundance of evidence from these studies, scholars such as Harriet Presser have emphasized the need for extending the research on this topic to examining the consequences of parent's nonstandard work on different aspects of family functioning and children's outcomes.

The majority of the work that has been done with nonstandard work has examined maternal nonstandard schedules, following the tradition of an extensive body of research on maternal work and children's outcomes discussed earlier. There appears to be little consensus in the results from these studies as well. Bogen and Joshi (2001) and Han (2005) find that maternal nonstandard work was associated with increases in children's behavior problems and decreases in test scores, respectively. Heymann and Earle (2001), using data from a national sample, report negative effects of parental evening work schedules on the quality of the home environment parents provide for children. Similarly Heymann's (2000a) qualitative research with low-income working families describes children being left in the care of other children or alone during the evening because of parental work schedules, giving rise to negative outcomes for children. Other work such as those by Bogen & Cherlin (2004) and Han (2004) also suggest that parenting stress and childcare quality may mediate negative children's outcomes. Studies by Dunifon, Kalil & Bajracharya (2005) and Ross Phillips (2002) however find no significant associations between nonstandard work among mothers and children's developmental outcomes. One must however exercise caution in interpreting these results together as these studies have been conducted using different analyses approaches and a wide variety of samples over different time periods.

While the working patterns of American families are rapidly changing, these families are concurrently becoming more diverse in their structures as well. Dual-earner couples (where both spouses are gainfully employed at the same time) have now become the most predominant family type among married couples in the United States (Presser, 2003). Married women's participation in the workforce has more than doubled since 1960 and by 2000 over 53.5% of all married couples in the United States were dual-earners. 57.7% of these dual-earner couples (or 6.8 million couples) had children in the household under the age of six (Presser, 2003). With the pressure of economic uncertainties alongside the improvements in opportunities for women in the labor market, it is likely that both parents in these families will be encouraged to work, continuing the trend in growth in dual-earner families (Edwards, 2001). Nonstandard work, according to Presser (2003) undoubtedly challenges these dual-earner families more than the "traditional" married couple family with a single earner male and a homemaker wife, particularly when they have children. From the May 1997 Current Population Survey (CPS), it was seen that 27.8 % of dual-earner couples included at least one spouse who worked a schedule other than a fixed day. 1.4% of dual-earner couples were those where both spouses worked nonstandard schedules. An astounding one fourth of all American dual-earner couples could be characterized as "split shift" couples (Presser, 2003)

Despite these trends, there has been only an extremely limited amount of contemporary research that addresses nonstandard work schedules among dual earners jointly and relates them to various aspects of family functioning and on children in the United States. Han & Waldfogel (forthcoming) is a notable paper that examines both mother's and father's nonstandard work schedules and their impacts on parental

monitoring and closeness and children's risky behavior using multiple years of data of the National Longitudinal Survey of Youth (1979) sample. Their study is particularly notable as they use a full range of nonstandard work variables including night hours, evening hours, irregular shifts, rotating shifts etc. However, the authors only discuss (but do not present) their results from their joint analysis of parental work schedules. Similarly, a study by Ross Phillips (2002) addresses full time and part time work among dual-earner couples in the United States using data from the 1999 and 1997 NSAF. Ross Phillips' (2002) study looks at combinations of full time and part time work among dual-earner parents, examining schedules jointly and takes into account "odd hours". But this study fails to find any significant associations with children's outcomes.

Outside of the United States however, two studies by Strazdins, Clements, Korda, Broom & D'Souza (2006) and Strazdins, Korda, Lim, Broom & D'Souza, (2004) examine the phenomenon of nonstandard work among dual-earner families, explicitly examining parents' schedules jointly and their effects on child wellbeing using data from cross-sectional survey data of Canadian families. These studies are exceptional in that they are among the first to compare outcomes among children in dual-earner households where both parents work standard schedules (weekday and daytime shifts) to children in families where at least one or both parents work nonstandard schedules (non-day and weekend shifts).

While there is a small body of research in the United States on work shifts in dual-earner parents conducted in the 1980's (e.g. Presser, 1986; Nock & Kingston, 1988; Presser & Cain, 1983; Moen & Dempster-McClain, 1987), the contemporary relevance of these studies is debatable. These studies look at issues ranging from the prevalence of

shift work among dual-earner couples (Presser & Cain, 1983) to the impacts of work-time commitment of dual-earner parents on time with their children (Nock & Kingston, 1988). None of these studies however address children's outcomes directly. The remarkable changes in American families and the labor market that have occurred since then (especially post 1996 welfare reform) including the diversity of work schedules, have thus necessitated a new body of research to look at these issues with contemporary samples.

A host of factors might influence how a couple makes decisions on how to divide their time between market work and household responsibilities such as childcare. As Ross Phillips (2002) suggests, a couple may decide that they would both like to have full time jobs, but prefer to have one parent at home with the children for a portion of the typical work day and choose to have other parent working an evening or night shift. These decisions may affect their children in either a positive way (by increasing time with parents and also potentially promoting better parenting practices and balance) or in a negative way (by increasing parental stress or decreasing marital stability). Similarly, these decisions may have both positive and negative implications for family functioning as well. Such work schedules can enable each parent to spend more time with their children and foster better gender division of care in the household. It can also reduce or even eliminate the cost of childcare. On the other hand, such decisions may have adverse effects on family rituals and routines, and disrupt interactions and synchrony in families (Strazdins et al., 2006). While all parents, both single and married, face labor supply decisions and labor demand constraints, not all parents have the same ability to choose the type of work schedules that they want to work (Ross Phillips, 2002). As suggested in

the maternal employment literature by Hoffman & Youngblade (1999), there are likely to be differences in consequences of parental employment for children and family functioning depending on the context under which it occurs. Hence , differences can be expected in children's outcomes when parents voluntarily *choose* to work certain schedules than when the parents are forced to work these schedules as a result of work requirements or other compulsions. The impacts of dual-earner couples' decisions in negotiating nonstandard work and different working hours are thus likely to be influenced by whether or not they had autonomy in choosing their work hours and schedules. This issue, which has largely remained unaddressed in the nonstandard work literature, is in my opinion one with important implications.

The studies by Strazdins et al. (2004) and Strazdins et al. (2006) using Canadian data are important first steps in examining dual-parent nonstandard schedules jointly and establishing causal links with child wellbeing. However, as the authors note, their study is limited in that their sample is not able to distinguish the parents who chose their work schedules or considered them beneficial from those who did not. Han & Waldfogel (forthcoming) also do not address the issue of whether any of the parents in their NLSY sample arranged their working hours. As the parents' preference and control over their work hours might significantly alter both parent and child well-being, this question becomes rather an important one to ask.

Despite being the only known studies that look at parental work schedules jointly, the Strazdins et al studies have some key data limitations. The study uses the 1996-1997 sample of the Canadian National Longitudinal Survey of Children. Three subsequent waves of data have been collected since, most recently in 2002-2003. The authors'

sample thus is somewhat outdated. Furthermore, although the authors were meticulous with the children's outcomes they examined, they were limited only to those that indicate children's emotional and behavioral wellbeing. Finally, as discussed earlier, this data also lacked information about whether work schedules were voluntarily chosen by parents, preventing the authors from examining a potentially significant question about their choice of work hours.

Using the wealth of data available from the NSAF 2002, this study will employ a contemporary sample from the United States, using combinations of standard (work that occurs between 8 AM and 6PM) and nonstandard work (not between 8AM and 6PM) among mothers and fathers of children in dual-earner families. The availability of a wide range of children's outcome variables in the NSAF allows me to examine associations with a variety of children's wellbeing measures such as behavior problems, general health, engagement in school, and involvement in extracurricular activities. Part of the reason this is possible is because of the availability of data for school-going adolescents in the NSAF sample, particularly those between 12-17 years of age. Strazdins et al. (2006) study was only able to look at children under the age of 11, eliminating a potentially large and important segment of adolescents who might equally be susceptible to the effects of parental work during nonstandard times.

Most importantly, the availability of information in the NSAF regarding whether parents arranged their work hours in order to facilitate child care enables me to at least partially address the question of whether parents voluntarily chose their work schedules. It is important to note however that the variable that indicates whether work hours were voluntarily arranged can only do so for those who chose to arrange their hours.

Conversely however, it cannot be assumed that all parents who responded that their work hours were not arranged did not have the choice to do so. Thus, results from these analyses should be interpreted with caution. Regardless of this fact, this variable does allow me to address questions the data used by Strazdins et al. (2006) and other studies was unable to.

A number of studies have also related nonstandard work to parental mental health and described potential effects of parental mental health on children's outcomes (e.g. Han, 2005; Luo, 2006). Additionally, there is evidence that optimal parenting practices such as warm and involved parenting maybe compromised and parent-child interactions maybe diminished when parents have demanding and less rewarding jobs, characteristic of nonstandard employment (see Luo, 2006). These variables have often been identified in the maternal employment literature as potential mediators in the relationship between maternal employment and children's cognitive and behavioral outcomes (see Hoffman & Youngblade, 1999). This study will pay particular attention to parental mental health and parental aggravation to examine mediating roles of these variables.

A study of the domains parental work and children's outcomes would be incomplete without careful consideration of childcare options used or available during the time that the child was away from the parents. Only a few studies on nonstandard work have considered childcare (e.g. Presser, 2003; Han, 2005, Strazdins et al., 2006). With the wealth of childcare data available in the NSAF, this study will consider these variables carefully by including them as controls in the multiple regression analysis.

In sum, using a contemporary, large and nationally representative sample to examine these associations will provide important insights on trends in nonstandard work

and their potential consequences for families and children that exist currently. However, with the use of a cross-sectional sample, this study is not in the position to make causal arguments or to predict long term impacts of these work-family strategies on children's outcomes. Further work using longitudinal samples is thus warranted in order to tease out causal effects.

Data

This study used data from the 2002 wave of the National Survey of America's Families (NSAF). The NSAF is a part of *Assessing the New Federalism*, a multiyear research project at the Urban Institute that has been designed to analyze the 1996 devolution of fiscal responsibility of social programs from the federal government to the states. The data for the NSAF was collected in 1997, 1997 and 2002 in collaboration with Child Trends. The 2002 wave used in this study is the most contemporary data available from this dataset. The data from the NSAF are nationally representative of the civilian non-institutionalized population under 65 and their families. The survey covers a wide range of topics including child wellbeing, healthcare, childcare, employment and various facets of welfare reform. The NSAF also contains an over sample of families under 200% of the Federal Poverty Level.

During the 2002 wave of the NSAF survey, data was collected for over 49,551 households which included information on 34,332 focal children (for more detailed information about the 2002 NSAF sample, see Abi-Habib, Safir & Triplett, 2002). In this study, we use data from interviews with the adult pair and focal children in the household. In each household, a *Most Knowledgeable Adult* (MKA) was selected to answer questions about various demographic, social, economic and health related aspects

about themselves and members of their family. In households with children under the age of 18, up to two focal children were selected for in depth interviews: one under the age of 6 and one between the age of 6 and 17. In a majority of the cases, the MKA was the child's biological mother.

For the purpose of this study, the sample was limited to a focal child, aged between 6 and 17 years, in a married couple household where both the spouses were employed. The unit of analysis used for the work variables were the work schedule combinations of a dual-earner couple constructed using information about the work schedules of the MKA and the MKA's spouse, the data for which was obtained from the adult pair interview. Data for the child of the dual-earner couple was taken from the focal child interview for the older focal child (FC2) aged between 6 and 17. Analyses were conducted separately for children aged 6-11 years and 12-17 years based on the different available outcomes. The average age of the child in this data was 11.76 years.

Measures

Dependent Variables

The dependent variables used in this study covered several domains of child wellbeing. First, behavioral regulation in children was captured by using the Behavior Problems Index (BPI) Score consisting of a subset of items from the 28 item BPI scale (Zill, 1990). This scale assessed behavioral and emotional problems for children between the ages of 6 and 17. The BPI Score variables were constructed separately for children 6-11 years old and children 12-17 years old to account for developmental differences in age in the NSAF. These questions concerned the MKA's perception of the child's behavior in

the past month. Each of these scales consisted of six questions. Three questions were included for all children aged 6-17: “not being able to get along with other kids”, “inability to concentrate or pay attention”, “feeling sad and depressed”. The rest of the three questions for each of the scales depended on age of the focal child. For the focal child aged 6-11, the scale included questions about “feeling worthless or inferior”, “feeling nervous, high strung or tense” or “acting too young for his age”. For 12-17 year olds, the questions included items such as “having trouble sleeping”, “lying or cheating” or “not doing well in school work”. Parents responded by indicating whether these behaviors are not true (1), sometimes true (2) or often true (3) for their child. The BPI Score variables ranged from 6 to 18 with a higher score indicating more behavior problems.

A child’s engagement in school was measured using a scale available in the NSAF. The scale comprised of four questions about the child’s engagement in school including items such as how much of the time the child cares about doing well in school, whether the child only does school work when told to do so, whether the child does just enough schoolwork to get by or whether they always do their schoolwork. Responses for this variable ranged from “none of the time” (1) to “all of the time” (4). This variable ranged from 4 to 16.

A measure of the health status of the child was also used as a dependent measure in the study. This measure reflected the MKA’s report of how they assessed the focal child’s health status and was measured for all children aged 6-17. The responses to this measure was rated on a scale of 1 to 3 with 1 being “Poor”, 2 being “Fair” and 3 being “Good/ Excellent”.

Finally, a measure indicating the extent to which the child is involved in extracurricular activities was also used in the analyses. This scale was created for all children aged 6-17. The extracurricular activities scale enumerated answers to three questions regarding the child's involvement in sports activities, lessons other than school activities such as dance, music, computer lessons etc. and whether they were involved in any club activities. The responses were in the form of a dummy variable (1 "yes" and 0 "no") and the scale ranged from 0 to 3.

Independent Variables

Employment variables / combinations

The explanatory variables used in this study captured the combinations of work schedules of married dual-earner parents. These measures were created using the *types of hours* each person in the dual-earner dyad worked. Two separate and mutually exclusive categories for work hours were used to create these measures. Parents were coded as working a standard schedule if they reported most of their work hours as being during the day (between 8 AM and 6 PM). They were coded as working nonstandard hours if most of their work was not during the normal daytime hours between 8 AM and 6 PM. These two categories were then used to create variables that capture a couples combination of standard and nonstandard work (e.g. Husband works standard schedule and wife works standard schedule; husband works standard schedule and wife works nonstandard schedule and so on) creating six mutually exclusive combination variables. (See Table 1A and 1B for distribution of these variables).

Finally, a variable that indicated whether the parents arranged their work schedules in order to facilitate childcare was also created using data from the family respondent interview. This variable was coded on the basis of how the respondent answered the question “During the last month, did you and your spouse work different hours so that the two of you could take turns caring for (your child/your children) while the other person worked?” The variable was coded as 1 if the respondent answered “Yes” and 0 if they answered “No”. Since the variable was not interpreted for the respondents, a response of “No” simply meant that they did not arrange hours and it did not delineate whether they had the choice choose to do so.

Parental Mental Health

As noted earlier, one route through which parental nonstandard work may affect outcomes in children is through its effects on parental mental health. The analyses in this study thus also included a measure of parental mental health which was obtained using the MKA’s self reports. A 100 point mental health scale was derived by summing the responses to five items that asked how often in the last month the MKA had been: a very nervous person, felt calm or peaceful, felt downhearted and blue, had been a happy person, and felt so down in the dumps that nothing could cheer him/ her up. The response categories for this variable ranged from “all of the time” (1) to “none of the time” (4). The items were summed to create a variable that ranged from 5 to 20 and was multiplied by 5 to create a scale that ranged from 25 to 100.

Parenting Behavior

Another pathway through which nonstandard work schedules may affect children is through different aspects of parenting. A parenting aggravation score from the NSAF was included in this study to capture aspects of parenting. This scale mainly measured aggravation experienced by the MKA because of their children and thus indicates parenting stress. This measure was created by summing responses to four items. These included how often in the past month the MKA felt the child was much harder to care for than most, felt the child did things that really bothered the MKA a lot, felt that he/ she was giving up a lot of his/her life to meet the child's needs than they ever expected and felt angry at the child.

Control Variables

Demographic and Family Controls

All analyses in this study controlled for an extensive set of individual, family and demographic characteristics of children, their parents and their families. For focal children, controls were introduced for their gender (coded 1 if boy and 0 if girl) and their age. The focal child's race was controlled for using a set of mutually exclusive dummy variables indicating whether the child was non-Hispanic White, non-Hispanic Black, Hispanic, or of another race/ethnicity. Controls for several characteristics of the MKA were also included in the analyses including their gender (coded 1 if male and 0 if female) and age. The MKA's educational attainment was measured using dummy variables indicating whether the parent had no high school degree, only a high school degree, some college or a college degree. In these analyses, controls were also included

for the socioeconomic status of the family by using constructed variables available in the NSAF that compare the family income received during the year preceding the survey to the Census Bureau's Federal Poverty Line (FPL) given their family size and number of children in the family. A set of mutually exclusive dummy variables were used which indicated whether the focal child's family's social income was under 50% of the FPL, between 50% and 100% of the FPL, between 100% and 150% of the FPL, between 150% and 200% of the FPL, between 200% and 300% of the FPL, and over 300% of the FPL. Additionally, a variable for whether the focal child was an only child was included to control for any additional children in household. Finally a set of family controls were used to indicate whether the dual-earner couple used as the unit of analysis in the survey are both biological parents of the focal child and how many relatives resided in the household with the dyad and the focal child.

Employment Controls

Controls for the parent's employment were also introduced in the analyses to assess the quality of the focal child's parents' jobs. These variables included: whether the MKA could take either a paid or unpaid paternity/maternity leave from work and return to the same employer; whether the MKA is able to get fully paid leave such as sick leave or vacation leave from the employer; and the total number of hours typically worked by the dad and the mom in their main job during the week in the previous year.

Childcare Variables

In terms of childcare, the analyses controlled for the primary type of childcare arrangement the couple used for their children for the analyses where focal child was between the age of 6 and 11. Primary childcare data was not available for children over the age of 12 and hence models with controls for childcare were not run for the group of focal children age 12-17. In the analyses for the younger children, controls were included for which forms of childcare the child had ever been in during the last month when the child was not with his/her parents. The variables were created as dummy variables with a response of "yes" (1) or "no" (0) for whether the child was ever in a) care in the MKA's household; b) in any household other than the MKA's household; c) in after school care; or d) the child cared for self some of the time. These variables were controlled for separately. Childcare variables that indicated whether a child was in center-based care or in a Head Start program were only available for the sample of children who were younger than 6 years old and hence these controls were not used in our analyses. Finally, a measure of the number of hours spent by each of the younger children in childcare per week was also used as a control in the regressions.

Empirical Strategy

Ordinary Least Squares (OLS) regressions are used to examine the associations between nonstandard work characteristics of dual-earner couples, the arrangement of their work hours and children's outcomes. A stepwise regression approach is used, where first a basic regression of child outcomes on parental nonstandard schedules is run with a set of demographic control variables. Then parental mental wellbeing and parenting

aggravation scores are added subsequently to the basic model, first separately and then simultaneously, to tease out any mediating effects. Finally, for younger children, a regression is run adding childcare control variables to the model that includes all of the aforementioned variables and controls. As an extension to these regressions, separate models are run by adding interactions of work schedules and whether these schedules were arranged voluntarily by the parents against child outcomes, using the same stepwise approach and sequence used previously.

Results

The sample in this study was limited to children whose parents were married and employed at the time of the survey and whose parents had non-missing values for their employment schedule variables. The sample and the analyses were stratified by the age of the child. Tables 1A and 1B present the descriptive statistics of the variables used in the study for children aged 6-11 years and 12-17 years old respectively. In this sample from 2002 wave of the NSAF, the average BPI score for younger children was 16.17 and for older children were 16.13. Similarly, the average school engagement score was 13.28 for younger children and was 12.79 for the older children. In terms of variable that assesses the child's health, the mean scores were 2.97 for younger children and 2.96 for the older children. Finally, younger children had an average extracurricular activity involvement score of 1.62 whereas their older counterparts scored an average of 1.68.

Looking at the explanatory variables that indicate parents' work schedule arrangements, among younger children (age 6-11 years) 71.5 % of children were in families where both of the parents worked during a standard time (had daytime

schedules). Among these children, 12.7% of children had a dad who worked a standard schedule and a mom who worked nights whereas 13.2% of children had a mom who worked a standard schedule and a dad who worked a night time schedule. Only 2.6% of the children had both parents working during nonstandard times. Among older children (age 12-17 years), 75.4% of children were in families where both of the parents worked during standard hours (had daytime schedules). 9.4% of children had a dad who worked a standard schedule and a mom who worked nights whereas 12.4 % of children had a mom who worked a standard schedule and a dad who worked a night time schedule. Among these children, only 2.8% had parents who both worked during nonstandard times.

Parental mental health and parenting aggravation variables were also measured in this study to delineate any mediating roles. The average parental mental health score was 81.9 for the MKA of the younger child and 81.61 for the MKA of the older child. Similarly, the mean parenting aggravation score for MKAs of younger children was 14.08 whereas for older children, it was 14.03. Additionally, 47.7% of the younger children had parents who reported that their work hours were arranged to facilitate childcare whereas 40.7% of the parents of older children reported that their work hours were arranged.

Among demographic variables, the mean age of the younger focal child was 8.52 years and 50.3% of them were boys. Among the MKAs reporting on younger children, the average age was 38.08 years and 79.2% were the child's mother. For older children, the average age was 14.59 years and 52% were boys. The MKAs of older children were on average 43.4 years old and 78.6% of them were the child's mother. Among the

couples, 83.1% of the parents for the younger focal child and 76% of the parents of the older child were biological parents of the focal child.

For detailed distribution of the child's race and MKA's education variables and other demographic controls, please refer to tables 1A and 1B.

Odinary Least Squares Regressions

As previously discussed, Ordinary Least Squares regressions were used to examine the associations between parents' arrangements of working schedules and children's outcomes. The following at are the results from the OLS regressions for the different groups of children:

Children aged 6-11 years old

Table 2 presents associations between parent work schedules and child outcomes for children aged 6-11 years. The results show that children who had both parents working during the night had significantly lower school engagement scores and lower involvement in extracurricular activities compared to children whose parents both work standard daytime schedules (the reference group in the regression models). The coefficient for the school engagement score was -0.461 (significant at the 10% level) in the base model. The size of the association increased when parenting and mental health controls were added. It was further increased when childcare controls were added in the overall model (coefficient of -0.500 significant at the 5% level). The association with extracurricular activity involvement showed a similar trend. A coefficient of -0.207 (significant at the 5%) seen in the base model increased when controls for parenting

aggravation, parental mental health and childcare were added, resulting in a coefficient of -0.224 in the overall model (significant at the 5% level).

Similarly, children whose moms worked during the nights and dads worked a standard daytime schedule showed significantly lower involvement in extracurricular activities compared to children who had both parents working standard schedules (coefficient of -0.119; significant at the 1% level). The size of this association was reduced when parental mental health and parenting aggravation controls were added to a coefficient of -0.112 (significant at the 5% level) suggesting the possibility of a partial mediating effect of these variables. However, when controls for childcare were added in the overall model, the size of the association increased to -0.118 (significant at the 1% level). Finally, even though no significant associations were seen in the preliminary models, the overall model indicated that a child's BPI score was significantly lower when the dad worked a night schedule while the mom worked daytime schedules (coefficient of -0.153; significant at the 10% level) compared to the reference group.

Children aged 12-17 years

For older children (as shown in Table 3) , the results show that children whose dads worked a standard schedule while their moms worked during the night had significantly lower BPI scores and lower extracurricular activity involvement scores compared to the reference group. In terms of the BPI score, the significant association (coefficient of -0.394 in the base model; significant at the 1% level) persisted throughout the stepwise models. In the overall model, which included both parental mental health and aggravation scores, the coefficient size was reduced to -0.181 (significant at the 10%

level). Similarly, the size of the association for extracurricular involvement decreased from a coefficient of -0.209 in the base model to -0.194 in the final model with parent variables (both results were significant at the 1% level). The significant association of both parenting aggravation and parental mental health variables with the “dad works standard hours while mom works night schedules” variable (see Table 4. for these results) suggests a partial mediating effect of parental mental health and parenting aggravation in the relationship between the aforementioned parental work schedule variables and children’s BPI scores and their extracurricular involvement. Similarly, among older children, the results indicate that children whose dads worked during the night and moms during standard hours showed significantly lower BPI scores and lower extracurricular involvement scores compared to the reference group as well. The significant association of both of these variables persisted throughout the stepwise model resulting in coefficients of -0.178 and -0.091 (both significant at the 5% level) for BPI scores and extracurricular involvement scores respectively in the overall model that included parent-related intermediate variables. While these association sizes were smaller than those in the basic model, a lack of significant associations between the parental work schedule variable and parental intermediate variables eliminates the possibility of there being any potential mediating effects. This group however showed significantly higher child health scores compared to the reference group with a coefficient of 0.023 (significant at the 5% level) in the overall model. This association persisted throughout the stepwise models as well. Finally, children who have both parents working nonstandard schedules showed significantly lower extracurricular involvement compared to those whose parents worked standard schedules. The significant association was sustained throughout the stepwise

models and resulted in a coefficient of -0.277 in the final model and was significant at the 5% level.

Extensions using Interactions with variable indicating if work hours were arranged

As previously discussed, the significance of the conditions under which nonstandard employment occurs is of important consequence to the kind of impact such employment may have on a family's wellbeing. In order to examine whether the arrangement of work hours by dual-earner couples, so that each parent can take turns in caring for their children in the household, is associated with different outcomes than when parents reported that hours are not arranged, a series of regressions were run using interaction variables of each of the work schedule arrangements and the variable that indicated whether the parents arranged work hours to facilitate childcare. The results of these regressions are presented in Table 5 (for younger children) and Table 6 (for older children).

Children aged 6-11 years

The results for this group are presented in Table 5. The results show that children who had a dad who worked a standard schedule while the mom works during the night exhibited significantly lower child health scores when the work hours are arranged. The size of the coefficient is -0.050 (significant at 5%) in the basic model and the size of the association increased to 0.059 (also significant at the 5% level) with the addition of parenting and childcare variables in the full model. On the contrary the results show that children who have both parents working during nonstandard times had higher

extracurricular activity involvement when the hours were arranged by the parents. This significant association appeared throughout the model with a coefficient of 0.370 (significant at the 10% level) in the base model and a coefficient 0.374 (at the 10% level) in the overall model. There was no indication that these intermediate variables had a mediating effect in the relationship between the work-related variable and extracurricular involvement of the child.

Children 12-17 years old

In Table 6, the results show that for older children, as with the younger group, when work hours were arranged by the parents, children who had a dad working daytime hours while the mom worked during the night-time had significantly lower health scores. The significant association in this case remained throughout the stepwise models with a coefficient of -0.064 (significant at the 10% level) in the model that includes both parenting measures. This represented a reduction in the size of the coefficient from the base model (-0.070 and significant at the 5% level), but since only parental mental health was significantly associated with the work-related variable (see Table 7.), a partial mediating effect of each of the parent-related variables cannot be confirmed. Finally while children with both parents working during the night showed significantly higher school engagement when the work hours were arranged in the base model (coefficient of 1.618 and significant at the 10% level) and in the subsequent models adding parental mental health and parental aggravation separately, this significant association did not persist in the model when the parent related variables were introduced to the models simultaneously.

Extensions using three way interactions with arranged hours and poverty

In addition to the two-way interactions discussed above, a set of three way interactions were run in the analyses using measures of the family's poverty status (family income below 200% of the Federal Poverty Level), the work status of the dual earners and whether they arranged work hours. As previous work (e.g. Presser, 2003) suggest, a large majority of workers employed in the nonstandard economy have tended to be poor. Given this evidence, the analyses sought to examine whether having nonstandard hours and arranging hours had different associations on the outcomes based on whether the family's income was above or below 200% of the Federal Poverty Level (FPL). However, the restrictive nature of the three way interaction caused the cell sizes to be extremely low for each of the categories (e.g. only approximately 35 children in the sample had both parents who worked nonstandard hours, arranged hours and had incomes under 200% of the FPL). Hence, the results from these models (available upon request) are not shown here and were not used to make any inferences for or against the hypotheses of this study.

Discussion and Conclusion

The study of parental nonstandard work arrangements has become increasingly relevant as our economy has rapidly started approaching a 24-7 economy and the dual-earner couple with children has become the most predominant form of family in the United States. The empirical results that have been presented in this paper have shown fairly consistent associations of nonstandard working schedules among dual-earner parents with certain outcomes among children aged 6-17, highlighting the need increased

inquiry on these families and further detailed longitudinal analysis of these variables to examine effects over time.

The associations seen in the results of this study suggest that having both parents working night schedules might be detrimental for the child's involvement in extracurricular activities for both younger and older children. It might also be detrimental for the younger child's school engagement. Similarly, extracurricular activity involvement was seen to be lower when the mother had a night schedule even when the dad had a standard work schedule for younger children. In the case of the children who were older than 12 years, extracurricular activity involvement was lowered in each instance where either one or both of the parents had a night schedule. These negative associations, particularly seen when the mother worked nonstandard hours, persisted even after the addition of extensive set of controls and are consistent with the negative associations found by Han (2004) and Bogen & Joshi (2001) of maternal nonstandard work and certain domains of child development. These results are also consistent with Han's (in press) study of maternal nonstandard work using the 1997 and 1999 waves of the NSAF. Her study showed significant associations of maternal nonstandard work on lower extracurricular activities in all but one of her interaction models. In each of the cases in this study, it is interesting to note that the sizes of the associations are much larger when both parents have night schedules than when just one parent has the night schedule. Additionally, among older children, the size of the coefficient that denotes the negative change in extracurricular activity involvement were lower in magnitude when the dad worked a nonstandard schedule than when the mom worked a nonstandard schedule; the negative association being the largest among the three when both parents

worked nights. This suggests that despite the importance of the father's work schedules, maternal nonstandard work may be of greater consequence to children. As Han (in press) suggests, one can speculate that these associations may persist consistently possibly because these adolescents may be able to devote less time to extracurricular activities because of childcare responsibilities when the mother works a nonstandard schedule. This is likely to be less of a problem if the mother worked a standard schedule even when dad worked during nights. This is also consistent with previous studies such as those by Heymann (2000a) that found that adolescent children are more likely to take care of their younger siblings while their parents (particularly mothers) work nonstandard schedules. In order to account for this point, the analyses control for whether the focal child was the only child in the family.

While the analyses did not examine domains of parental physical health such as sleep deprivation or fatigue (mainly due to the unavailability of these data in the NSAF), the mediating effects of parental variables on parent child interactions and ultimately children's development have been well documented (e.g. Heymann, 2000a). The few instances in this study where potential mediating effects of parental mental health and parental aggravation were found indicate the possibility of the various pathways through which nonstandard work may affect the physical and mental health of workers, affecting their family lives and consequently their children. However, solid evidence of consistent mediating effects of these variables was not found. Use of extended parental physical and mental health measures and variables that indicate punitive or warm parenting practices in future studies might help elucidate mediating or moderating roles of these variables further.

An interesting finding from this study is that while studies such as Han (2005) relate maternal nonstandard work with higher behavior problems, this study found that when the dad worked nights and the mom worked standard hours, behavior problems, measured by the BPI scale, were lowered among both younger and older children in our sample. Among older kids, BPI scores were lowered for cases where any one of the parents (regardless of whether it was the mom or the dad) worked a nonstandard schedule. Child health scores were also seen to be higher when the dad worked night schedules for older children. While the sizes of the coefficients that we observe are minute, the significant associations nonetheless raise important questions about what these results could mean. It can be speculated, without hinting at causation, that the father working nonstandard hours may not be of consequence to the child's behavioral regulation or health and these factors maybe associated with other unobserved variables. Additionally, it can also be speculated that the mother having a normal daytime schedule allowing for increased supervision and monitoring in the home, and the additional income derived from any nonstandard overtime work from the father (if that is the case) could be positive for children's behavior.

As discussed earlier, the presence of a variable that indicated whether parents chose to work the schedules that they worked in the NSAF made it possible for this study to address an important issue that studies such as Strazdins et al. (2006) emphasized but were not able to address. Strazdins et al. (2006) noted that distinguishing whether families chose their working hours could possibly help delineate potentially distinct differences in effects of nonstandard schedules on children based on the parents' control and preference of their labor market work. However, as noted earlier, the variable used in

this study that indicated whether parents voluntarily chose to arrange hours of their work so that they could take turns in caring for their children has one major limitation. While the "yes" response to the variable indicates not only the choice of parents to arrange their hours, but also their ability (and their control over the decision) to choose to arrange hours, the converse "no" response indicates only simply that hours were not arranged. The "no" response does not delineate whether (a) parents had ability to choose but did not choose to arrange hours or (b) the parents never had the ability to choose to arrange hours and hence didn't. Thus, I use caution in interpreting the results of the interaction models. Regardless of these caveats, the interaction models failed to produce any stark or consistent results to make any inference as to whether choosing to arrange work hours has the potential to significantly change the associations between nonstandard work and children's outcomes. There are however a few results of note. For example, younger children were observed showing higher extracurricular involvement if they lived in a household where both parents work and chose to have nonstandard night-time schedules. This result is particularly interesting for its contrast to the analyses that did not employ interactions, where we saw consistent negative associations. In this situation, where the both parents arrange to work during the night, it can be speculated that they could also arrange for their children to spend more time at school or elsewhere participating in extracurricular activities and taking additional lessons etc. to minimize unsupervised time at home while the parents are absent. Another result of note in the interaction models was the negative association of arranged work hours when the dad worked a standard schedule and wife worked nights with child health among both younger and older children. This suggested that nonstandard work among mothers might be detrimental

even when work hours are arranged. These variables however did not show any significant associations in the first set of models. Due to the cross-sectional nature of our data, it is important to note that these results are only associations and causal arguments should not be interpreted from these findings.

The findings from the interaction models discussed above are too weak to ascertain whether these factors are truly significant or to support any arguments for or against this hypothesis. Since this hypothesis was a major question of this study, further investigation of this topic using more suitable data, particularly with a more definitive measure of whether parents voluntarily chose their work hours or not and how much control they had over these decisions is thus warranted.

Limitations

One major limitation of this study is that it is based on a cross sectional sample. Thus, not having a longitudinal sample prevents us from being able to make any causal arguments about these associations. Another limitation of the NSAF sample is the relative lack of outcomes for children under the age of 6, allowing only for analyses of outcomes for children aged 6 to 17. Even when a group of studies (e.g. Han, 2005) have found deleterious effects of nonstandard work on very young children, this study was not able to examine these effects thoroughly. Other studies such as Ross Phillips (2002) that use the NSAF data used parenting variables such as how often a child is read to and how often parents take children out for outings instead as proxies for outcomes for children. The NSAF is also deficient in providing information on important cognitive outcomes for children and as Han (in press) suggests, the outcome measures present in the NSAF

maybe inadequate to address a wide variety of issues that are related to children's and adolescents wellbeing.

While this study found some associations of certain working patterns among dual-earners and certain children's outcomes, the associations seen from this study are only a first step towards understanding the work-family strategies of dual-earner parents and children's outcomes given the aforementioned limitations of this study. This study thus highlights the need for further work that examines the working arrangements of dual-earner couples and how their work schedule arrangements could affect their children using data with repeated measures. Future studies should make use of longitudinal datasets, allowing for the use of innovative techniques such as fixed effects models that can offer better causal arguments for the hypotheses. The benefits of approaches such as fixed effects is that it allows for an examination of the concurrent association between parental work conditions and child outcomes while at the same time controlling for all time invariant variables, including those that we cannot directly measure. The fixed-effects model can also control for any time invariant factors that may be related to attrition from the sample (Foster & Bickman, 1996). In addition, use of such datasets would allow for temporal ordering of parental work hours and children's outcomes and enables us to assess whether effects are accumulated over time (Strazdins et al., 2004).

Future studies should also employ the use of datasets that have variables that are able to that distinguish between evening and night shifts and capture the wide array of parental work schedules such as rotating shifts, irregular shifts, varying working hours etc. which our data was not able to do. Many other studies have noted their inability to distinguish between the different kinds of schedules due to small cell sizes that result

from dividing work schedules with such specificity (Strazdins et al. 2006). This suggests the need for large datasets with detailed information on work schedules which would facilitate such analyses, particularly since the effects of night schedules for example may be markedly different than evening schedules or rotating schedules. It would also be ideal if these studies are able to take advantage of a wide range of children's outcome variables including those that capture a range of cognitive, behavioral, social and educational outcomes.

Finally, this study does not explicitly address the issue of selection. It is possible, as suggested by Dunifon et al. (2005) that when relating employment characteristics of parents to children's outcomes, that reverse causality exists. Among dual-earner couples, children's characteristics may influence decisions of parents on how to distribute their working hours, as much as the distribution of hours between parents may influence child wellbeing. We have partially addressed this issue with our interaction models where we considered the possibility that parents with younger children may arrange their work hours to facilitate childcare, selecting into these schedules. It is also possible that parents of children with higher behavior problems, for example, may choose not to work nonstandard hours or arrange hours in order to have at least one parent supervise children at home. Similarly, parents whose children have relatively less behavior problems and are more responsible maybe choose to work nonstandard schedules for their added financial benefits. With these possibilities, the relationship between these variables can be complex. The use of repeated measures will allow for various techniques and models that can effectively purge the model of the effects of such selection issues.

Even with these limitations, this study takes important steps forward in this field of research in its own right. First and foremost, it not only uses the most contemporary data on parent's work schedules and children's outcomes, but it is also among the first of its kind to address dual-earner nonstandard work schedules jointly with data from the United States. The interaction models, while inconclusive, nonetheless provide insights into thinking about the parents' voluntary/ involuntary choices in working nonstandard schedules. This study hopefully provides the impetus for future studies that look at nonstandard work among American dual-earner couples more closely, taking into account the working schedules of mothers and fathers simultaneously. With the advent of the 24-7 economy, growth in jobs during nonstandard hours and dual earner families with children, further analysis of longitudinal data with detailed measures of parental work arrangements and children's outcomes is imperative in order to delineate accurately the impacts of parental nonstandard work on children's outcomes and the mechanisms through which these effects occur.

Works Cited

Abi-Habib, N., Safir, A., & Triplett, T. (2002) NSAF Public Use File User's Guide. *Assessing the New Federalism*, Urban Institute, Report Number 11, 2002

Belsky, J. (1990). Developmental Risks associated with Infant Daycare: Attachment insecurity, noncompliance and aggression? In S. Chehrazi (ed.) *Psycholocial Issues in Daycare*: Washington DC: American Psychiatric Press.

Belsky, J., & Eggebeen, D. (1991). Early and extensive maternal employment/childcare and 4-6 year olds socioemotional development: Children of the National Longitudinal Survey of Youth. *Journal of Marriage and the Family*, 53: 1083 – 1099.

Bianchi, S.M. (2000) Maternal Employment and Time with Chidlren: Dramatic Change or Surprising Continuity? *Demography*, 37: 401-414

Bogen, K. & Cherlin, A. (2004). *Jobs and parenting 24-7: Work schedules and parenting of the working poor*. Paper presented at the 2004 Annual Meeting of the Population Association of America.

Bogen, K. & Joshi, P. (2001). *Bad work or good move: The relationship of part-time and nonstandard work schedules to parenting and child behavior in working poor families.* Paper presented at Low Income Families: Coping as Parents and Workers Conference, sponsored by U.S. Department of Health and Human Services, Chapin Hall and NCCP, Washington, DC, November 2001.

Brooks-Gunn, J., Han, W.-J., & Waldfogel, J. (2002). Maternal employment and child cognitive outcomes in the first three years of life: The NICHD Study of Early Childcare. *Child Development*, 73: 1052 – 1072.

Dunifon, R., Kalil, A., & Bajracharya, A. (2005) "Maternal working conditions and child well-being in welfare-leaving families." *Developmental Psychology*. Vol. 41. No. 6, 851-859

Edwards, M. E. (2001). Uncertainty and the rise of the work-family dilemma. *Journal of Marriage and Family*, Vol. 63: 183 – 196.

Foster, E. M., & Bickman, L. (1996). An evaluator's guide to detecting attrition p roblems. Evaluation Review, 20: 695–723.

Han, W-J. (in press). Maternal work schedules and child outcomes: Evidence from the National Survey of American Families. Children and Youth Services Review.

Han, W-J. (2005). Maternal nonstandard work schedules and child outcomes. *Child Development*, 76(1): 137-156.

Han, W-J. (2004). Nonstandard work schedules and childcare decisions: Evidence from the NICHD Study of Early Childcare. *Early Childhood Research Quarterly*, 19: 231-256.

Han, W, & Waldfogel, J. (forthcoming). Parental work schedules and adolescents' risky behavior. Columbia Univ. School of Social Work: NY

Han, W., Waldfogel, J., & Brooks-Gunn, J. (2001). The effects of early maternal employment on later cognitive and behavioral outcomes. *Journal of Marriage and the Family, 63,* 336-354.

Harvey, E. (1999). Short term and long term effects of early parental employment on children of the National Longitudinal Survey of Youth. *Developmental Psychology*. 35: 445-59

Heymann, J. (2000) *The Widening Gap: Why America's Working Families are in Jeopardy-and What Can Be Done About It.* New York: Basic Books.

Heymann, S.J. & Earle, A. (2001). The impact of parental working conditions on schoolage children: the case of evening work. *Community, Work, and Family,*Vol 4:305-325.

Hoffman, L.W. (1989). The Effect of Maternal Employment on a Two Parent Family: A Review of Recent Research. *American Psychologist*, No.44: 283-92.

Hoffman, L.W., Youngblade, L.M., Coley, R. L., Fuligni,A. S., & Kovacs, D. D. (1999). *Mothers at work: Effects on children's Well-being*. Cambridge, England: Cambridge University Press.

Luo, Ye (2006). Short term and long term impact of parental job characteristics on children's wellbeing. Paper presented at the 2006 Meetings of the Population Association of America, April, 2006: Los Angeles CA.

Moen, P., & Dempster-Mclain, D. (1987). Employed parents: Role strain, work time, and preferences for working less. *Journal of Marriage and the Family*. Vol. 49, No. 3: 579-590

Nock, S & P.W. Kingston (1988). Time with Children: Impact of Couples' Work Time Commitments. *Social Forces*: 67: 59-85

Presser, H. B. (1986). Shift work among American women and childcare. *Journal of Marriage and the Family,* 48, 551 – 563.

Presser, H. B. (1989). Can we make time for children? The economy, work schedules, and childcare. *Demography,* 26, 523 – 543.

Presser, H. B. (1995). Job, family, and gender: Determinants of nonstandard work schedules among employed Americans in 1991. *Demography,* 32, 577 – 598.

Presser, H. (2003). *Working in a 24/7 economy: Challenges for American families.* New York: Russell Sage Foundation.

Presser, H. & Cain, V. (1983). Shift work among dual-earner couples with children. *Science*. Vol. 219: 876-879

Presser, H. & Cox, A. (1997). The work schedules of low-educated American women and welfare reform. *Monthly Labor Review, April,* 25-34.

Ross Phillips, K (2002) Parent Work and Child Well-Being in Low-Income Families. *Assessing the New Federalism*, Urban Institute, Occasional Paper Number 56, June 2002

Strazdins, L., Clements, M.S., Korda, R.J., Broom, D.H., D'Souza, R.M. (2006). Unsociable Work? Nonstandard Work Schedules, Family Relationships, and Children's Well-Being. *Journal of Marriage and Family*, Vol. 68: 394-410.

Strazdins, L., Korda, R.J., Lim, L.L-Y., Broom, D.H., D'Souza, R.M. (2004). Around the clock: Parent work schedules and children's well-being in a 24-h economy. *Social Science and Medicine.* Vol. 59: 1517-1527

Waldfogel, J., Han, W-J., and Brooks-Gunn, J. (2002). The Effects of Early Maternal Employment on Child Cognitive Development. *Demography*. 39 (2):369-392

Zill, N. (1990). *The Behavior Problems Index* [descriptive material]. Washington, DC: Child Trends.

APPENDIX A: Tables of Means

Table 1A. Means for Focal Children of Employed Married Parents aged 6-11 years

Variable	Obs	Mean	Std. Dev.	Min	Max
BPI Score	4381	16.174	1.933	6	18
School Engagement	4416	13.281	2.326	4	16
Child Health	4460	2.972	0.177	1	3
Extracurricular Activities	4400	1.616	0.925	0	3
Dad wkd. Standard/ Mom wkd Standard (omitted category)	4460	0.715	0.452	0	1
Dad wkd. Standard/ Mom wkd NonStandard	4460	0.127	0.333	0	1
Dad wkd. NonStandard/ Mom wkd Standard	4460	0.132	0.339	0	1
Dad wkd. NonStandard/ Mom wkd. NonStandard	4460	0.026	0.158	0	1
(Dad Standard Mom Standard)*(Hours Arranged) (om. cat)	4192	0.272	0.445	0	1
(Dad Standard Mom NonStandard)*(Hours Arranged)	4192	0.107	0.309	0	1
(Dad NonStandard Mom Standard)*(Hours Arranged)	4192	0.082	0.274	0	1
(Dad NonStandard Mom NonStandard)*(Hours Arranged)	4192	0.016	0.127	0	1
Hours arranged for childcare	4192	0.477	0.500	0	1
Parental Mental Health	4388	81.902	11.186	25	100
Parent Aggravation Score	4394	14.080	1.632	4	16
Dad's number of hours worked per week	4436	46.646	11.375	1	120
Mom's number of hours worked per week	4327	34.486	12.966	1	120
Can get paternity or maternity leave at job	3764	0.870	0.337	0	1
Can get paid leave at job	3764	0.753	0.431	0	1
Child Age	4460	8.518	1.729	6	11
Child Sex	4460	0.503	0.500	0	1
MKA Age	4460	38.075	6.454	21	69
MKA Sex	4460	0.202	0.401	0	1
White Nonhispanic (omitted category)	4460	0.767	0.423	0	1
Hispanic	4460	0.125	0.331	0	1
Black Nonhispanic	4460	0.070	0.254	0	1
Other Race	4460	0.039	0.193	0	1
MKA has no high school degree (omitted category)	4442	0.074	0.262	0	1
MKA has high school degree	4442	0.353	0.478	0	1
MKA has some college	4442	0.210	0.407	0	1
MKA has college degree	4442	0.363	0.481	0	1
sfincLT50pcFPL	4460	0.006	0.075	0	1
sfincLT100GT50pcFPL	4460	0.017	0.128	0	1
sfincLT150GT100pcFPL	4460	0.050	0.218	0	1
sfincLT200GT150pcFPL	4460	0.075	0.263	0	1
sfincLT300GT200pcFPL	4460	0.211	0.408	0	1
sfincGT300pcFPL (omitted category)	4460	0.642	0.479	0	1
Parents are Biological Parents of Child	4460	0.831	0.374	0	1
Number of relatives in HH	4460	3.400	1.074	0	14
FC is the only child	4460	0.637	0.481	0	1
Childcare in household	4458	0.247	0.432	0	1
Childcare in other household	4454	0.217	0.412	0	1
Child in afterschool care	4454	0.214	0.410	0	1
Child cared for self	4456	0.135	0.342	0	1
Number of hours spent in childcare	4424	6.663	10.435	0	120

Table 1B. Means for Focal Children of Employed Married Parents aged 12-17 years

Variable	Obs	Mean	Std. Dev.	Min	Max
BPI Score	5040	16.132	2.001	6	18
School Engagement	5056	12.788	2.844	4	16
Child Health	5115	2.963	0.211	1	3
Extracurricular Activities	5062	1.675	0.907	0	3
Dad wkd. Standard/ Mom wkd Standard (omitted category)	5115	0.754	0.430	0	1
Dad wkd. Standard/ Mom wkd NonStandard	5115	0.094	0.292	0	1
Dad wkd. NonStandard/ Mom wkd Standard	5115	0.124	0.330	0	1
Dad wkd. NonStandard/ Mom wkd. NonStandard	5115	0.028	0.164	0	1
(Dad Standard Mom Standard)*(Hours Arranged) (om. cat)	2659	0.223	0.416	0	1
(Dad Standard Mom NonStandard)*(Hours Arranged)	2659	0.082	0.274	0	1
(Dad NonStandard Mom Standard)*(Hours Arranged)	2659	0.083	0.276	0	1
(Dad NonStandard Mom NonStandard)*(Hours Arranged)	2659	0.019	0.137	0	1
Hours arranged for childcare	2659	0.407	0.491	0	1
Parental Mental Health	5057	81.614	11.455	25	100
Parent Aggravation Score	5060	14.034	1.743	4	16
Dad’s number of hours worked per week	5085	46.967	11.869	1	120
Mom’s number of hours worked per week	5016	37.050	12.615	2	120
Can get paternity or maternity leave at job	4359	0.877	0.329	0	1
Can get paid leave at job	4359	0.801	0.399	0	1
Child Age	5115	14.592	1.737	12	17
Child Sex	5115	0.520	0.500	0	1
MKA Age	5115	43.395	6.086	21	73
MKA Sex	5115	0.214	0.410	0	1
White Nonhispanic (omitted category)	5115	0.793	0.405	0	1
Hispanic	5115	0.108	0.310	0	1
Black Nonhispanic	5115	0.065	0.246	0	1
Other Race	5115	0.034	0.182	0	1
MKA has no high school degree (omitted category)	5095	0.081	0.273	0	1
MKA has high school degree	5095	0.360	0.480	0	1
MKA has some college	5095	0.210	0.407	0	1
MKA has college degree	5095	0.349	0.477	0	1
sfincLT50pcFPL	5115	0.006	0.078	0	1
sfincLT100GT50pcFPL	5115	0.013	0.113	0	1
sfincLT150GT100pcFPL	5115	0.035	0.183	0	1
sfincLT200GT150pcFPL	5115	0.064	0.244	0	1
sfincLT300GT200pcFPL	5115	0.166	0.372	0	1
sfincGT300pcFPL (omitted category)	5115	0.717	0.451	0	1
Parents are Biological Parents of Child	5115	0.760	0.427	0	1
Number of relatives in HH	5115	3.323	1.104	0	12
FC is the only child	5115	0.874	0.332	0	1

APPENDIX B: Ordinary Least Squares Regressions and Interaction Models

Notes for Regression Tables (2-7)

- Standard errors in parentheses
- Significance Levels denoted by: * significant at 10%; ** significant at 5%; *** significant at 1%
- Each of the regressions controlled for the following: Number of hours worked by dad; Number of hours worked by the mom; Can get maternity or paternity leave; Can get paid leave and come back to job; Age of Focal Child; Sex of Focal Child; Age of MKA; Sex of MKA; Race of Focal Child; Education level of MKA; Social family income of MKA's family as a % of FPL; MKA and spouse are biological parents of Focal Child ; Number of relatives in the Household; whether the Focal Child was the only child.

Table 2. Step-wise Models of Associations between Parental *Non Standard Work* and Children's Outcomes for Ages 6-11 years

	Basic Model				Basic Model with Parental Mental Health				Basic Model with Parent Aggravation Score			
	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities
Dad Standard Mom NonStandard	-0.059 (0.100)	-0.093 (0.117)	0.002 (0.009)	-0.119*** (0.044)	0.001 (0.095)	-0.049 (0.117)	0.004 (0.009)	-0.112** (0.044)	-0.037 (0.091)	-0.063 (0.115)	0.003 (0.009)	-0.116*** (0.044)
Dad NonStandard Mom Standard	-0.090 (0.094)	0.017 (0.111)	-0.000 (0.009)	-0.044 (0.041)	-0.082 (0.090)	0.018 (0.111)	-0.000 (0.009)	-0.040 (0.041)	-0.147* (0.086)	-0.021 (0.109)	-0.001 (0.009)	-0.043 (0.041)
Dad NonStandard Mom Standard	0.103 (0.215)	-0.461* (0.256)	0.010 (0.020)	-0.207** (0.094)	0.107 (0.207)	-0.479* (0.256)	0.012 (0.020)	-0.219** (0.094)	0.080 (0.196)	-0.462* (0.250)	0.011 (0.020)	-0.208** (0.094)
Parental Mental Health Score					0.053*** (0.003)	0.025*** (0.003)	0.002*** (0.000)	0.004*** (0.001)				
Parenting Aggravation Score									0.500*** (0.018)	0.321*** (0.023)	0.009*** (0.002)	0.011 (0.009)
Child care in household												
Child care in other household												
Child in after-school care												
Self care												
Number of hours in childcare												
Constant	16.256*** (0.354)	14.064*** (0.418)	3.019*** (0.032)	0.530*** (0.155)	11.949*** (0.406)	12.058*** (0.502)	2.895*** (0.040)	0.225 (0.187)	8.892*** (0.418)	9.369*** (0.532)	2.889*** (0.043)	0.384* (0.202)
Observations	3564	3584	3618	3578	3557	3536	3570	3568	3562	3541	3575	3573
R-squared	0.058	0.087	0.032	0.178	0.146	0.101	0.041	0.180	0.224	0.134	0.039	0.178

Table 2 (continued). Step-wise Models of Associations between Parental *Non Standard Work* and Children's Outcomes for Ages 6-11 years

	Basic Model with Parent Mental Health and Aggravation				Basic Model with Parent Variables and Childcare			
	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities
Dad Standard Mom NonStandard	-0.004	-0.050	0.004	-0.112**	-0.023	-0.092	0.002	-0.118***
	(0.089)	(0.115)	(0.009)	(0.044)	(0.090)	(0.116)	(0.009)	(0.044)
Dad NonStandard Mom Standard	-0.134	-0.016	-0.001	-0.040	-0.153*	-0.037	-0.002	-0.035
	(0.084)	(0.109)	(0.009)	(0.041)	(0.084)	(0.109)	(0.009)	(0.041)
Dad NonStandard Mom Standard	0.074	-0.495**	0.011	-0.219**	0.073	-0.500**	0.007	-0.224**
	(0.193)	(0.251)	(0.020)	(0.094)	(0.195)	(0.254)	(0.020)	(0.095)
Parental Mental Health Score	0.033***	0.011***	0.001***	0.004***	0.032***	0.010***	0.001***	0.004***
	(0.003)	(0.004)	(0.000)	(0.001)	(0.003)	(0.004)	(0.000)	(0.001)
Parenting Aggravation Score	0.426***	0.295***	0.006***	0.002	0.424***	0.291***	0.006***	0.005
	(0.019)	(0.024)	(0.002)	(0.009)	(0.019)	(0.025)	(0.002)	(0.009)
Child care in household					-0.110	-0.119	-0.007	0.123***
					(0.074)	(0.095)	(0.008)	(0.036)
Child care in other household					-0.045	-0.054	-0.017**	0.009
					(0.076)	(0.099)	(0.008)	(0.037)
Child in after-school care					-0.189**	-0.143	-0.002	0.097**
					(0.077)	(0.100)	(0.008)	(0.038)
Self care					-0.094	-0.177	-0.013	0.062
					(0.087)	(0.112)	(0.009)	(0.043)
Number of hours in childcare					0.005	-0.005	0.000	-0.008***
					(0.003)	(0.004)	(0.000)	(0.002)
Constant	7.335***	8.844***	2.830***	0.201	7.417***	9.030***	2.847***	0.296
	(0.432)	(0.560)	(0.045)	(0.212)	(0.441)	(0.571)	(0.046)	(0.215)
Observations	3557	3536	3570	3568	3527	3504	3537	3537
R-squared	0.253	0.137	0.044	0.180	0.254	0.139	0.046	0.187

Table 3. Step-wise Models of Associations between Parental *Non Standard Work* and Children's Outcomes for Ages 12-17 years

	Basic Model				Basic Model with Parental Mental Health				Basic Model with Parent Aggravation Score			
	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities
Dad Standard Mom NonStandard	-0.394*** (0.107)	-0.267* (0.147)	-0.016 (0.011)	-0.209*** (0.046)	-0.287*** (0.102)	-0.203 (0.146)	-0.012 (0.011)	-0.203*** (0.046)	-0.220** (0.097)	-0.146 (0.142)	-0.011 (0.011)	-0.195*** (0.046)
Dad NonStandard Mom Standard	-0.233** (0.092)	-0.197 (0.125)	0.021** (0.010)	-0.097** (0.040)	-0.183** (0.088)	-0.169 (0.124)	0.023** (0.010)	-0.095** (0.040)	-0.202** (0.083)	-0.193 (0.121)	0.022** (0.010)	-0.092** (0.040)
Dad NonStandard Mom Standard	-0.333* (0.198)	-0.459* (0.274)	-0.012 (0.021)	-0.294*** (0.085)	-0.261 (0.189)	-0.419 (0.270)	-0.010 (0.021)	-0.291*** (0.085)	-0.239 (0.179)	-0.386 (0.264)	-0.004 (0.021)	-0.278*** (0.085)
Parental Mental Health Score					0.051*** (0.003)	0.039*** (0.004)	0.002*** (0.000)	0.003** (0.001)				
Parenting Aggravation Score									0.481*** (0.016)	0.418*** (0.023)	0.013*** (0.002)	0.037*** (0.008)
Constant	16.404*** (0.402)	12.633*** (0.549)	3.025*** (0.042)	2.025*** (0.173)	12.391*** (0.436)	9.552*** (0.617)	2.875*** (0.048)	1.800*** (0.197)	8.969*** (0.440)	6.204*** (0.642)	2.820*** (0.051)	1.450*** (0.209)
Observations	4185	4188	4239	4202	4181	4150	4200	4197	4183	4152	4201	4198
R-squared	0.051	0.124	0.057	0.132	0.131	0.148	0.068	0.133	0.222	0.188	0.066	0.137

Table 3 (continued). Step-wise Models of Associations between Parental *Non Standard Work* and Children's Outcomes for Ages 12-17 years

	Basic Model with Parent Mental Health and Aggravation			
	BPI Score	School Engagement	Child Health	Extracurr. Activities
Dad Standard Mom NonStandard	-0.181* (0.096)	-0.118 (0.142)	-0.010 (0.011)	-0.194*** (0.046)
Dad NonStandard Mom Standard	-0.178** (0.082)	-0.173 (0.121)	0.023** (0.010)	-0.091** (0.040)
Dad NonStandard Mom Standard	-0.210 (0.176)	-0.369 (0.263)	-0.003 (0.021)	-0.277*** (0.085)
Parental Mental Health Score	0.030*** (0.003)	0.020*** (0.004)	0.001*** (0.000)	0.001 (0.001)
Parenting Aggravation Score	0.418*** (0.017)	0.375*** (0.025)	0.010*** (0.002)	0.035*** (0.008)
Constant	7.597*** (0.449)	5.253*** (0.664)	2.758*** (0.053)	1.394*** (0.217)
Observations R-squared	4179 0.246	4148 0.193	4197 0.071	4194 0.137

Table 4 . Using Parental Nonstandard Work to predict Parental Mental Health and Parental Aggravation Score

Non Standard Work	Younger Children Ages 6-11		Older Children Ages 12-17	
	Parental Mental Health	Parental Aggravation Score	Parental Mental Health	Parental Aggravation Score
Dad Standard Mom NonStandard	-1.130** (0.574)	-0.050 (0.084)	-2.129*** (0.614)	-0.364*** (0.094)
Dad NonStandard Mom Standard	-0.067 (0.543)	0.106 (0.079)	-1.042** (0.528)	-0.070 (0.081)
Dad NonStandard Mom Standard	-0.443 (1.241)	0.027 (0.180)	-1.368 (1.131)	-0.200 (0.174)
Constant	81.475*** (2.035)	14.691*** (0.297)	79.611*** (2.306)	15.452*** (0.354)
Observations R-squared	3570 0.049	3575 0.037	4200 0.043	4201 0.032

Table 5. Step-wise Models of Associations between Parental *Non Standard Work, Interactions with Arranged Hours* and Children's Outcomes for Ages 6-11 years

	Basic Model				Basic Model with Parental Mental Health				Basic Model with Parent Aggravation Score			
	BPI Score	School Engagement	Child Health	Extra. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities
Dad Standard Mom NonStandard	-0.330 (0.254)	-0.439 (0.294)	0.038* (0.023)	-0.243** (0.111)	-0.149 (0.243)	-0.261 (0.296)	0.044* (0.023)	-0.231** (0.110)	-0.207 (0.231)	-0.287 (0.290)	0.040* (0.023)	-0.242** (0.111)
(Dad Std. Mom NStd)* (Hrs Arrged)	0.358 (0.280)	0.589* (0.325)	-0.05** (0.025)	0.117 (0.122)	0.190 (0.268)	0.416 (0.327)	-0.055** (0.026)	0.110 (0.122)	0.211 (0.255)	0.420 (0.321)	-0.052** (0.026)	0.120 (0.122)
Dad NonStandard Mom Standard	-0.158 (0.159)	0.180 (0.188)	0.008 (0.015)	-0.010 (0.070)	-0.163 (0.151)	0.184 (0.187)	0.008 (0.015)	-0.011 (0.069)	-0.175 (0.144)	0.173 (0.183)	0.008 (0.015)	-0.012 (0.070)
(Dad NStd. Mom Std)* (Hrs Arrged)	0.168 (0.203)	-0.073 (0.240)	-0.017 (0.019)	-0.083 (0.089)	0.179 (0.194)	-0.085 (0.239)	-0.018 (0.019)	-0.077 (0.089)	0.083 (0.185)	-0.146 (0.234)	-0.019 (0.019)	-0.080 (0.089)
Dad NonStandard Mom NonStandard	-0.067 (0.381)	-0.520 (0.450)	0.030 (0.035)	-0.466*** (0.167)	0.011 (0.371)	-0.543 (0.455)	0.035 (0.036)	-0.512*** (0.170)	0.102 (0.346)	-0.397 (0.438)	0.035 (0.035)	-0.462*** (0.167)
(Dad NStd. Mom NStd)* (Hrs Arrged)	0.262 (0.465)	0.186 (0.552)	-0.044 (0.043)	0.370* (0.204)	0.168 (0.449)	0.200 (0.554)	-0.048 (0.043)	0.416** (0.206)	-0.007 (0.423)	0.009 (0.537)	-0.049 (0.043)	0.364* (0.204)
Hours Arranged for Childcare	-0.160** (0.080)	-0.325*** (0.095)	0.008 (0.007)	0.054 (0.035)	-0.111 (0.077)	-0.295*** (0.095)	0.009 (0.007)	0.055 (0.035)	-0.117 (0.073)	-0.292*** (0.093)	0.008 (0.007)	0.053 (0.035)
Parental Mental Health Score					0.053*** (0.003)	0.026*** (0.004)	0.002*** (0.000)	0.004*** (0.001)				
Parenting Aggravation Score									0.498*** (0.019)	0.321*** (0.024)	0.009*** (0.002)	0.011 (0.009)
Child care in household												
Child care in other household												
Child in after-school care												
Self care												
Number of hours in childcare												
Constant	16.377*** (0.365)	13.932*** (0.431)	3.014*** (0.033)	0.365** (0.160)	12.088*** (0.419)	11.870*** (0.518)	2.890*** (0.041)	0.083 (0.192)	8.957*** (0.434)	9.169*** (0.552)	2.885*** (0.044)	0.211 (0.209)
Observations R-squared	3368 0.058	3381 0.087	3411 0.030	3374 0.180	3361 0.145	3336 0.102	3366 0.039	3365 0.181	3366 0.222	3341 0.134	3371 0.037	3370 0.180

Table 5 (continued). Step-wise Models of Associations between Parental *Non Standard Work, Interactions with Arranged Hours* and Children's Outcomes for Ages 6-11 years

	Basic Model with Parent Mental Health and Aggravation				Basic Model with Parent Variables and Childcare			
	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr.Activities
Dad Standard Mom NonStandard	-0.115	-0.251	0.044*	-0.231**	-0.140	-0.292	0.044*	-0.237**
	(0.227)	(0.290)	(0.023)	(0.110)	(0.228)	(0.291)	(0.023)	(0.110)
(Dad Std. Mom NStd.) * (Hours Arranged)	0.132	0.390	-0.055**	0.110	0.135	0.394	-0.059**	0.115
	(0.250)	(0.321)	(0.026)	(0.122)	(0.251)	(0.321)	(0.026)	(0.122)
Dad NonStandard Mom Standard	-0.177	0.174	0.008	-0.011	-0.179	0.162	0.007	-0.013
	(0.142)	(0.183)	(0.015)	(0.069)	(0.142)	(0.184)	(0.015)	(0.070)
(Dad NStd. Mom Std.) * (Hours Arranged)	0.103	-0.138	-0.019	-0.078	0.077	-0.147	-0.021	-0.067
	(0.181)	(0.234)	(0.019)	(0.089)	(0.182)	(0.235)	(0.019)	(0.089)
Dad NonStandard Mom NonStandard	0.092	-0.485	0.037	-0.511***	0.092	-0.389	0.030	-0.486***
	(0.347)	(0.446)	(0.036)	(0.170)	(0.353)	(0.454)	(0.036)	(0.173)
(Dad NStd. MomN Std.)* (Hours Arranged)	0.008	0.095	-0.050	0.414**	0.005	-0.046	-0.048	0.374*
	(0.421)	(0.543)	(0.043)	(0.206)	(0.427)	(0.551)	(0.044)	(0.209)
Hours Arranged for Childcare	-0.094	-0.284***	0.009	0.055	-0.090	-0.307***	0.011	0.045
	(0.072)	(0.093)	(0.007)	(0.035)	(0.072)	(0.093)	(0.007)	(0.035)
Parental Mental Health Score	0.032***	0.012***	0.001***	0.003**	0.032***	0.011***	0.001***	0.003**
	(0.003)	(0.004)	(0.000)	(0.001)	(0.003)	(0.004)	(0.000)	(0.001)
Parenting Aggravation Score	0.425***	0.294***	0.006***	0.003	0.422***	0.287***	0.006***	0.005
	(0.020)	(0.025)	(0.002)	(0.010)	(0.020)	(0.025)	(0.002)	(0.010)
Child care in household					-0.106	-0.091	-0.006	0.109***
					(0.077)	(0.099)	(0.008)	(0.037)
Child care in other household					-0.051	-0.049	-0.016*	0.002
					(0.079)	(0.102)	(0.008)	(0.039)
Child in after-school care					-0.154*	-0.119	0.003	0.081**
					(0.079)	(0.102)	(0.008)	(0.039)
Self care					-0.087	-0.187	-0.009	0.058
					(0.090)	(0.116)	(0.009)	(0.044)
Number of hours in childcare					0.003	-0.009*	0.000	-0.006***
					(0.004)	(0.005)	(0.000)	(0.002)
Constant	7.421***	8.627***	2.826***	0.048	7.531***	8.919***	2.840***	0.154
	(0.447)	(0.579)	(0.046)	(0.219)	(0.457)	(0.592)	(0.047)	(0.223)
Observations	3361	3336	3366	3365	3333	3307	3336	3336
R-squared	0.251	0.137	0.042	0.181	0.251	0.140	0.044	0.187

Table 6. Step-wise Models of Associations between Parental *Non Standard Work, Interactions with Arranged Hours* and Children's Outcomes for Ages 12-17 years

	Basic Model				Basic Model with Parental Mental Health				Basic Model with Parent Aggravation Score			
	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities	BPI Score	School Engagement	Child Health	Extracurr. Activities
Dad Standard Mom NonStandard	-0.160 (0.292)	0.238 (0.405)	0.027 (0.031)	-0.182 (0.129)	-0.180 (0.280)	0.167 (0.402)	0.027 (0.031)	-0.183 (0.129)	-0.045 (0.269)	0.240 (0.399)	0.030 (0.031)	-0.178 (0.129)
(Dad Std. Mom NStd)* (Hrs Arrged)	-0.161 (0.339)	-0.445 (0.470)	-0.070** (0.036)	-0.051 (0.150)	0.024 (0.325)	-0.269 (0.467)	-0.064* (0.036)	-0.044 (0.150)	-0.122 (0.312)	-0.376 (0.463)	-0.070* (0.036)	-0.052 (0.149)
Dad NonStandard Mom Standard	-0.250 (0.194)	-0.119 (0.265)	0.017 (0.020)	-0.035 (0.086)	-0.223 (0.186)	-0.135 (0.262)	0.017 (0.020)	-0.034 (0.086)	-0.254 (0.178)	-0.172 (0.260)	0.017 (0.020)	-0.035 (0.086)
(Dad NStd. Mom Std)* (Hrs Arrged)	-0.008 (0.257)	-0.364 (0.351)	0.003 (0.027)	-0.131 (0.113)	-0.001 (0.246)	-0.338 (0.347)	0.003 (0.027)	-0.133 (0.113)	0.071 (0.236)	-0.278 (0.345)	0.003 (0.027)	-0.123 (0.113)
Dad NonStandard Mom NonStandard	-0.094 (0.523)	-1.953*** (0.720)	-0.101* (0.054)	-0.525** (0.224)	0.136 (0.502)	-1.766** (0.708)	-0.094* (0.053)	-0.518** (0.224)	0.165 (0.481)	-1.771** (0.702)	-0.055 (0.055)	-0.471** (0.231)
(Dad NStd. Mom NStd)* (Hrs Arrged)	0.272 (0.603)	1.618* (0.834)	0.076 (0.062)	0.284 (0.260)	-0.006 (0.578)	1.358* (0.820)	0.069 (0.062)	0.274 (0.260)	-0.023 (0.555)	1.391* (0.814)	0.029 (0.064)	0.228 (0.266)
Dad Standard Mom NonStandard	-0.153 (0.109)	0.042 (0.150)	0.003 (0.011)	0.024 (0.048)	-0.115 (0.105)	0.093 (0.148)	0.004 (0.011)	0.025 (0.048)	-0.051 (0.101)	0.132 (0.147)	0.006 (0.012)	0.027 (0.048)
Parental Mental Health Score					0.049*** (0.003)	0.042*** (0.005)	0.002*** (0.000)	0.002 (0.002)				
Parenting Aggravation Score									0.449*** (0.023)	0.338*** (0.033)	0.010*** (0.003)	0.013 (0.011)
Constant	16.866*** (0.558)	12.379*** (0.767)	3.098*** (0.059)	1.996*** (0.246)	12.915*** (0.605)	8.873*** (0.858)	2.969*** (0.066)	1.834*** (0.279)	9.566*** (0.632)	6.801*** (0.928)	2.930*** (0.073)	1.785*** (0.303)
Observations	2139	2139	2167	2148	2137	2118	2146	2145	2138	2119	2146	2145
R-squared	0.065	0.148	0.079	0.155	0.144	0.176	0.088	0.156	0.211	0.188	0.081	0.155

Table 6. (continued) Step-wise Models of Associations between Parental *Non Standard Work, Interactions with Arranged Hours* and Children's Outcomes for Ages 12-17 years

	Basic Model with Parent Mental Health and Aggravation			
	BPI Score	School Engagement	Child Health	Extracurr.Activities
Dad Standard Mom NonStandard	-0.075	0.216	0.028	-0.180
	(0.264)	(0.397)	(0.031)	(0.129)
(Dad Std. Mom NStd.) * (Hours Arranged)	-0.010	-0.277	-0.064*	-0.045
	(0.306)	(0.460)	(0.036)	(0.150)
Dad NonStandard Mom Standard	-0.237	-0.151	0.017	-0.034
	(0.175)	(0.258)	(0.020)	(0.086)
(Dad NStd. Mom Std.) * (Hours Arranged)	0.064	-0.289	0.005	-0.123
	(0.232)	(0.342)	(0.027)	(0.113)
Dad NonStandard Mom NonStandard	0.273	-1.669**	-0.051	-0.465**
	(0.473)	(0.698)	(0.055)	(0.231)
(Dad NStd. MomN Std.)* (Hours Arranged)	-0.155	1.262	0.024	0.221
	(0.545)	(0.809)	(0.063)	(0.266)
Hours Arranged for Childcare	-0.042	0.143	0.005	0.027
	(0.099)	(0.146)	(0.011)	(0.048)
Parental Mental Health Score	0.031***	0.029***	0.001***	0.002
	(0.003)	(0.005)	(0.000)	(0.002)
Parenting Aggravation Score	0.383***	0.276***	0.008***	0.009
	(0.024)	(0.035)	(0.003)	(0.011)
Constant	8.132***	5.448***	2.870***	1.704***
	(0.642)	(0.952)	(0.075)	(0.313)
Observations	2136	2117	2144	2143
R-squared	0.240	0.200	0.087	0.156

Table 7 . Using Nonstandard Work and Interactions with Arranged Hours to predict Parental Mental Health and Parental Aggravation Score

Working Hours	Younger Children Ages 6-11		Older Children Ages 12-17	
	Parental Mental Health	Parental Aggravation Score	Parental Mental Health	Parental Aggravation Score
Dad Standard Mom NonStandard	-3.580**	-0.204	0.374	-0.262
	(1.453)	(0.212)	(1.746)	(0.257)
(Dad Std. Mom NStd.) * (Hours Arranged)	3.360**	0.245	-3.629*	-0.083
	(1.603)	(0.234)	(2.024)	(0.298)
Dad NonStandard Mom Standard	0.123	0.038	-0.536	0.007
	(0.914)	(0.133)	(1.158)	(0.171)
(Dad NStd. Mom Std.) * (Hours Arranged)	-0.109	0.166	-0.172	-0.198
	(1.168)	(0.170)	(1.531)	(0.226)
Dad NonStandard Mom NonStandard	-2.820	-0.339	-3.703	-0.584
	(2.235)	(0.319)	(3.034)	(0.461)
(Dad NStd. MomN Std.)* (Hours Arranged)	3.235	0.538	4.646	0.660
	(2.710)	(0.390)	(3.521)	(0.531)
Hours Arranged for Childcare	-1.002**	-0.082	-0.788	-0.233**
	(0.462)	(0.067)	(0.652)	(0.096)
Constant	81.544***	14.876***	81.206***	16.284***
	(2.098)	(0.306)	(3.328)	(0.490)
Observations	3366	3371	2146	2146
R-squared	0.050	0.039	0.056	0.049