

Out of sight – out of mind? Non-standard work schedules and parent-child interaction

Kadri Täht

Department of Social Research Methodology, Vrije Universiteit Amsterdam, De Boelelaan 1081, 1081 HV Amsterdam, the Netherlands. Email: k.taht@fsw.vu.nl

Melinda Mills

Department of Sociology/ICS, University of Groningen, Grote Rozenstraat 31, 9712 TG Groningen, the Netherlands. Email: m.c.mills@rug.nl

Abstract

Many children now live in households whether either one or both of their parents work non-standard schedules (NSS) in the afternoon, evening, night or weekend. The majority of research linking NSS with family life has focused on partnership quality and divorce, parental well-being or child outcomes, with less attention to parent-child interaction. This study explores two competing hypotheses of whether NSS result in lower levels of parent-child interaction or conversely, whether parents use NSS to spend more time with children, avoid formal childcare and ensure that one parent is always present. Using the Netherlands Kinship Panel Study of 1,722 couples and data from 34 semi-structured qualitative interviews, we engage in a series of ordered logit regression models, correspondence and narrative text analysis. A central finding is that NSS appear to significantly increase the level parent-child activities and care-giving for fathers, with no significant gain for mothers. It does reduce daily family dinners, with qualitative interviews showing strategies families develop to still interact. Couples also clearly use NSS to avoid formalized childcare and ensure that one family member is always present. Lower levels of parental well-being also result in reduced parental activities, often related to tiredness brought about by shift and night work.

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DRAFT VERSION

INTRODUCTION

The working patterns of parents have changed radically over the last decades in many modern societies. There has been an overwhelming shift from single- to dual-breadwinner households where both parents are employed. Parents work not only more hours than previously, but more importantly, the location of when these hours are worked has also changed. The rise of 24/7 economies has prompted a growth in non-standard work schedules (NSS), which refers to persons who work in non-standard hours (hours outside of fixed day 9 to 5 schedules), non-day hours (evenings, nights, rotating schedules) and non-standard days (Saturday and/or Sunday) (Presser, 2003). This means that more children now live in households where either one or both of their parents work in the afternoon, evening, night or weekend.

The majority of research that links NSS to family life focuses on the strong relationship between these schedules on marital divorce, partnership conflict and lower satisfaction in couple relationships (e.g., Hertz & Charlton, 1989; Mott et al., 1965; Weiss & Liss, 1988; White & Keith, 1990; Wooddell et al., 1994; Mills & Täht, 2007). Parents working NSS have been reported to experience 'role overload' (Perry-Jenkins et al. 2007), often accompanied by serious health problems such as higher levels of stress, sleeping and physical disorders that in turn lower their overall level of well-being (e.g., Schulz et al. 2004).

Although there is a substantial body of literature of the impact of NSS on individual psychological and physical health and partner relationships, there is a surprising lack of research into the impact that NSS have on children. It is only in the last years that several studies have emerged to address this problem. However, this research has produced highly mixed results, producing two divergent findings. The first body of literature shows that NSS results in higher levels of emotional and behavioral problems in children, often generated by heightened levels of stress, guilt or depression among parents (Strazdins et al. 2004; 2006; Perry-Jenkins et al., 2007; Joshi and Bogen, 2007). Strazdins et al. (2004; 2006) found that children from dual-earner families where at least one of the partners worked any type of NSS suffered from more emotional and behavioral difficulties. Perry-Jenkins et al. (2007) demonstrated that mothers and particularly new parents who worked non-day shifts had higher levels of depression and relationship conflict. The underlying hypothesis is that these exhausted individuals are emotionally and physically unavailable, have a higher potential to withdraw or be insensitive to other family members or engage in ineffective parenting practices.

The second body of research finds no conclusive evidence of the negative impact of NSS on parenting behavior and children's well-being, with some even pointing to the positive impact that these types of work schedules have on children (Barnett and Gareis, 2008; Han and Waldfogel, 2007). Here the focus is often the fact that parents actively use NSS to spend more time with their children, ensuring that at least one parent is always present with the children (Han, 2004). Han and Waldfogel (2007) for example, demonstrated that since NSS improved the monitoring of adolescents, it resulted in a decrease of adolescent delinquent behavior in two-parent families. Davis, Crouter and McHale (2006) reported higher levels of relationship intimacy between mothers who worked shifts and their adolescent children. Others have suggested that the increase in mother's employment has a positive impact on father's involvement in children (Wood and Repetti, 2004), which is often the case in NSS. This suggests that although there is a decrease in maternal care, there is a subsequent increase in childcare by fathers (Han, 2004).

There is not only a puzzle of whether NSS has a positive or negative impact on children, but a central feature that has been lacking in the studies to date. The majority of research focuses on 'outcomes' in children, such as emotional and behavioral problems (e.g., Strazdins et al. 2004; 2006) and relates this almost exclusively to parental characteristics (depression, lower well-being). These studies take a large 'leap' implicitly assuming that these shifts fundamentally result in different types of interaction and lower levels of interaction between parents and children, yet fail to examine actual parent-child interaction itself. This leaves us with little knowledge about the underlying mechanisms of *how* lower parental well-being generates emotional and behavioral problems in children.

The aim of this paper is to examine how different types of NSS impact parent-child interaction. We compare differences between those who work regular day and weekday schedules with those in different types of NSS by examining differences in daily family activities (e.g., eating dinner together), time spent with children (e.g., reading, playing, homework, taking to clubs or sports) and the division of child-related care tasks and duties between partners. We use a large quantitative sample of the Netherlands Kinship Panel Study (NKPS, Dykstra et al., 2004) of 1,722 couples and qualitative interviews from 34 individuals (14 of whom are couples, Mills & Hutter, 2007) to examine this question. A combined quantitative and qualitative approach offers a more committed examination of the research question and hypotheses and understanding of the underlying mechanisms and strategies linking NSS to parent-child interaction.

NON-STANDARD WORK SCHEDULES AND PARENT-CHILD INTERACTION

Although the literature on the link between parents working NSS and the impact of children focuses largely on the emotional and behavioral outcomes of children, we do have some indication from several studies about the potential impact that NSS have on parent-child interaction. A second interdependent issue is the function that NSS may play as a solution for early childcare, which may in fact enhance parent-child interaction, particularly of fathers.

As touched upon previously, there are highly mixed findings about how NSS impact parent-child interaction. A general expectation we can draw from one strand of literature is that NSS are ‘unsociable’ and ‘unhealthy’, which result in higher depressive symptoms of parents and worse family functioning that in turn lead to lower levels of parent-child interaction and more social, emotional and behavioral difficulties in children (Desai et al. 1989; Strazdins et. al. 2004; 2006; Han 2005). Presser’s large body of research (e.g., 1988; 1999; 2003) on this topic has often linked NSS to the erosion of marital relationships. This is signaled by higher levels of conflict, lower satisfaction and changes in family routines that undoubtedly also impact children (Mills and Täht, 2007). Strazdins et al. (2004; 2006) provide evidence that children whose parents work NSS have higher levels of emotional and behavioral difficulties such as hyperactivity and inattention, aggression, and separation anxiety. A significant shortcoming of this research is that it makes large assumptions about parent-child interaction, lumps all types of NSS into one category and neglects the examination of parental autonomy or actual preferences for working these types of schedules. Although parent-child interaction is only insinuated in these studies (and rarely directly studied), it is possible to translate these findings to our first hypothesis: *NSS of either one or both of the parents will result in lower levels of parent-child interaction.* This literature also leads to a related hypothesis, which is that *parents who have lower levels of individual well-being will have lower levels of parent-child interaction.*

Conversely, a contrasting body of research leads us to form a completely opposite and competing hypothesis. We know that households often actively develop strategies to fit childcare, paid work and family interaction (Becker and Moen, 1999). These strategies may include avoiding jobs that interfere with family duties or the choice of one partner (generally the woman) to work in a job that is more flexible. Couples often actively work to enhance their children’s well-being by trying to provide a maximum amount of parental childcare time

(Mennino and Brayfield, 2002). Riley and Glass (2002) show that it is often the preference of parents to share care of children between them. This option becomes relevant especially when both partners participate in paid labor. In this sense, NSS offer a unique opportunity to fulfill this need as it allows at least one partner to always be present with the children (La Valle et al. 2002). Presser and Cox (1997) confirm that around one-third of married mothers report working in NSS in order to help with childcare arrangements. Han (2004) demonstrated these dynamics by showing that many mothers actively switch to working nonstandard hours, with the couple then shifting childcare from care centers to fathers. Fathers' participation in care was likewise greater when both partners worked nonstandard hours. There appears to be growing evidence of NSS allowing 'tag-team parenting', which suggests higher levels of parent-child interaction. This is in line with additional studies, which have found that working different hours may increase parent-child interaction, particularly of fathers who engage in childcare while the mother is working (Bianchi, 2000; Yeung et al., 2001; Averett, Gennetian and Peters, 2000; Brayfield, 1995; Riley and Glass, 2002). From this stream of literature, we can draw a competing hypothesis that contradicts our previous expectation: *NSS will result in higher levels of parent-child interaction, particularly from fathers when either the woman or both partners work NSS.*

As touched upon previously, less research has explicitly examined the impact of NSS on the levels or types of parent-child interaction. Early studies (e.g., Nock and Kingston, 1988) found that parents who work NSS spend around 30 (fathers) to 42 (mothers) minutes less per with their children than those who work standard day schedules. Mott et al. (1965) showed that male shift workers had trouble with assuming the father role due to the lack of schedule overlap between their work schedule and the school schedule of their children. However, there appears to be few direct contemporary studies that examine the different types and the levels of parent-child interaction detail. The general focus has been on the examination of NSS in relation to child care (e.g., Han, 2004) or a general variable that examines NSS and the amount of time spent with children without specifying the nature of these activities (e.g., Davis, Crouter and McHale, 2006).

Barnett and Gareis (2008) are an exception in that they directly examine not only the amount of time involved with children, but also the knowledge of the child's activities, disclosure to parents and child's and parent's rating of parenting skills. Using a sample of 55 dual-earner couples where the mother was a registered nurse, they examined the impact that shift work had on parenting behavior and child's well-being. They found that the mothers' work schedules do not affect either the amount of time they directly spend with their children, disclosures from

children or ratings of parenting behavior. When mothers worked evening shifts, fathers reported spending more time with children, with children reporting higher levels of disclosure to their fathers and giving them higher parental rating scores. One conclusion was that the effects of maternal shift work on child outcomes were mediated by the fathers' parenting behavior.

This study extends current research that often only links NSS with the amount of time spent with children, to an examination of the different types of joint activities. These activities include eating dinner together and time spent with children in the form of reading, playing, spending time with the computer, helping with homework and taking them to sports or club activities. The meaning and importance ascribed to these activities in addition to other forms of parent-child interaction are further elaborated upon in qualitative interviews of the parents themselves. In order to understand if and how NSS are used as form of 'tag-team parenting', we also examine the impact of NSS on the division of child-related care tasks and duties (e.g., bathing child, help getting dressed, staying at home when child is ill, taking child to school, day care, babysitter) between partners.

Our first hypothesis regarding parent-child interaction is that *working NSS will result in less joint family dinners*. We expect this to be the case for not only those engaged in non-day work, but also weekend workers. The examination of this variable is an empirical test of the common assumption that families where at least one parent works NSS engage in less physical time together with the NSS worker being 'out of sync' with the rest of the family (see for e.g., La Valle et al. 2002). A second parent-child interaction hypothesis is that NSS will result in a less traditional division of child-care related tasks and duties between the male and female partners. Here we specifically anticipate that *when women work NSS, men will be significantly more involved child-care tasks and duties and women will show no reduction in child-care tasks*. We expect little change in women's child-care tasks due to the fact that previous research has found that mother's NSS work schedule has little impact on the time they spend with their children as it is often planned around the children themselves (e.g., Presser, 1988; Barnett and Gareis, 2008).

During the quantitative analysis, we also control for important factors such as the education of partners and occupational level to serve as a proxy for socio-economic status. Here the central expectation is that more highly educated parents and those with a higher occupational status have the human capital, power and autonomy to bargain themselves into jobs with better working times or flexible times that coincide with children. The less-educated and lower occupational status parents are often in these jobs for involuntary reasons, and in occupations with lower pay and less flexibility (Mills, 2004). This aspect will also be touched upon by including the variable

of the level of autonomy in choosing work days and/or hours. Here the expectation is that lower autonomy leads to a higher inability to engage in activities with children, thus translating in lower parent-child time and child-care related tasks. The number of work hours was also included in the models to separate whether effects were related to the number of hours or schedules. Of course, other family characteristics are taken into account including whether couples are in a marital or cohabiting union, the number of children in the home and the ages of these children. Our underlying assumption is that married couples will have a more traditional division of labor and family-oriented norm to spend more time with children, generally more so for women. We also expect that then men will spend less time and engage in less direct child-care related tasks in very young children (under the age of 3), due to the maternity leave system and norms surrounding the care of young children.

DATA, VARIABLES AND METHODS OF ANALYSIS

We examine these research questions using a mixed-method approach of a large-scale quantitative dataset of couples combined with in-depth open interviews in the Netherlands. This methodological approach contributes to existing research by using a larger representative sample of workers engaged in NSS (as opposed to only a limited sample of for instance nurses or shift-workers) and engages in a couple-level analysis. We then drew a smaller sample from this larger quantitative data and engaged in-depth individual and couple-level interviews to understand the process further and interpret the process from the perspective of individuals and couples themselves.

Quantitative and qualitative data

The quantitative data draws from the Netherlands Kinship Panel Study (NKPS) (Dykstra et al., 2004), which contains a large amount of life-history information, including information on non-standard work schedules and activities with children and other family members. The NKPS is a multi-actor, multi-method panel study, with data in the first wave currently available from 2002-2004. The data is collected from a random sample of individuals within private households in the Netherlands, aged 18 to 79. 8,161 anchors (main respondents) of the study were interviewed

face-to-face. Their family members (parents, some of the siblings and/or children) were asked to complete an additional questionnaire, which provides us with necessary information on working schedules, frequency and type of parent-child interaction as well as activities concerning child-care. However, since detailed working schedule information of both respondents and their partners is available only in the self-completed questionnaire, our sample is restricted to couples that both filled in this questionnaire. Thus, after restricting our sample to couples who share the same household and where at least one is employed a minimum 12 hours a week, and where there is at least one child currently living home we are left with a sample size of 1,722 couples.

The qualitative data comes from the NKPS Minipanel Non-Standard Working Times and Partnership Quality and Stability (Mills & Hutter, 2007), which consists of individual level interviews with 35 individuals (of which also consisted of 14 couples) in 2006 and couple-level interaction interviews with a selection of 7 couples from this group in 2007. Using a 'purposive sampling' strategy, a theoretically driven sample was selected from the NKPS quantitative data to represent unique cases (Marshall & Rossman, 1999). Considering the fact that the qualitative interviews were conducted several years after the quantitative data collection, and one year apart from each other (individual and couple interviews) they took on a decidedly longitudinal nature, allowing us to also interview individuals who had left or changed their type of NSS or re-evaluated their previous perceptions or interaction with children. Selection was based on both the dependent variables (presence of children; arrangement and division of child-care and rearing activities in the family) and the key independent variables (type of work schedule, age of children, gender).

Individual interviews took place from February to June 2006 in respondents' homes, with couples separated from one another. Couple interviews took place in March 2007 with topics tailored to each couple in order to understand inconsistent reports between the original separate individual interviews or engage in deeper questioning about interesting points from the previous interview. Each interview lasted typically 1.5 hours, with all interviews digitally recorded and literally transcribed, complete with non-verbal descriptions of the context and interviewer reflections. All interviews covered predetermined topics, with interviewers trained to vary the conversation according to the respondents' answers and probe for specific information. Respondents were asked detailed questions about their (and/or their partner's) employment such as occupation, working hours and days, how they began working in this job, voluntary nature of work, current and future preferences and the advantages, disadvantages and strategies involved

in working in these times. They were then asked general questions about combining working schedules and child-care and rearing activities and the division of labor in the household.

Operationalization of Variables

In order to operationalize parent-child interaction, we use various measures. Firstly, we examine the *number of family dinners* together with partner and children during a typical work week. *Activities carried out with children* is measured using a four-item-scale ($\alpha = .60$), that includes the frequency of being engaged in the followed activities in the past week, which include: reading to child(ren); playing board games, spending time at computer, drawing; helping child(ren) with homework and taking child(ren) to sport activities or clubs. *Division of child-rearing tasks between partners* is measured using a three-item-scale ($\alpha = .84$) that consists of the following activities: bathing children, helping them get dressed; staying at home if the child is ill, getting out of bed at night; and taking the child(ren) to school, day care or a babysitter.

We made the decision to run models separately for men and women due the fact that initial analyses showed clear variation in certain activities and to test several of our hypotheses. There was no significant gender difference participating in family dinners (4.1 and 4.0 evenings a week for women and men respectively). However, there was consistent gender variation in activities with children with women more often reading books to children, playing games with them, helping with homework and taking them to sport activities and clubs. There does not appear to be any gender-specific activity, with the difference between men and women being relatively even across all of the observed activities. There were also generally constant gender patterns in the division of child-rearing tasks with women again in more of the tasks.

The non-standard working schedule (NSS) variable is constructed from the actual working hours of the week prior to data collection. Unfortunately, our quantitative data does not allow us to separate the category of NSS workers who work (weekly) rotating shifts. We use the standard majority definition where at least half of the hours worked most days in the prior week must fall outside 08:00 and 16:00 (see Presser, 2003). In other words, when the majority of the hours fall between 08:00 and 16:00, the person is regarded as working in a fixed day schedule and when majority of the working time fall outside those hours, the person is regarded as fixed non-standard schedule worker. In this analysis, we compare workers in day schedules with those in non-standard work hours and also contrast those in weekend work with those who only work

during weekdays. In previous analyses (e.g., Mills and Täht, 2007) we examined more nuanced differences by the type of schedule, such as fixed evening or night schedules or hours that vary. However, due to smaller sample sizes, we include only these broader categories here.

Control variables include: couple characteristics (age of respondent, mean education and ISEI of partners) and family characteristics (cohabiting or marital union, number and age of children). The ISEI is a socio-economic status measure (Ganzeboom, de Graaf & Treiman, 1992), which is an important control to separate whether it is actually the effects of NSS or the job characteristics, such as low status and income that predicts the type and frequency of parent-child interaction. As stated previously, we also include the autonomy in choosing workdays and hours and an index of individual-level well-being ($\alpha = .84$). Individual-level well-being measured via a series of five questions on a five-point scale (very nervous, depressed, calm and composed, miserable and dejected, happy). Further qualitative evidence provides more insight into feelings about one's own well-being and how they feel it impacts interaction in the family.

Methods of analysis

For the quantitative analysis we used an ordered logit regression model to avoid losing information provided by the constructed schemes, and due to the fact that these models are not sensitive to variable distribution in the way that many other regression models are (Winship & Mare, 1984; Long, 1997). Using the couple data, the models are run separately for male and female parents to measure the impact of the abovementioned explanatory variables on parent-child interaction. The qualitative analyses combine narrative analysis with more summarizing graphical techniques to bring out themes and contrasts. Formal coding procedures with multiple coders were used to first create a common coding scheme and comprehensive codebook. The narrative analysis (Denzin & Lincoln, 2003; Strauss & Corbin, 1990) consisted of close readings and comparison of the text and detailed cases by first defining general categories (e.g., positive aspects of NSS) and then investigating the relationship between these categories with respect to characteristics of respondents (e.g., sex age of children). In the second stage of analysis, we engaged in the summarizing technique of correspondence analysis, a technique to bring out relationships between codes, themes and individuals characteristics within the data (Benzécri, 1973). It is a method of factoring categorical coded categories and displaying them in a visual space that maps their association in two or more dimensions. The correspondence analysis

determines which categories of the coded variables and individual characteristics are closer together or ‘cluster’. These values are then visualized via correspondence maps, plotting categories along the computed factor axes. The interpretation of these maps is discussed in more detail in the results section.

RESULTS

Descriptive Results

Table 1 provides a description of the level of NSS and labor market participation among Dutch couples using the first wave of the Netherlands Kinship Panel Study (NKPS) (Dykstra et al., 2004). We see that around two thirds (64 percent) of all couples work in standard working time arrangements (i.e., one or both partners who work do it in ‘fixed day schedules in 5 or less weekdays’). The remaining 36 percent are in some way affected by NSS. When comparing NSS among couples with and without children, we observe that the share of NSS workers is both 37 percent, which only slightly varies from the average. The proportion of NSS work is somewhat higher (38 percent) among couples where there is a pre-school aged child in the household.

The first predominant difference between male and female partners is employment itself – among males only 7 percent do not work compared to 32 percent among women. Many women appear to exit the labor market after having children. Of those without children, only 13 per cent do not work, whereas after having at least one child, about one third retreats from employment. The second striking difference between the sexes are disparities in the amount of working time, with women very often working less than 5 days a week. The discrepancy becomes especially high when comparing families with children and no children. Of women without children, 37 percent work reduced hours, whereas it is 61 percent for those with at least one child. When the child is in pre-school ages it increases to 69 percent of women. Among men the differences are less radical with the majority working predominantly 5 days a week. However, due to more recent changes in Dutch paternity-leave regulations and growing acceptance of participation of fathers in the household, having a young child in the house often means that men also reduce the number of working days/hours.

Regarding NSS work, it is about one fourth of male and female partners who work in one or other way (days or shifts) in NSS schedules. Among couples with children the NSS work is less predominant, especially for women. However, once there is a child in the family, this increases

also the NSS work chances, especially for women (22 percent for women with no children, compared to 26 percent with at least one child regardless the age of the child).

[TABLE 1]

The prevalence of NSS among couples also differs in terms of schedule type, which is shown in Table A1 in the Appendix. When strictly examining working hours and those who participate in paid labor, women are more often engaged in regular evening, night or varying hours shifts (respectively 10 percent of women and 6 percent of men). At the same time, men work more often in weekends than women (24 and 20 percent respectively). NSS are strongly related to working hours, with evening and night schedule workers of both sexes employed in significantly fewer hours than fixed day schedule workers. Men in the ‘hours vary’ category work significantly more hours than fixed day shift workers (likely overtime workers), whereas for women there are no significant differences between those two categories. For men’s weekend work, we can observe a clear overtime work pattern. Those who work only in 5 weekdays work on average 45.1 hours a week, whereas weekend workers engage in 51.1 hours of work a week. For women, weekend work is often their only working time, which is arranged in this way so that their partner can care of the children, providing some initial descriptive support for our expectation that couples use NSS for ‘tag-team parenting’. This means that these women work significantly fewer hours than those who work 5 weekdays.

Family dinners

Our general hypothesis regarding the effect of NSS on family dinners was that working NSS would reduce the number of joint family dinners, which is defined in the quantitative data as evening meals where both partners and children who still live home are present. As shown in Table 2, the results of ordered logit regression models confirm our expectations. For both male and female partners, being involved in NSS makes them significantly less likely to have dinners together with the whole family. When we examine the effect of partners’ NSS schedule, our results are once again confirmed. When male or female partner of the respondent is working NSS then they also report that there are significantly less joint dinners with the entire family. However, the analysis of the qualitative data places the concept of ‘eating dinner’ together in the

evening in question. In fact, the majority of families discussed strategies that they had developed to eat together at least one time during the day, often shifting the evening meal to lunch.

If he has an afternoon shift then I make a hot meal for lunch...then we eat dinner. My daughter comes home at lunch from elementary school and also joins us. The oldest child, he goes to high school, he says 'Come on mom, I'll eat it tonight'. So I save it for [him] and then we eat together, he eats a hot dinner and we eat bread.

Wife of Rotating Male shift worker, with 2 children

In our quantitative model, we also controlled for the effect of partnership status of whether respondents are legally married or in a cohabiting union. Our expectation was that for families with married parents, we would observe more traditional patterns, meaning more joint dinners together. As the results of regression models reveal, this tends to be indeed the case. Our results also show that number of working hours does not make a significant difference in terms of joint evening meals, neither for male nor female partners. There is only a modest effect for the female partners' reduced number of working hours. In other words, when female partners work the lower number of 21-35 hours compared to more than 36 hours, this increases their chances for more joint family dinners. What is of central relevance is not the number of working hours, but the schedule itself. We also expected that having higher autonomy in choosing the working days and hours increases the involvement in family activities, which according to our models does not seem to hold. This is likely related to the fact that the ability to choose days and hours is highly related to occupation and position, with those in higher-level professional occupations for example also engaging in more overtime, which mean missing joint family dinners. Although only a modest effect, having higher autonomy in choosing working time actually decreases the participation in family dinners within working week.

[TABLE 2]

Time spent with children

With respect to the effect of NSS on activities together with children, based on previous literature we formed two competing hypotheses. On the one hand, we expected that NSS work of either one or both of the parents would result in lower levels of parent-child interaction. An

opposite expectation was that NSS actually result in higher levels of parent-child interaction, particularly for fathers when either the woman or both partners are working. Our findings from the ordered logistic regression models (in Table 3) provide stronger support for the second hypothesis. In the Dutch case, working NSS (measured as fixed evening or night schedules) increases participation in activities with children, particularly for fathers. For mothers there is not as a significant effect, neither for non-standard shifts, nor for non-standard days. As mentioned previously, this is likely due to the fact that many mothers arrange their work schedules around that of others, particularly their children, which was repeatedly confirmed in the qualitative interviews. A mother who was the wife of a shift worker reflects this common decision: “I made a decision to stop working when the children came. When the youngest turned 6 I started to work again during the hours that they were at school.”

[TABLE 3]

Table 3 also shows that for male partners we also observed that when their wives worked in non-standard times (especially in weekends), they were clearly more involved in various activities with children. At the same time, we do not observe any significant effect for women. These findings mirror the narratives of both NSS workers and their partners. Fathers (and their partners) in particular overwhelmingly stated that NSS allows them to be more involved with their children.

The advantage of the night shifts is that I am home in the morning for the entire week. That means that I can help my wife with the children. Just take the girls to school or pick them up, that we can have a hot meal together here at lunch.

Male, fixed night shifts, father of 2 young children

An advantage of irregular work times is that I have three children, two twin boys and the second of the twins was born with brain damage...he was heavily disabled and because of the irregular work times I could spend a lot of time with him...and that has in fact brought him to where he is now and that goes very well.

Male, rotating and irregular shifts, father of 3 children

However, not all fathers were positive about their situation, particularly the men who worked many overtime hours and often worked through the weekend.

...I don't like it because during the week they [children] are in school. Like now, I am free but they are in school. In the weekends when I have to work the children are free. But yes, it is always give and take. One time maybe I'll have more time to spend with them.

Male, Shift Worker and Weekend Work, 50+ Hours, Young Children

From the theoretical discussions, we also expected that being married result in a more 'traditional' behavior – married women would be more likely to stay at home when having children, have a more traditional division of child-care and rearing tasks, thus are also more engaged in more activities with children. Our results confirm this expectation – married women do spend more time in activities with children than those who are not married. For men the frequency of playing, reading, doing sports, and other activities does not significantly differ for married and cohabiting couples. We also expected that lower autonomy in choosing days and hours would lead to a higher inability to engage in activities with children, which according to our study does not appear to be the case. However, our results confirm that individual non-well-being (both for men and women) does decrease the activities with children. This reflects a consistent finding that emerged from the qualitative interviews, which was that it was not only the actual time spent with children, but the quality of this time that is important. The qualitative interviews therefore lend more support to the first hypothesis, with countless night shift workers suggesting that their work led to tiredness and irritability and often no or very negative interaction with their children.

I would always say to the kids 'Daddy worked the night shift'. Then they would take it into account....because you are irritated much faster. I think it is because of the biorhythm and the switches.

Male, Shift Worker and Weekend Work, 50+ Hours, Young Children

The qualitative interviews did also show more nuanced support for the relation between NSS and autonomy. There were clearly distinct narratives for those who felt that they were 'forced' to work NSS and those who chose to do so. As one male factory stated:

You have to do it...in terms of money it is really good, but in terms of family...the one time the children see their dad and then the other time the other time they see their mom. I don't like that much myself.

Male, Shift Worker, Young Children, Both Parents work NSS

Participation in child-care tasks

For participation in child-care tasks, our expectation was that when women work NSS, men would be significantly more involved in child-care tasks and duties, whereas women will show no reduction in child-care tasks. Our results from the ordered logit regression analysis (Table 4) do, however, not confirm this hypothesis. Our data shows that it is more the men's schedules that affect both their own involvement in child-care tasks as well as that of their partner. Working in the weekend means that fathers take over weekday child-care tasks such taking them to day-care or school, taking care when sick, etc. However, the female partner's schedule does not have any significant impact on how often the male partner is engaged in practical care tasks. Also for women we can observe a significant positive effect – working in weekends increases their already high participation in child-care tasks. At the same time, when their partner engages in NSS, this also reduces the burden for women of taking care of kids mostly on her own.

[TABLE 4 & FIGURE 1]

Our analysis also shows that the number of working hours plays a significant role in practical child-care activities. The less both men and women work, the more they are involved in the child-care tasks. It may also be that couples that work more hours engage in more 'outsourcing' of childcare activities. We also expected that men will spend less time and engage in less direct child-care related tasks with very young children, which is also partly confirmed by our analysis in Table 4. Including the partners' working schedules increased the model's explanatory power only slightly. Here we can see that controlling for working schedules and hours of both mothers and fathers helps us to explain in a better way the division of child-care tasks among couples.

From the qualitative interviews, many expressed difficulties, guilt and regret about the inability to engage in activities with their children during the weekend. Yet it also appears that the families engaged in coping strategies and had developed mechanisms to deal with the situations.

The children don't know anything else than the fact that I am a shift worker. They don't know what a normal father is [laughs]... You know? Not the normal times, they don't know anything else....in the weekend, my son goes to sports, then it is difficult to go with him, you can just forget those sort of things.

Male, Shift Worker, Older Children over 12

Others acknowledged these problems, but found that NSS were essential to avoid putting children into childcare. This supports previous research that has found that parents have a clear preference to care for their own children if possible (Mennino and Brayfield, 2002; Riley and Glass 2002) and to use NSS as a mechanism to do so (Han, 2004).

..the only disadvantage, yes, that is the weekends, but it is practical in terms of childcare, you know. But I find it a disadvantage sometimes, you know. I would like to only work one weekend in the month, but for childcare this is simply the handiest. And for the children, that is who we live for, that is what we do this for.

Female, Rotating Night Shifts, young children

A correspondence analysis (shown in Figure 1) of all interviews shows the type of work schedule by child-related codes. We see that working either night shifts or variable hours clearly resulting in more tiredness and irritability and less time with children, which was discussed previously. What also emerges from this figure is that fact that it was often mentioned that the father was more able to help with the care of children and, taking them to school and helping their partner, particularly when one partner worked fixed evening shifts. Another frequent message was that NSS were a way to avoid childcare and conversely, when working NSS formalized childcare also became very difficult. There was also a clear and strong narrative from Dutch women with a strong aversion to using public childcare, which has also been found in previous large-scale studies.

...if the mother goes to work and then also takes the children to the daycare or the after school care, I just simply find that too long for a child. Just because mom has to work they have to sit there with so many children again.....My children don't ever have to go to any sort of care at their lunch break or anything else because there is always someone from our own family around....I find it a 'must'.

The importance of having at least one parent or family member home to care for the children was a central narrative throughout these interviews, providing support that NSS indeed appear to be a way for parents to engage in ‘tag-team parenting’.

CONCLUSION

This study applied a multi-method approach to examine the impact of NSS on parent-child interaction, including activities together with children and division/arrangement of child-care and rearing related tasks between parents. The study explored the two competing hypotheses. The first was whether NSS results in lower levels of parental participation (often attributed to role overload and emotional and physical stress). Conversely, whether parents use NSS to spend more time with children, avoid formal childcare and ensure that one parent is always present, resulting in more parent-child interaction, particularly from fathers. Using the Netherlands Kinship Panel Study of 1,722 couples and data from 34 semi-structured qualitative interviews, we engage in a series of order logit regression, correspondence and narrative text analysis.

Our findings provide more pronounced support for the second hypothesis. In general, we see the likelihood to start working NSS are growing in relation to having children, especially for women. It appears to be often a conscious choice to combine work and family via NSS – this allows couples to arrange better child-care tasks, spend more time with children and be available. Here also contextual aspects seem to play a significant role. Family life and raising children in the Netherlands remains based on a more traditional male-breadwinner model (man working, woman staying home or working reduced hours) (Van Gils and Kraaykamp, 2008). This is attributed to the institutional context (child-care is expensive and limited; school hours do not match parents’ working hours) as well cultural norms (institutional care is not always considered as something positive, nor is combining motherhood and (full-time) work).

Working NSS in combination with children appear to affect men and women, however, in a slightly different way. First, working NSS does reduce the time spent in joint family dinners for both sexes. However, as we could see, this is often replaced by some other meals or activities of the day, meaning often people find ways around this problem. For fathers, both their own NSS as well as partner’s NSS increases the time spent in activities with children, thus it has a positive

effect. However, for women there is no significant change – working NSS does not seem to increase their time spent with children, they rather lose slightly or are unaffected. For both fathers and mothers, weekend work increases their personal involvement in child-raising duties and tasks such as bathing them, taking care of sick child and taking to school, day care. However, for mothers, when their partner is working NSS, fathers are clearly more involved in these activities, meaning again men's NSS work appears to clearly mean that fathers become more engaged in child-care related activities. Thus, if we assume that working NSS is a conscious choice, fathers seem to do better than mothers as they are in the end more often involved in activities with children, but also child-caring tasks. Also their partner's NSS makes fathers more involved with their children. Women seem to 'gain' less in this respect as their already much higher involvement stays the same or decreases insignificantly.

Although this study provided some more insight into parent-child interaction, there is still considerable room for improvement in future research. Data and research is still very often cross-sectional, missing the dynamic or 'life-course' transitions in and out of NSS. There is evidence that entering or leaving NSS is highly causally related to having and raising children, but not much is known about how stable those schedules are and whether this is just a temporary or permanent work-family arrangement. This would also allow us to link research on NSS, parent and child well-being over time with parent-child interaction and eventually the long-term outcomes of the impact of these schedules on both parents and their children.

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Table 1 NSS work among various family types in the Netherlands, %

	All couples		Couples with no children ¹		Couples with 1 or more children ²		Youngest child 0-3 years ²		Youngest child 4 –12 years ²	
	Male partner	Female partner	Male partner	Female partner	Male partner	Female partner	Male partner	Female partner	Male partner	Female partner
Fixed day, 5 weekdays	57	21	58	40	58	13	55	5	58	14
Fixed day, <5 weekdays	17	54	16	37	15	61	20	69	14	60
NSS shifts and days	26	25	26	22	27	26	25	26	28	26
Total	100	100	100	100	100	100	100	100	100	100
At least one partner working NSS	36		37		37		38		37	
Not working	7	32	7	13	5	33	3	30	3	39
Total N (couples)	2,800		573		1,722		375		538	

Source: NKPS

Sample: couples, where at least one of partners is working.

No children¹ – couples with no children; excl. couples, which have children, but none of them is living at home

Children² – takes into account only the children who are currently living at home

Table 2: Summary of Ordered Logit Regression Analysis for variables predicting the frequency of family dinners together

	Men						Women					
	Model 1			Model 2			Model 1			Model 2		
	B	SE B	expB	B	SE B	expB	B	SE B	expB	B	SE B	expB
<i>Socioeconomic characteristic</i>												
Mean education of partners	-.11	.05	.90	-.14*	.05	.87	-.12**	.04	.89	-.12*	.05	.89
Mean ISEI of partners	.00	.01	1.00	.00	.01	1.00	.00	.01	1.00	.00	.01	1.00
Age of respondent	-.01	.01	1.00	-.01	.01	.99	.00	.01	1.00	.00	.01	1.00
<i>Family characteristics</i>												
Number of children living home	-.06	.10	.94	-.05	.10	.96	-.13	.09	.88	-.12	.09	.89
Child aged 4 - 12 years (Ref = <3)	-.22	.18	.80	-.21	.19	.81	.05	.16	1.05	.07	.16	1.07
Child aged 12+ years (Ref = <3)	-.32	.22	.72	-.26	.23	.77	-.28	.20	.76	-.24	.20	.79
Married (Ref = cohabitation)	.28	.26	1.32	.12	.27	1.13	.36*	.20	1.44	.37+	.20	1.45
<i>Work schedule of respondent</i>												
NSS ¹ (Ref = day schedule)				-.82'	.33	.44				-.77**	.24	.46
Weekend work (Ref = weekday only)				-.16	.19	.85				-.23	.21	.79
No work (Ref = 36+ hours)				.05	.43	1.05				-.28	.33	.76
13 – 20 hours a week (Ref = 36+)				.20	.56	1.22				.18	.28	1.20
21 – 35 hours a week (Ref = 36+)				.34	.24	1.40				.03	.26	1.03
Autonomy in choosing days/hours				-.15-	.08	.86				-.14+	.08	.87
<i>Work schedule of partner</i>												
NSS ¹ (Ref = day schedule)				-.84**	.30	.43				-.18	.25	.84
Weekend work (Ref = weekday only)				-.12	.25	.89				-.40**	.15	.67
No work (Ref = 36+ hours)				.54	.36	1.71				.43	.42	1.54
13 – 20 hours a week (Ref = 36+)				.44	.29	1.55				.16	.53	1.17
21 – 35 hours a week (Ref = 36+)				.45-	.26	1.57				.30	.21	1.35
Autonomy in choosing days/hours				.11	.10	1.12				.02	.07	1.02
<i>Individual non-wellbeing</i>												
				.13	.12	1.14				-.02	.09	.98
Nagelkerke R Sq			.02			.07			.02			.07
Total (N)					714						1,018	

Source: NKSP 2003

Sample: Couples, at least one is working, at least one child living in the household +p <0.10. *p<0.05. **p<0.01.

Dependent variable: number of dinners together during working week: 0 – never, 1 – 1 day a week, ... 5 – five days a week;

NSS¹- includes fixed evening, fixed night and hours vary schedules

Table 3: Summary of Ordered Logit Regression Analysis for variables predicting time spent with child(ren)

	Men						Women					
	Model 1			Model 2			Model 1			Model 2		
	B	SE B	expB	B	SE B	expB	B	SE B	expB	B	SE B	expB
<i>Socioeconomic characteristic</i>												
Mean education of partners	.05	.05	1.05	.06	.05	1.06	.07+	.04	1.07	.07+	.04	1.07
Mean ISEI of partners	.01	.01	1.01	.01	.01	1.01	.01	.01	1.01	.01+	.01	1.01
Age of respondent	-.04**	.01	.96	-.04**	.01	.96	-.04**	.01	.96	-.04**	.01	.96
<i>Family characteristics</i>												
Number of children living home	.23*	.09	1.26	.25**	.10	1.29	.29**	.08	1.34	.28**	.08	1.33
Child aged 4 - 12 years (Ref = <3)	1.35**	.17	3.84	1.32**	.18	3.75	1.63**	.15	5.08	1.68**	.16	5.36
Child aged 12+ years (Ref = <3)	-.90**	.21	.41	-1.02**	.21	.36	-1.20**	.18	.30	-1.15**	.19	.32
Married (Ref = cohabitation)	-.22	.24	.80	-.22	.25	.80	.46*	.19	1.58	.40*	.19	1.49
<i>Work schedule of respondent</i>												
NSS ¹ (Ref = day schedule)				.80**	.31	2.22				-.22	.22	.80
Weekend work (Ref = weekday only)				-.03	.18	.97				-.01	.20	.99
No work (Ref = 36+ hours)				.42	.40	1.53				.25	.30	1.29
13 – 20 hours a week (Ref = 36+)				-.02	.53	.99				.05	.26	1.06
21 – 35 hours a week (Ref = 36+)				.21	.22	1.24				.39	.24	1.47
Autonomy in choosing days/hours				.06	.07	1.06				-.03	.07	.97
<i>Work schedule of partner</i>												
NSS ¹ (Ref = day schedule)				.14	.28	1.15				.12	.23	1.13
Weekend work (Ref = weekday only)				.43*	.23	1.54				.01	.14	1.01
No work (Ref = 36+ hours)				-.07	.33	.94				-.39	.37	.68
13 – 20 hours a week (Ref = 36+)				.40	.27	1.49				.49	.45	1.63
21 – 35 hours a week (Ref = 36+)				.22	.25	1.25				-.14	.19	.87
Autonomy in choosing days/hours				-.13	.09	.87				-.05	.06	.95
<i>Individual non-wellbeing</i>				-.24+	.11	.79				-.15+	.08	.86
Nagelkerke R Sq				.31		.36				.38		.39
Total (N)				714						1,018		

Source: NKSP 2003

Sample: couples, at least one is working, at least one child living in the household; +p < 0.10. *p < 0.05. **p < 0.01.

Dependent variable: mean of doing following activities with child(ren) in the past week: reading to them; playing board games, spending time in computer; help them with homework; take them to sport activities or clubs. Measured on scale: 1 – not at all; 2 – few times; 3 – often. Scale: $\alpha = .60$.

NSS¹ - includes fixed evening, fixed night and hours vary schedules

Table 4: Summary of Ordered Logit Regression Analysis for variables predicting the division of child-related care tasks/duties between partners

	Men						Women					
	Model 1			Model 2			Model 1			Model 2		
	B	SE B	expB	B	SE B	expB	B	SE B	expB	B	SE B	expB
<i>Socioeconomic characteristic</i>												
Mean education of partners	.11*	.06	1.12	.03	.06	1.03	-.17**	.05	.84	-.14**	.05	.87
Mean ISEI of partners	.01	.01	1.01	.01	.01	1.01	-.01+	.01	.99	.00	.01	1.00
Age of respondent	.05**	.02	1.05	.03+	.02	1.03	.01	.02	1.01	.03	.02	1.03
<i>Family characteristics</i>												
Number of children living home	-.27*	.11	.77	-.10	.11	.91	.01	.09	1.01	-.09	.09	.91
Child aged 4 - 12 years (Ref = <3)	-.60*	.24	.55	-.54*	.25	.58	.18	.20	1.19	-.09	.20	.92
Child aged 12+ years (Ref = <3)	-.04	.22	.96	-.21	.23	.81	.16	.20	1.17	.24	.20	1.28
Married (Ref = cohabitation)	-.33	.26	.72	-.09	.27	.92	.07	.20	1.08	.04	.20	1.04
<i>Work schedule of respondent</i>												
NSS ¹ (Ref = day schedule)				.39	.36	1.48				-.24	.26	.79
Weekend work (Ref = weekday only)				.62**	.21	1.85				.54*	.23	1.71
No work (Ref = 36+ hours)				2.73**	.52	15.38				1.85*	.36	6.35
13 – 20 hours a week (Ref = 36+)				1.61**	.62	4.99				1.09**	.31	2.98
21 – 35 hours a week (Ref = 36+)				.78**	.26	2.18				.45	.29	1.57
Autonomy in choosing days/hours				.10	.08	1.11				-.07	.08	.94
<i>Work schedule of partner</i>												
NSS ¹ (Ref = day schedule)				-.02	.33	.98				-.69**	.26	.50
Weekend work (Ref = weekday only)				-.14	.27	.87				.13	.16	1.13
No work (Ref = 36+ hours)				-1.83	.44	.16				-.82	.55	.44
13 – 20 hours a week (Ref = 36+)				-1.10**	.35	.33				-1.22*	.54	.29
21 – 35 hours a week (Ref = 36+)				-.26**	.33	.77				-.92**	.21	.40
Autonomy in choosing days/hours				-.24*	.11	.79				-.18*	.07	.83
<i>Individual non-wellbeing</i>												
				.07	.13	1.07				.05	.09	1.06
Nagelkerke R Sq			.09			.27			.06			.22
Total (N)				502						764		

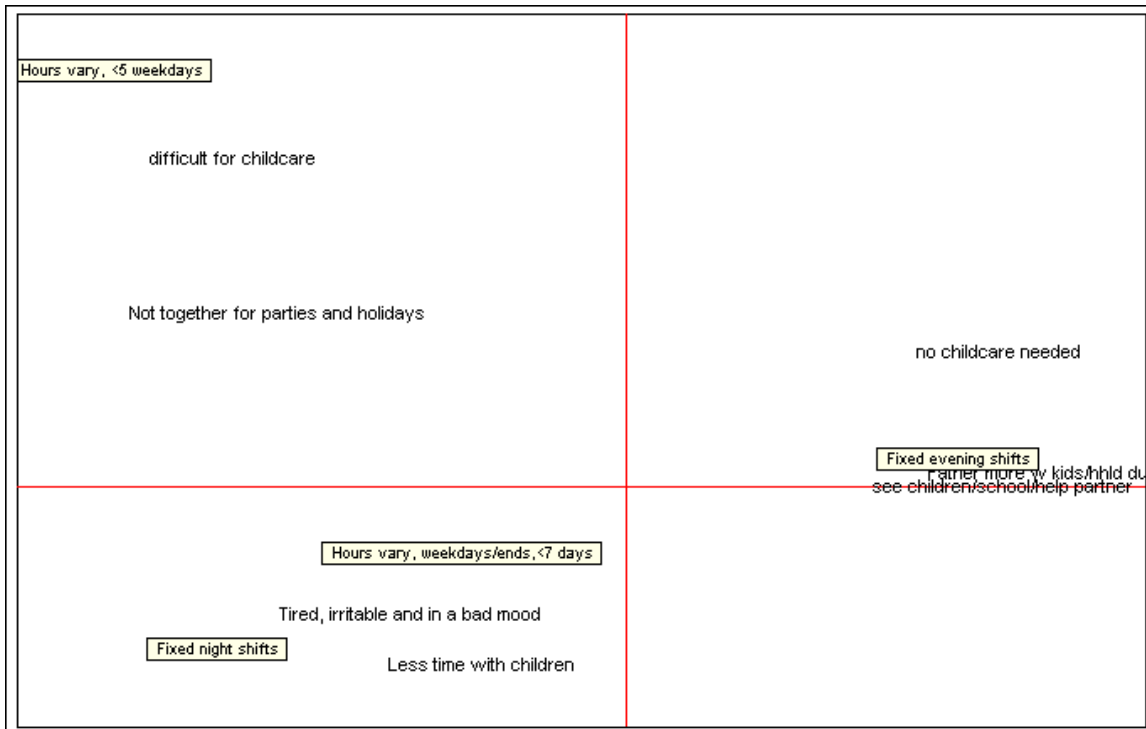
Source: NKSP 2003

Sample: couples, at least one is working, at least one child younger than 12 years living in the household; +p < 0.10. *p < 0.05. **p < 0.01.

Dependent variable: mean of respondents estimation on who does usually the following activities: bath child, help get dressed; stay home when child is ill; take the child to school, day care, babysitter. 1 – always partner, 2 – usually partner, 3 – equal; 4 – usually respondent; 5 – always respondent. Scale $\alpha = .81$

NSS¹ - includes fixed evening, fixed night and hours vary schedules

Figure 1: Correspondence Analysis of the Impact of NSS on parent-child interaction



APPENDIX

Table A1: Work and NSS among working Dutch couples

Schedule type	Male partners			Female partners		
	All (%)	M nr of hours	SD	All (%)	M nr of hours	SD
Work shifts						
Fixed day shift ^a	94	44.3	10.2	90	29.6	10.8
Fixed evening shift	3	40.5***	13.3	5	23.2***	9.6
Fixed night shift	1	39.5**	11.1	2	25.9*	9.8
Hours vary	2	54.0***	22.8	3	30.9	17.2
Work days						
Weekdays only, 5 days ^b	58	45.1	6.7	22	36.9	10.4
Weekdays only, <5 days	18	32.8***	7.6	58	24.0***	7.6
Weekend work	24	51.1***	14.0	20	33.1***	13.9
Total	100	44.4	10.9	100	29.3	11.1
Total N	2,628			1,928		

Data: NKPS 2003

Sample: couples, at least one is working; * $p < .05$. ** $p < .01$. *** $p < .001$.

Note: For significance test there is used logistic regression with dummies. Fixed day shift ^a – reference category for comparing mean hours. Weekdays only, 5 days ^b – reference category for comparing mean hours