The impact of non-standard work times on partnership quality and stability: Quantitative and qualitative findings from the Netherlands

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Abstract
This paper uses a multi-method approach to examine the impact of non-standard work shifts and schedules (NSS) on the quality and stability of partnership relationships in the Netherlands. The central question asks whether NSS result in higher levels of partnership conflict and dissatisfaction and whether this varies across different types of couples or NSS. The analysis asks how conflicts come about and are (un)resolved in addition to strategies used to cope with the triple burden of irregular time schedules, work and family. Quantitative couple data from the Netherlands Kinship Panel Study (NKPS, N=2,656) is complemented by in-depth couple interviews from a qualitative NKPS minipanel (N=34) using order logit regression models with narrative, correspondence and heatmap analysis. Results indicate that NSS have a highly gendered effect, particularly for evening shifts. Only women working in NSS have significantly higher levels of conflict, particularly when they work more hours and have young children. Higher partner support dissolves these negative effects. Results also demonstrate clear strategies couples use to avoid conflict, different subjective experiences of NSS and relationships and some key variations from previous US findings.

Keywords: *marital quality, marital satisfaction, non-standard work schedules, Netherlands*

The past decades has brought radical changes to work and family life, which has direct implications for the quality and stability of cohabiting and marital unions. A major trend has been the diffusion of non-standard work schedules across many industrialized countries (Breedveld, 1998; Hörning, Gerhard & Michailow, 1995; Presser, 2003). Non-standard work schedules (NSS) refer to persons who work 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). Individuals with NSS work during times and days where the majority of society, and often their partner, does not work. Since work calendars regulate most everyday activities and force individuals to divide and timetable their private family and leisure time around public employment time, NSS only enhance these tensions (Mills, 2000). A parallel trend in Western Europe has been the growth of dual-earner couples, often in the presence of children. In fact, in countries such as the Netherlands, the number of dual-earners has doubled since the 1970s (Van Gils & Kraaykamp, forthcoming). Together, this creates a 'triple burden' of irregular work time schedules, work itself and family obligations.

Previous studies have found a strong relationship between NSS and marital divorce (Hertz & Charlton, 1989; Mott et al., 1965; Weiss & Liss, 1988; White & Keith, 1990; Wooddell et al., 1994). Breakups, conflicts and lower satisfaction in relationships where one partner works NSS are often associated with lack of companionship or engaging in household duties (e.g., Hertz & Charlton, 1989), negative feelings such as guilt, anger, loneliness, and disillusionment (e.g., Matthews, Conger & Wickrama, 1996; Hertz & Charlton, 1989) or higher levels of stress, sleeping problems or physical disorders that lead to tension in relationships (e.g., Piotrkowski, 1979; Schulz et al., 2004). Exhausted individuals are emotionally unavailable or highly insensitive to other family members (Piotrkowski, 1979).

What is striking in the contemporary literature that examines the link between NSS and partnerships is that it is almost exclusively carried out in the United States and generally only uses either quantitative or qualitative approaches. This leads to several implications for our understanding of this topic. A focus on only one unique society that has an overwhelming 24/7 economy (Presser, 2003) and high divorce rate, may lead to a very specific understanding of the situation. We also know from previous research that we understand different sides of the topic by using different methodological approaches. Qualitative studies often add more depth to our understanding of the underlying mechanisms, subjective meaning and experience, but have been generally only carried out within one specific occupation and largely among rotating shifts (e.g., Hertz & Charlton, 1989; Stier & Lewin-Epstein, 2003; Wooddell, Forsyth & Gramling, 1994). Again, this has the potential to lead to more restricted conclusions. Quantitative studies permit us to control for additional relevant factors, include more variation and larger representative groups. These studies often demonstrate a statistical relationship between NSS and partnership conflict, dissolution or dissatisfaction. However, they remain impotent in providing a clear empirical answer as to whether this correlation or association is actually a causal relationship. Do NSS lead to more conflict and dissatisfaction in relationships or could an unhappy relationship, for example, serve as a trigger to work in the evenings and weekends as a form of withdrawal? These studies also miss any deeper exploration into the nature of conflicts and overlook the censored cases or 'survivors' who develop strategies to avoid conflict, divorce or unhappiness.

The aim of this study is to use a multi-method approach to examine the impact of non-standard work shifts and schedules (NSS) on the quality and stability of partnership relationships in the Netherlands. The central research question asks: Does working NSS result in higher levels of partnership conflict and dissatisfaction? A related question asks: Does this effect vary across different types of couples or NSS? In other words, will there be variation according the presence and age of children, by the type of earner-model, overall number of work hours or union type (cohabitation versus marriage) or whether it is the woman or man who works NSS? Does it matter whether the NSS is in the evening, night or weekend? A qualitative approach will complement these questions by moving beyond the 'what' to provide a richer understanding of the 'how' and 'why' (Lin, 1998). This includes asking questions such as why some report that NSS causes tensions or unhappiness in their relationship? Conversely, we will explore why some couples with seemingly grueling schedules report high levels of happiness and low levels of conflict. Are there certain strategies that couples develop to cope? How do conflicts rise and become (un)resolved? What is the nature of these conflicts and the root of (un)happiness? Finally, how do couples describe the causal link between NSS and their relationship?

This study contributes to this area of research in several ways. First, studies beyond the United States on this topic are rare. Yet the US is a unique context terms of the sheer prevalence of NSS, weaker employment protection and the nature of stability of partnerships. Although NSS have been steadily increasing over time in the US (e.g., Beers, 2000), there is evidence that certain European countries such as the Netherlands (Breedveld, 1998; Täht, 2007) and Germany (Hamermesh, 1996) resist the 24/7 economy with no increase in NSS over time. Consistently high divorce levels and concentration of cohabitation among disadvantaged groups also characterize American relationships. Although the divorce rate has either remained stable or declined in the US (Bradbury, Fincham & Beach, 2000), since the 1970s, the number of divorces in the Netherlands has more than tripled (CBS, 2002). Non-marital cohabitating relationships in this country are now commonplace, which has further implications for relationship stability. These relationships have been shown to be significantly more fragile with a higher likelihood of ending in dissolution, generally within several years (Janssen, De Graaf & Kalmijn, 1999; Mills, 2004a). Examining this topic within the Netherlands not only challenges what we know, but adds to our understanding of how these mechanisms work in a different labor market and family context, which leads to a better ability to separate universal trends from context-laden findings.

A second contribution of this study is the adoption of a multi-method quantitative and qualitative approach allowing generalizability of results with deeper case-based analysis. As described previously, it will permit us to unravel causality, explore the how and the why behind our findings, and have the potential to contribute to suggestions for better and more directed questions within quantitative surveys. A third related contribution, largely derived from the qualitative data, is the ability to examine not only conflict and unhappiness that lead to relationship instability, but the more proactive strategies couples use to survive and the rarely examined positive impact that NSS may have on couples' lives. This relates to our final contribution, which are the policy implications of this research. Marital dissatisfaction and conflict have been shown to impact the functioning of children and individual well-being (e.g., Amato & Booth, 1997). It is thus essential to

understand frictions between work and family in order to develop evidence-based policy intervention strategies to aid individuals and families to cope with these pressures.

The first section provides a brief definition of NSS, followed by a depiction of NSS in the Dutch context. The next section explores the link between NSS and partnership quality and stability, including reflection from previous research and the development of a series of hypotheses. This is followed by a description of the data, variables and methods of analysis, which include a series of ordered logit regression models and the qualitative techniques of narrative, correspondence and heatmap analysis. Section three presents the integrated results of this study followed by a discussion and suggestions for future extensions of this research.

NON-STANDARD SCHEDULES IN THE NETHERLANDS

NSS are generally differentiated between early morning hours, evening and night shifts (Breedveld, 1998; Venn, 2003), rotating hours and variable or on-call shifts (Mills, 2004b; Presser, 2003). Presser (2003) has demonstrated that it is essential to differentiate between not only the hours worked during the day, but also whether work takes place during the week or on the weekend due to the different frictions that these schedules bring.

NSS have different levels of prevalence and characteristics in the Netherlands in comparison to 24/7 economies such as the United States, which can largely be contributed to contextual factors. The Netherlands has been characterized by stringent shop opening hours, stricter working time regulations and more protection for workers from collective agreement arrangements, unions, employers and the welfare state. It was only in January 1997 that European law ruled that Sunday was no longer a required rest day. Slightly more lenient opening regulations arrived in 1996 to the Netherlands, with the Shop Opening Law ('Winkesluitingswet') permitting some stores to be opened beyond 6 pm (Fourage & Baaijens, 2004). Opening times on Sundays and holidays remain largely restricted, with Sunday opening times restricted to 12 shopping Sundays ('Koopzondagen') per year in most cities. A history of strong unions and collective agreements has also meant that workers in NSS receive more protection than their North American counterparts and do not necessarily fall into the category of 'bad jobs', which is often the case in US studies (e.g., Kalleberg et al., 2000). For example, the Working Time Law ('Arbeidstijdenwet') of 1996 was specifically aimed at protecting employees against alleged 'unhealthy' working times and inadequate rest periods between working periods and shifts.

In a previous study using the Netherlands Kinship Panel Study (NKPS) (Dykstra et al., 2004), Täht (2007) conducted a detailed analysis of NSS in the Netherlands. Comparing previous analyses by Presser (2003) for the US, she demonstrated that although the general tendency of the division of non-standard shifts by occupation and industry in the Netherlands is similar to the US, the share of NSS is markedly lower in the Dutch context (around one third of labor market participants), has a lower number of fixed night shift workers and higher fixed evening shifts and weekend work (generally Saturday).

Table 1 provides a brief summary of the NSS among Dutch couples and by sex, simultaneously illustrating several key aspects of the Dutch labor market context. A first prominent aspect of this table is the overall lower number of working hours and days, particularly for women. The average working time of couples is 29.1 hours, with a clear gender difference of men reporting to work on average 40 hours a week and women 20 hours a week. The predominant model in this country is the male-breadwinner and one-and-a-half earner model (i.e., man full-time, woman part-time) with only 15 percent of dual-earner couples who both work full-time (Van Gils & Kraaykamp, forthcoming). Women's employment is concentrated in part-time jobs, interspersed with exits from the labor market during childbearing and rearing periods (Van der Lippe and Van Dijk, 2002). In fact, although 64 percent of women were employed in 2003, 75 percent of those were part-time workers, compared to the European average of 25 percent (OECD, 2006). The school system in the Netherlands, for instance, largely fosters a need for part-time work of mothers and constrains the full-time dual-earner model. This occurs in the form of structural and cultural norms, such as: generally two to three free afternoons per week for elementary school age children, the cultural norm that children return home each lunch hour, reticence to put children in daycare, and the structural lack of day and after-school care.

Table 1 also shows variation of the days of work with men reporting more work on the weekends. The most widespread type of work among men is the standard five-day workweek (56.3 percent). The relatively high number of men working less than five days (19.4 percent) represents the common Dutch practice of the 'limited full-time' four day work week, which consists of only 8 percent of workers in the US (Presser, 2003). There is a lack of an entrenched long-hours culture (such as in the US or UK), with the Netherlands having one of the shortest working weeks for both sexes in all OECD countries (Evans et al., 2001).

>> TABLE 1 <<

Täht (2007) has illustrated that NSS in the Netherlands are concentrated in particular occupational categories, which is similar to previous U.S. findings. These include: nurses, service occupations (e.g., bartenders, waiters/waitresses), cleaners and customer service clerks (e.g., cashiers), protective service workers (e.g., police), personal service workers (e.g., hairdressers), managers of small firms in wholesale and retail trade, restaurants and hotels and agriculture. Jobs with NSS are not only concentrated in lower occupational classes, but are also significantly higher in the higher-level occupations of managers, legislators and professionals, also found in previous studies (e.g., Mills, 2004b). However, non-standard hours in higher-level occupations are generally concentrated in the weekend work of men due to overtime, different incentives and the autonomy to choose one's working hours (Wielers & van der Meer, 2007). Täht (2007) found that the autonomy to choose when and where work is carried out was positively related to working non-standard days and negatively related to working non-standard hours. In other words, managers and professionals appeared to engage in non-standard days (i.e., the weekend) as a choice and non-standard evening and night shifts were generally a requirement of (lower-level) occupational job contracts.

NON-STANDARD SCHEDULES AND PARTNERSHIP QUALITY AND STABILITY

The level of satisfaction and conflict in a relationship are two central factors used to capture partnership quality and stability. *Relationship satisfaction* is commonly gauged by the subjective feelings of individuals within a relationship, including factors such as an overall assessment of the quality, strength and stability of the relationship and whether they are satisfied or happy within the couple unit (Bradbury, Finchman & Beach, 2000). The *level of relationship conflict* infers that those with higher levels of negative behavior and reciprocity represent distressed relationships, often also characterized by lower relationship satisfaction (Margolin & Wampold, 1981). This includes features such as negative interaction via incessant reproaches or criticism, increased demand or avoidance behavior, heated discussions or violent arguments. Incessant reproaches are demonstrations of negative behavior during problem-solving discussions. Avoidance through withdrawal is often referred to as the 'demand/withdrawal' pattern, which has been demonstrated as a common pattern between men and women where the avoidance approach is typically adopted by the male partner, which leads to increased demands for engagement (e.g., nagging) by the often female partner, resulting in a pattern of decline in marital satisfaction (e.g., Christensen, 1987; Gottman, 1998). Arguments that get out of hand represent a high level of conflict in a relationship, since previous research has demonstrated that the actual frequency of overt conflicts in relationships are very low (McGonagle, Kessler & Schilling, 1992). It may also serve as a proxy for heightened levels of violence, negative reciprocation, anger and contempt.

As discussed previously, the majority of literature has found a strong relationship between NSS and marital divorce (e.g., Hertz & Charlton, 1989; Mott et al., 1965; Weiss & Liss, 1988; White & Keith, 1990; Wooddell et al., 1994). A seminal study by Mott et al. (1965) found that shift work reduced partnership happiness, ability to coordinate family activities and resulted in strain and friction among family members. Others have related NSS to heightened conflicts in the relationship due to the fact that spouses work different shifts (Hertz & Charlton, 1989), which in turn prevents them from actively taking part in household duties, engaging in child care or companionship. The result is that both partners build negative feelings of anger, guilt and loneliness (Matthews, Conger & Wickrama, 1996). In a study of male Air Force security guards engaged in rotating shift work, Hertz and Charlton (1989) found that husbands felt feelings of frustration, guilt and neglect, while their wives viewed their shifts as interfering with companionship and exhibited an overall high disillusionment with married life.

Other studies have shown that higher levels of stress, physical tiredness, exhaustion, sleeping problems and other physical disorders contribute to higher levels of tension in a relationship (e.g., Piotrkowski, 1979; Schulz et al. 2004). The assumption is that a worker, who is physically exhausted from heavy or stressful conditions, such the lack of sleep or irregularity of NSS, may lack the physical and emotional energy buffer that is needed to fulfill appropriate partner and family roles. Exhausted workers are emotionally unavailable or highly insensitive to other family members (Piotrkowski, 1979). White and Keith (1990) support this claim with the finding that the number of family arguments increased when at least one family member worked a non-day shift. In related research, Schulz et al. (2004) found a clear gender difference in the reaction to negative workdays

with women expressing more angry martial behavior and men exhibiting withdrawal behavior. Our first guiding hypothesis is that:

H1a: Working NSS will result in higher levels of partnership conflict.

Based on the findings of previous research (e.g., Presser, 2003), we also expect that there is a positive relationship between the two dependent variables of partnership quality and stability. We specifically assume that higher levels of conflict will have a direct impact on overall partnership quality.

H1b: Those with higher levels of partnership conflict will exhibit higher levels of partnership dissatisfaction.

We will also explore the nature of the conflict and subjective expectations about what actually constitutes a good relationship. Beyond testing these hypotheses, we will bring more precision to our understanding by attempting to fill in the 'black box' behind our findings with narratives of conflict and relationship negotiations.

The *level of partner support* is anticipated to mediate the impact of NSS on partnership conflict. Partner support has been shown to have a significant and reliable link with marital functioning (e.g., Pasch & Bradbury, 1998). We therefore expect that it operates as an intervening variable, with increased support from the partner buffering the impact of stressful circumstances and conflict (see Bolger, Zuckerman, & Kessler, 2000), leading to the following hypothesis.

H2: Higher levels of partner support will work to diminish the negative effect of NSS by reducing the level of partnership conflict.

Previous research has also shown variation in the impact of different types of NSS shifts on individual, family and social life (Presser, 1983; White & Keith, 1990) as well as health and well-being (Fenwick & Tausig, 2001; Jamal, 2004). Night shifts are often found to be less desirable and have more negative impacts by disturbing biorhythms and causing workers to be out of sync with their family, friends and social lives (e.g., Binah Le & Martin, 2004; Marshall, 1998). Yet we also anticipate that evening and weekend work may be equally disruptive. This is the due to the fact that individuals have less time with partners and children during waking hours when the majority of the family is home. This leads us to our next set of hypotheses.

H3a: Workers in night and particularly evening schedules will report higher levels of partnership conflict and dissatisfaction than those in fixed day schedules.
H3b: Workers that engage in weekend work will report higher levels of partnership conflict and dissatisfaction than those who work on the weekdays alone.

It is, however, not only the type of NSS, but also the overall number of non-standard hours worked that likely impacts partnerships. An intuitive expectation is that more work hours in NSS would lead to more conflict and dissatisfaction. However, there is likely an important gender effect that moderates the impact of work hours on partnership conflict

and satisfaction. Previous studies have demonstrated the importance of men's need to fulfill the role model of breadwinner and ensure economic certainty, particularly in male-breadwinner societies (e.g., Smock, Manning & Porter, 2005; Mills, Blossfeld & Klijzing, 2005). We therefore anticipate that men working fewer hours (regardless of whether they are NSS) would deviate from this role, causing potential conflict and dissatisfaction. Conversely, we would expect that women taking on a stronger labor market role in this society (i.e., more hours) would experience more conflicts and higher levels of reported dissatisfaction from their partners. We therefore expect that:

H4: Increased work hours of women will result in higher levels of reported partnership conflict and dissatisfaction, with the opposite effect expected for men.

We are not only interested in establishing a relationship between NSS and partnership quality and stability, but also determining the factors that may contribute to why this relationship comes about. We draw from Harriet Presser's work on the reciprocal relationship between family and work with NSS to understand why on the one hand family characteristics affect schedules (e.g., Presser, 1984; 1987) yet on the other hand, work schedules also affect family relationships (e.g., Presser, 1986; 1988). We anticipate more subtleties that underlie this negative effect, which is highly related to the presence of children. The presence of young children has a paradoxical impact on relationships. On the one hand, children increase the stability of relationships, particularly when children are young. Yet on the other hand, they decrease the overall quality of the relationship itself (e.g., Waite & Lillard, 1991). The presence of children of all ages has been shown to have a negative impact on martial happiness, but particularly the presence of children of pre-school age, teenagers, and adult children still living in the household (VanLaningham, Johnson & Amato, 2001). The impact that children have on relationship satisfaction appears to be highly variable across couples, demonstrating the importance of individual but also child and relationship characteristics such as infant temperament and sex, levels of depression, whether the pregnancy was planned, and styles of co-parenting (e.g., Belsky & Hseih, 1998; Cox, Paley, Burchinal & Payne, 1999).

Different mechanisms may underlie the impact that children and NSS have on relationships. For example, working NSS may be a strategy for women to combine work with childcare. Previous studies have shown that women are more likely to adapt their working schedules around others (e.g., Presser, 1986), which would suggest that the arrival of children may result in the female partner either withdrawing from the labor market or scheduling her hours around the schedules of her partner and children. Regardless of the reasons for choosing NSS, previous research has found detrimental effects of the combination of NSS and children on couple relationships. In a qualitative study, Perry-Jenkins and Haley (2000) found that working different shifts helped couples to informally manage childcare during the first year of parenthood, resulting in longer-term family cohesion, but with short-term negative consequences on their own relationship. It may be that NSS are a 'necessary evil' to manage childcare or a positive choice that 'allows' individuals to combine work and family. Regardless, two partners working at different times of the day severely limits the possibilities for interaction. In this sense, we expect that NSS and young children will have a negative impact on the relationship, which will be particularly salient for women. We anticipate this gender

effect due to the generally distinct division of household labor in the Netherlands, particularly in the presence of young children. This leads us to the following expectation:

H5: Couples with young children where at least one partner works NSS will have both higher partnership conflict and particularly higher dissatisfaction than couples without children, an effect that will be much stronger for women.

Our review of the literature has lead us to the expectations that working NSS will result in higher conflicts and dissatisfaction, that higher conflict will lead to higher dissatisfaction and that partner support may diminish these negative effects. We are also interested is examining the impact of different types of NSS (evening, night weekend) and the gendered nature of working more hours and the presence of young children.

DATA, VARIABLES AND METHODS OF ANALYSIS

Quantitative data

The quantitative data used in this analysis is taken from the Netherlands Kinship Panel Study (NKPS). The NKPS contains a large amount of life-history information (e.g., childhood living arrangements, education, partnership, fertility, employment), including information on non-standard work schedules and partner and parenting relationships, kin contact and economic and psychological well-being. The NKPS is a multi-actor, multi-method panel study, with data in the first wave collected from 2002-2004 (Dykstra et al., 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 detailed information on working schedules as well as partnership quality and stability from respondents and their partners. 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 also to heterosexual couples who share the same household and where at least one is employed minimum 12 hours a week, we are left with sample size of 2,656 couples.

Qualitative Data

The qualitative data comes from the NKPS Minipanel Non-Standard Working Times and Partnership Quality and Stability (Mills & Hutter, 2007), which is an in-depth qualitative study of 34 individuals and 14 couples where at least one of the respondents has worked in a job with NSS. The second phase of this project also engaged in couple-level interaction interviews, which is not included in the current analysis. Using a 'purposive sampling' strategy (Marshall & Rossman, 1999), a theoretically driven sample was selected from the NKPS quantitative data to represent unique cases from across the Netherlands. This included attention to different types of NSS, those with and without young children, gender, ethnicity and different reported levels of relationship quality and conflict in the first wave of the NKPS. Using semi-structured in-depth interviews,

interviews took place from February to June 2006 in respondents' homes, with couples separated from one another. 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 the same predetermined topics, with interviewers trained to vary the conversation according to the respondents' answers and probe for specific information.

Respondents (and their partners) 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 subjective visions of a good relationship, to relate this to their own relationship, relationship history and process, and conflicts or tensions in the relationship. If not already addressed within the interview, they were then invited to reflect upon the link between either their own non-standard work times (or that of their partner) with the relationship with their partner. Considering the fact that the qualitative interviews were conducted several years after the quantitative data collection, they took on a decidedly longitudinal nature, allowing us to also interview individuals who had left or changed their type of NSS, dissolved their previous relationship or re-evaluated their previous relationship perceptions.

Operationalization of Variables

The dependent variables in the quantitative analysis are examined via two central indicators of relationship dissatisfaction and conflict that each consist of multiple indicators. *Relationship dissatisfaction* is measured with a four-item scale with an alpha reliability of .945. The scale consists of a series of statements regarding the relationship: is a good relationship, makes me happy, is a strong relationship, is a stable relationship. The scale is built in a way that the higher values on the scale indicate stronger dissatisfaction with the relationship. The level of *relationship conflict* was measured in the survey via a 5-item scale that gauges frequency of: heated discussions, incessant reproaches, withdrawal from talking, arguments got out of hand and whether they lived apart for awhile. By removing the last item that represents a relatively rare and severe measure of relationship conflict, the alpha reliability of this scale is .695. The advantage of combining several indicators into a scale is that they allow us to study the (often rather small) variability in the partnership dissatisfaction and conflict in more detail. In addition, they provide us with standard and comparable indicators that can more easily be compared with existing studies.

The qualitative approach provided no predetermined template of measures of partnership quality and stability. Rather, during in-depth interviews, respondents and their partners were given the room to express their own subjective interpretations of the characteristics of a good relationship, followed by reflection of how their own relationship relates to this characterization. Respondents were also directly asked whether they experienced any types of conflicts or tensions in their relationship and to elaborate on these with details and examples. These reflections and categorizations complement the quantitative data by providing more depth of subjective experiences and the underlying reasons and nature of satisfaction and conflict.

Researchers in this field generally agree that we must not only examine what individuals report about partnership satisfaction, but also how they behave in relation to one another (e.g., Raush, Barry, Hertel & Swain, 1974). An additional variable included in the quantitative analysis (and explored in detail in the qualitative interviews) is *partnership support*, which is measured using a 5-item scale capturing the level of support received from the partner in terms of: career decisions, worries and health problems, leisure and social contacts, practical and personal matters. The alpha reliability of this scale is .842 and is constructed in a way that the higher values indicate greater perceived level of (moral) support from ones' partner.

Our main independent variables in the analysis are the NSS measures, which are 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 (see more in Presser, 2003). For constructing the working schedules we use the standard *majority* definition where at least half of the hours worked most days in the prior week must fall between specific hours of the day (for detailed construction of the measures 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*. When the majority of the hours fell between 16:00 and 24:00, the schedule is a *fixed evening schedule.* Workers who carry out the majority of their work between 0:00 and 08:00 are classified as working in *fixed night schedules*. Due to either a limited number of hours or no clear pattern in working times, some respondents were classified into the smaller group of *hours vary.* An advantage of the relatively strict majority rule definition is that the range of 'standard' hours ensures that that NSS are not included. A disadvantage, however, is that we may potentially underestimate overwork. However, overwork is in the Netherlands is less extensive, with most of it captured already by controlling for weekend-work (see Wielers & van der Meer, 2007). In order to control for non-standard days, we have constructed a variable that indicates when some of the work in the week is carried out on Saturday and/or Sunday. The qualitative data provides us with more subtle definitions of NSS by allowing each respondent to engage in a detailed description of their work times and schedules over a longer period, discuss how this has changed over time and clarify the regularity of these work times.

Other essential control variables in the quantitative analysis will include socioeconomic characteristics such as: birth cohort, the combined mean educational level and socioeconomic status of both partners. The latter is measured via the occupational prestige score of the ISEI (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 cause relationship conflicts or lower satisfaction. Other family characteristics are controlled for via marital status, national heterogeneity of the couple and the presence and age of the children in the household.

Methods of analysis

The quantitative data analyses consist of a series of ordered logit regression models (Long, 1997). A majority of the respondents reported relatively low levels of both partnership dissatisfaction and conflict, resulting in dependent variables that have limited variability and are highly left-skewed. An ordered logit regression model was selected 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). In the first stage of the analysis, the indices of partnership quality and stability represent the two dependent variables. Non-standard work schedules are introduced as a key independent variable (among others listed in the previous section), regressed on the dependent variables.

The qualitative analyses combine narrative analysis with more summarizing graphical approaches to bring out themes and contrasts in the data. The analyses are derived from formal coding procedures, involving a number of systematic steps. The coders first read the interviews independently and then worked to develop a common coding scheme during an intensive, iterative analysis of the data. Coders read the set of transcripts independently and then examined the intercoder reliability after merging the data by comparing the similarity of code lists, the number of codes and consistency between coders in order to create a comprehensive codebook. The narrative analysis (Denzin & Lincoln, 2003; Strauss & Corbin, 1990) consisted of close readings and comparison of the text and detailed cases. This was achieved with three analytical stages: a) definition of general categories, their dimensions and properties (e.g., traits of a good relationship, positive and negative aspects of NSS), b) investigation of the relationship between categories with one another or central defining characteristics of respondents (e.g., sex, type of NSS work shift, marital status), and c) development of a 'story line' that relates or integrates earlier categories. This approach allowed us to inductively develop theories and hypotheses from the qualitative data to complement, add depth and fill in the gaps of the quantitative hypotheses and findings. In a second stage of data analysis, we then engaged in the summarizing techniques of correspondence analysis and heatmap plots of coded data, which provide a conceptually strong technique to bring out relationships between codes, themes and personal characteristics within the data. The heatmap plot, which is often used in biomedical research to identify gene expressions, uses a clustering algorithm of crosstabulation tables where relative frequencies are represented by different color tones.

RESULTS

Partnership conflict

Our primary hypothesis was that working NSS would result in higher levels of partnership conflict, which is examined in Table 2 and 3a. The general analysis in Table 2 demonstrates that non-standard working times can be measured both as a continuous and categorical variable. The continuous variable represents the 'proportion' of time working in an evening or night shift. Each proportional increase in the amount of time in a particular NSS translates into higher partnership conflict. We see that only evening shifts resulted in a significantly higher level of relationship conflict, which is consistent across both types of measurement and even stronger for the categorical indicator. This provides partial support for our first expectation (hypothesis 1a) that working NSS results in higher levels of partnership conflict. It also confirms our hypothesis (3a) that workers in evening schedules report higher levels of conflict compared to those in fixed day schedules.

>>TABLE 2 & TABLE 3A<<

An interesting deviation from our expectations is the lack of any significantly negative effect of night shifts on partnership conflict, which can be explained by drawing on the qualitative interviews. The interviews clearly uncovered two different perceptions of night shifts and categories of people who worked in these shifts. The first consisted of those who were either involuntarily 'trapped' in these shifts or found them so deplorable that they had managed to escape them altogether. In fact, an unexpected finding that emerged from the qualitative interviews was the dynamic nature within different types of NSS. Just under half of the respondents had at one time worked night shifts and actively worked to flee them in place of other NSS schedules. The central reason stated was related to health, sleep and psychological (judgment) problems, and irritability with their family, which confirms previous research. The arrival of children served as a clear trigger for men and couples where both worked rotating NSS shifts to leave night shifts. However, as discussed shortly, the reverse effect was found for a particular group of women who used night shifts to combine family and work. A nurse, who switched from rotating shifts to only evening and day shifts after 19 years poignantly, describes the night shift:

> If you have never done it, it is difficult to describe, but you always have a point during the night shift, I always say, that you have the idea that you are dying.

Another male Turkish factory worker, who had worked different types of NSS for over 21 years also described the night shifts as something to escape. (Turkish, Moroccan and Surinamese are the main ethnic minorities in the Netherlands.)

> The night shift breaks a person. Really, I have older colleagues who work 3 different rotating shifts, but they can't bear the night shifts. That's why I say to my son, get your diplomas and study hard so that you don't have to work in shifts to earn a decent wage.

But there was also an obvious second group of night shift workers that cherished working in these 'off-times,' often relating it to relaxed working conditions and freedom.

> During the night, the day and contract staff is all gone. You are just there with your colleagues with no interruptions and no hassle. That is beautiful….You have the freedom to do what you like, no hassle… (Native Dutch male factory worker, where both partners work in NSS)

These workers often focused on the advantages of more autonomy, being free during times when others work, avoiding traffic jams and busy shops and being able to help more in the household and engage in more activities with their children, a topic we will return to shortly. This 'selection' effect of night shift workers therefore explains the lack of any significant impact on conflict in our quantitative models. Those who have difficulties with these shifts often find a way to avoid them and those who voluntarily work these hours are content.

Table 3a includes more advanced models divided by sex to unpack these findings further. A key result is that the impact of NSS on partnership conflict is a clearly gendered effect that only holds in the case of women. Women who engage in evening work experience significantly higher levels of relationship conflict than those in regular schedules, an effect that does not hold for men. Weekend work appears to slightly reduce

conflict levels for women, with no effect for men, however these findings are non-significant. A second prominent finding is that partnership conflict significantly increases as the number of work hours increases for women and decreases with the number of work hours for men (although non-significant), which confirms our expectations in hypothesis 4. When the schedules of partners are introduced in Model 2, conflict again significantly increases when women's partners are not working or working only a few hours, supporting our expectations about the importance of the male breadwinner role. We also see that men report significantly higher levels of conflict when their partner works 21-35 hours a week.

Model 3 controls for partnership and family characteristics. Generally similar for both sexes, we observe significantly higher levels of conflict with couples with higher education, who cohabit (as opposed to marriage) and have young children. Compared to couples with no children, those with younger children report more conflict, particularly women, which supports hypothesis 5. An interesting difference between the sexes is the impact of the nationality-based heterogeneity of the couples, with male partners reporting significantly higher levels of conflict when they have a partner of a different nationality. This supports previous studies that found increased conflict in inter-ethnic marriages in the Netherlands, particularly when the Dutch female partner did not meet the more traditional expectations of their often Muslim Turkish or Moroccan male partner, which would explain this effect for men (Janssen, de Graaf & Kalmijn, 1999).

The final Model 4 provides overwhelming support for hypothesis 2, showing that partner support plays a central role in diminishing the potentially negative impact of NSS. For men, the impact of the evening schedule is virtually absent, with the presence of young children significantly increasing the conflict level. The interactions of partner support with NSS illustrate that men with average support from their partner working NSS (especially evening) have more conflict than those with similar support, but working standard times. One male respondent who was divorced since the time of the first interview related weekend work and a general lack of understanding and support to the demise of his first marriage.

> I had a relationship where my wife was always home, she didn't work and she always said 'You have to work again, again a late shift…' and then the weekend of course. Spending a nice weekend together…no, you needed to work again…there was a lack of understanding that was difficult at times. (divorced male factory worker)

The most striking finding is that when partner support is introduced in the woman's model, the potential for conflict of evening shifts is no longer significant. In this model, women who work 0 to 12 hours also report significantly less conflict, which may be related to the large amount of support that they receive from their partners to remain in the domestic role or the lack of work-family time conflicts due to the specialized division of labor in the household.

The qualitative data also revealed more subtitles about the nature and perception of conflicts and more direct links with NSS. An interesting result is that many respondents viewed an increase in heated discussions and head-on conflict as a *positive* sign of communication and openness in a relationship. This challenges the interpretation of the 'conflict' index used in the quantitative analyses as a purely negative impact that might eventually lead to the dissolution of a relationship. For example:

> I find it important that you experience irritations and that sort of thing. Yeah, it is that you can just be yourself and that you know that you can say what you want. (married male partner of female social worker, fixed evening shifts during week).

We were often provided with a detailed anatomy of a conflict that ranged from destroying furniture, to not talking for days, followed by a head-on confrontation and life as usual, generally focussing on the resilience of their relationship and therapeutic nature of these battles. Although some viewed conflict as positive, which has implications for our interpretation of this variable, many mentioned heated discussion, arguments, reproaches and withdrawal from talking, which mirrored the questions in the quantitative questionnaire, increasing the validity of this index. Others referred to the time-varying nature of conflict over the duration of relationship.

> In the beginning, you already have more conflict and I don't think that's strange if you just start a relationship with someone. Then you need to fight for your position and there are uncertainties, at least that's my speciality, that you are afraid to lose the other… (cohabiting male, artist, varying work times 7 days a week)

The qualitative brought out not only the positive nature of conflict, but also multiple strategies that couples used to avoid conflict, enhance communication or coordinate their relationship. The majority of couples used a joint message board, a joint day timer or left voice messages to avoid miscommunication. One cohabiting nurse with rotating shifts characterized her relationship as an 'answering machine relationship', which was a technique they developed in order to coordinate but also hear each others' voices. Most respondents also mentioned the importance of making clear structural appointments with each other to purposely engage in certain activities alone to ensure that they spent time together. One couple who both worked NSS found this particularly important, for instance, after they realized only after several months that they had both been feeding their fish. Others suggested that it was precisely due to the fact that they saw less of one another that they actually enjoyed each other more. These were often couples who felt that giving each other room and freedom was a central factor in a good relationship.

Figure 1 shows a correspondence analysis of the negative aspects respondents mentioned in relation to NSS according to the type of shift. The more similar the distribution of codes among subgroups is to the total distribution of all codes within subgroups, the closer it is to the origin. For example, codes such as 'difficult for childcare' and 'health problems' have singular distributions or represent more unique and unrelated codes. If two codes have similar distributions or profiles among subgroups of the independent variable (i.e., type of NSS), their points in the correspondence analysis plot will be closer together. An obtuse angle near 180 degrees indicates that the characteristics are negatively correlated (e.g., health problems with less time with partner), with an acute angle signaling positive correlation (e.g., stress and busy with less time with partner). The figure shows that there appears to be a clustering of problems for those working evening shifts and variable hours 7 days a week. These are the 'time crunch' and social variables where respondents often referred to less time with their partner, children, friends, hobbies, and often focus on stress and a busy life. This differs from the more practical or coordination problems for those with varying hours during the week and the largely physical problems for fixed night shift workers.

>> FIGURE 1 <<

Partnership dissatisfaction

The results of the analysis of partnership dissatisfaction are shown in Table 2 and 3b. The first general conclusion is that the impact of NSS on partnership dissatisfaction is not as strong as it was for relationship conflict. Although partnership quality and stability measures are strongly correlated (0.45), they appear to be still measuring very different phenomenon. Working in the evening or night appears to have no significant effect on partnership dissatisfaction for either sex, which refutes the expectations of our first hypothesis. However, hypothesis 3b gains partial support with men reporting a significantly lower level of relationship satisfaction when they work on the weekend, which likely relates both to their absence during important family times and the impact of overwork. This finding was repeatedly confirmed within the qualitative interviews. A male restaurant worker, for example described it as follows:

> The children hate that I have to work in the weekends. But ya, that's part of it. My wife also hates it, especially if I have the afternoon shift in the weekend.

>>TABLE 3B<<

A second central finding that challenges the expectations of our fourth hypothesis was the surprising finding that women working no or very few hours reported higher (not lower) levels of partnership dissatisfaction. This is the complete opposite effect of the previous finding that found that women who work more hours report higher levels of conflict. It may be that not only men require more hours to feel satisfaction at work, in their relationships and for themselves, but that women increasingly require this as well. This effect was exhibited in the previous quotation from the divorced man whose stay at home wife became increasingly unhappy with the situation. It may also be partly explained by a cohort effect. When controlling for cohort, we see that the effect of women's hours goes down and loses significance, which may be the additional effect that these women are at the start of their relationships, more satisfied and more likely to be full-time workers (i.e., pre-children). For male-breadwinner couples, both men and women often repeated that women would be free to start working a few part-time hours after the children enter high school. For example, a male production worker with a stay at home wife discusses this:

> When the children are gone at school and have a short day, then they are home again at noon. If the children are older and go to high school then my wife can start working a half a day or two or three days in the week.

His partner generally echoed these comments, but also exhibiting some frustration about the constant need to arrange her schedule and that of the entire family around her husbands' work. She and most other women, however, did not express any negative comments about the restrictive school system or need to center her life also around her children's school times.

Again we see that individuals, and particularly women, are less satisfied in cohabiting relationships, which confirms previous findings which show that these relationships are often more fragile and of a different nature than marriage (Mills, 2004a). The heatmap plot shown in Figure 2, confirms that those in cohabiting and marital unions vary on what

they feel constitutes a good relationship. The lighter the tone is, the more often this characteristic is mentioned. Both types of partnerships valued trust, with those in cohabiting unions clearly valuing independence and freedom and placing less attention to support. Whereas married couples valued good communication and understanding more prominently. As expected in hypothesis 5, we find that couples with young children have significantly higher levels of relationship dissatisfaction, particularly for women with school-aged children. Another interesting point is that the heterogeneity of the nationality of partners results in higher dissatisfaction for women, which was the case for men in the previous conflict model. It appears that men mention more conflict and women more dissatisfaction in these mixed relationships. Finally, when the level of partnership conflict is added in the model to test hypothesis 1b, we find significant support. High partnership conflict leads to high dissatisfaction.

>> FIGURE 2 <<

The qualitative interviews provided a much more positive image of the combination of NSS and children for both men and women, but for very different reasons. There was overwhelming evidence that many women viewed NSS as the only way to combine children and work. One female nurse stated: 'I don't think that it is possible to combine care and regularity.' Another police officer called the combination of *regular* work times and childcare a 'witches brew' that only asked for problems. A recurrent story of mothers was the ability to both work but simultaneously be perceived as a full-time mother. A female nurse and mother of two purposely chose night shifts to combine family and work and avoid her children remaining at school over the lunch hour or going into any after-school care.

> An advantage is that I see the children over the entire day, regardless of the fact that I work…at night there is no conflict since they are sleeping while I work. During the day I am still there in a different way, even if I am sleeping….It is absolutely wonderful because at the school they ask if I even work because I am always at school you know?

Figure 3 illustrates a correspondence analysis of the positive aspects mentioned by couples in relation to presence and age of children in the household. This confirms that couples, particularly those with children under the age of 4, use NSS as a method of alternative childcare and to see their children more, pick them up from school and for men, to help their partners. Men who had young children (and their partners) consistently mentioned that NSS meant that they did more in the household and spent more time with their children. One nurse with rotating shifts and two young children described this in detail.

> He doesn't mind helping in the house at all. He generally does the ironing, it is ideal….If I work the night shift than I do absolutely nothing, then he does everything, the washing, the ironing, he doesn't mind, he actually loves the weekends when he gets to be alone with the boys, he really loves it….

Figure 3 also supports our previous discussion regarding the impact of children on partnership interaction and quality. Those with older children mention related NSS to more non-child related factors, such as being more relaxed and seeing their partner more. Another clear distinction is the more personal positive reasons for NSS mentioned by those without children such as freedom and flexibility and to ability to avoid busy shops and traffic jams.

>> FIGURE 3 <<

A final question that is related to both the impact of NSS on partnership conflict and satisfaction is the question of whether couples actually drew any causal link between NSS and the quality and stability of their relationship. For the majority of couples, NSS preceded their partner. We often heard that many had never knew any other situation and would find it difficult to imagine a life other than one with NSS. This is also likely related to reason why individuals entered these types of shifts, often mentioning that it was part of the job, it happened by chance or that it was just part of their occupation. Others discussed protective work regulations, such as the fact those over 55 years were no longer required to work night shifts, the higher pay received for working on weekends and nights, and protection from collective worker's agreements and worker's councils that resulted in less demanding shift work schedules. One police officer discussed how the employer actually clearly informed workers about how NSS can cause problems for holidays, birthdays and families and offered advice and counseling. It therefore appears that NSS in the Netherlands may have a different nature than what is often found in the American literature.

However, another group of individuals did make some negative connections to their relationships in terms of having a negative influence on their sex life, little time together, and tiredness and irritability. What appeared to be an important aspect in both the quantitative and qualitative research was the level of support and understanding of the partner and the strategies couples developed to deal with problems. There were several cases where the husband reported that he felt that his NSS had little influence on the relationship, but in a separate interview, his partner provided a different picture, complaining about his lack of help in the household, with the children and need for their lives to revolve around his work. These inconsistencies and tensions will be the topic of future research.

CONCLUSION

This study applied a multi-method approach to examine the impact of NSS on the levels of conflict and dissatisfaction on cohabiting and marital unions in the Netherlands. NSS only resulted in significantly higher levels of conflict when they were in the evening and when women were employed in these shifts. There appeared to be a selection effect of night shift workers into those who found a way to escape the grueling night shifts and those who preferred them, resulting in no observed effect on relationships for night shifts. Working NSS also appeared to have no significant impact on the level of satisfaction in relationships. A central predictor of dissatisfaction was higher levels of conflict, which often involved heated discussions and arguments, followed by longer periods of withdrawal. The qualitative interviews provided an alternative and more positive view of conflicts, with many couples stating that open arguments aided in resolution of deeper problems.

The level and type of partner support served as a key factor in diminishing the level of conflict and negative impact of NSS, particularly for women. The number of hours that the individual and their partner worked was another central predictor. When women worked more hours, higher levels of conflict were reported. Conversely, when they worked less hours, women's own dissatisfaction in their relationship grew. Finally, we

found support that the presence of young children resulted in higher levels of conflict and dissatisfaction, particularly for women. Couples with young children also appear to use NSS as a form of childcare, compared to those with older or no children, who give more personal reasons for working these schedules. These findings underline the gendered effect of NSS, with the impact of NSS on partnership quality clearly dependent on support that women received from their partners. It may be that since there is a more gendered division of labor in this society that women experience more internal pressure of not fulfilling the duty of mother of wife whereas men appear to feel more external pressures of their family missing them and/or expecting them to spend more time at home. The qualitative interviews served to fill in the gaps and provide a deeper understanding the quantitative generalizations that we were able to make.

Another conclusion is that NSS do not always have a negative effect, particularly when couples find a way to manage, cope and develop strategies to manage the situation. This included more planned and structured communication techniques; joint planning and increased support and understanding. NSS forced couples to actively pay attention to communication and actually enhanced their relationship. In explaining the impact of NSS on partnership quality and stability, it appears that it is not only the schedule that is important, but also the circumstances (i.e., family, partner characteristics). NSS appear to be generally better jobs with higher earnings and worker protection in the Netherlands, which likely also attributes to the less detrimental effects. We likewise found that NSS may have potentially positive effects for children. This study confirms previous findings that the NSS of the mother results in considerably more time spent with children by fathers (e.g., Bianchi, 2000; Yeung et al., 2001), a topic which will be explored in further analyses.

One extension of this work would be the use of longitudinal data, which will be available in the coming years. This will allow us to examine the how the levels and impact of both NSS and partnership quality are likely to fluctuate over time. Previous research has also confirmed the time-varying nature of partnership quality by showing how it progressively lowers over the duration of the relationship or in relation to during certain stressful life phases, events or economic circumstances (e.g., Clark-Nicolas & Gray-Little, 1991), also confirmed in our qualitative interviews. VanLaningham, Johnson & Amato (2001), for instance, demonstrated that martial happiness over the life course has a slight curvilinear shape, where it declines with the duration of the marriage, with some but no significant upturn in later years. In other words, the measure of relationship satisfaction can only be understood in relative terms by examining the trajectory of multiple measures. More refined time-varying models using multiple waves would therefore be more desirable. Further extensions would be the examination of longer-term relationship outcomes such as dissolution of non-marital cohabiting unions or divorce, how the voluntary or involuntary nature of these jobs mediates the impact on individuals' lives and the impact of NSS on other areas of life including children's educational attainment and interaction with family and friends.

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Table 1 NSS work among working Dutch couples

Schedules	**Couples**	**Males**	**Females**
Distribution of working time over the day, number of hours			
Work hours between 08:00 and 16:00	23.0	31.7	16.3
Work hours between 16:00 and 24:00	4.8	6.6	3.4
Work hours between 00:00 and 08:00	1.3	1.9	0.7
Total number of hours	29.1	40.2	20.4
Combinations of weekday and weekend schedules, percentage			
Weekdays only, five days	37.5	56.3	19.7
Weekdays only, less than five days	40.4	19.4	60.3
Weekdays and weekend, seven days	3.2	4.5	2.0
Weekdays and weekend, less than seven days	18.4	19.8	17.0
Only weekend work, one or two days	0.5	0.9	1.0
Total percentage	100.0	100.0	100.0
Nr of cases	2,206	1,072	1,134

Source: NKPS 2002/04, authors' own calculations.
Notes: Sample consists of cohabiting and married couples, excluded are the cases where respondent has no job.

Table 2 Effect of NSS work on partnership quality and stability perceptions, ordered logit regression coefficients

	Relationship Conflict		Relationship Dissatisfaction	
	Model 1	**Model 2**	**Model 1**	**Model 2**
Working in evening, proportion[1]	0.486 +		0.001	
Working in night, proportion[2]	0.426		0.414	
Working fixed evening schedule[3]		0.524 **		0.229
Working fixed night schedule[4]		0.009		-0.129
Working fixed day schedule (Ref)[5]		0		0
Working in weekend[6]	-0.008	-0.005	0.104	0.108
Working in weekdays only (Ref)	0	0	0	0
0 – 12 hours a week	0.107	0.002	0.349 **	0.331 **
13 – 20 hours a week	0.005	0.001	0.444 **	0.424 **
21 – 35 hours a week	0.216 *	0.186 *	0.311 **	0.298 **
36 + hours a week (Ref)	0	0	0	0
N of cases	2,656	2,656	2,656	2,656
Nagelkerke R Sq	0.004	0.005	0.009	0.009

Source: NKPS 2002/04, authors' own calculations.

Notes: Sample consists of cohabiting and married couples, where at least one partner has a paid job.

** significant at $p < 0.01$; * significant at $p < 0.05$; + significant at $p < 0.10$

1 – Proportion of work carried out between 16:00 and 24:00 from the total working time (min 0, max 1.0);

2 – Proportion of work carried out between 00:00 and 08:00 from the total working time (min 0, max 1.0);

3 – Majority of hours in majority of days worked between 16:00 and 24:00 hours;

4 – Majority of hours in majority of days worked between 00:00 and 08:00 hours;

5 – Majority of hours in majority of days worked between 08:00 and 16:00 hours, Also includes the small category of people with varying schedules.

6 – Dummy for indicating when at least some of the work is carried out in weekend days.

Table 3a: Effect of NSS work on relationship conflict by males and females, ordered logit regression coefficients

	Males				Females			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Work schedule of respondent								
Working fixed evening schedule[1]	0.181	0.232	0.257	0.006	0.737 **	0.778 **	0.596 *	0.383
Working fixed night schedule[2]	0.372	0.391	0.767	0.312	0.012	-0.002	0.116	-0.106
Working fixed day schedule [3] (Ref)	0	0	0	0	0	0	0	0
Working in weekend [4]	0.002	0.005	0.009	0.009	-0.156	-0.180	-0.129	-0.205
Working in weekdays only (Ref)	0	0	0	0	0	0	0	0
0 – 12 hours	0.107	0.004	0.326	0.273	-0.059	-0.002	0.002	-0.298 +
13 – 20 hours a week	0.564	0.595	0.717 +	0.675	-0.122	-0.148	0.001	-0.303
21 – 35 hours a week	0.182	0.167	0.001	0.009	0.132	0.139	0.008	-0.003
36 + hours a week (Ref)	0	0	0	0	0	0	0	0
Work schedule of partner								
Working fixed evening schedule		-0.248				-0.346		
Working fixed night schedule		-0.127				0.500		
Working fixed day schedule (Ref)		0				0		
Working in weekend		-0.141				0.009		
Working in weekdays only (Ref)		0				0		
No work (incl. Less than 12 hours)		-0.184				0.562 **		
13 – 20 hours a week		0.226		+		-0.293		
21 – 35 hours a week		0.310 *				0.121		
36 + hours a week (Ref)		0				0		
Socioeconomic characteristics of couple								
Born in 1928 – 1945 (Ref)			0				0	
Born in 1946 – 1955			-0.350				0.287	

	Males				Females			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Born in 1956 – 1965			0.005				0.163	
Born in 1966 – 1975			-0.353				0.002	
Born in 1975 – 1985			-0.781 *				-0.171	
Mean education of partners			0.242 **				0.102 +	
Mean socioeconomic status (ISEI) of partners			0.001				0.001	
Relationship/family characteristics of couple								
Cohabiting			0.480 **	0.424 **			0.280 +	0.177
Married (Ref)			0	0			0	0
National heterogeneity[5]			0.684 **	0.563 **			0.205	0.132
National homogeneity (Ref)			0	0			0	0
At least one child younger than 3 years			0.256	0.335 *			0.152	0.253 +
At least one child between 4 and 12 years			0.129	0.201			0.261 +	0.214 +
At least one child older 12 years			0.001	-0.006			-0.002	-0.103
No children (Ref)			0	0			0	0
Support from partner[6] (reference to mean)				-0.908 **				-1.165 **
Evening schedule*partner's support				0.566				-0.830
Night schedule*partner's support				0.409				-1.047
Weekend work*partner's support				0.129				0.442
N of cases	1,154	1,154	1,006	1,074	1,502	1,502	1,231	1,378
Nagelkerke R Sq	0.004	0.018	0.071	0.082	0.008	0.017	0.026	0.113

Source: NKPS 2002/04 authors' own calculations

Notes: Sample consists of cohabiting and married couples, where at least one partner has a paid job. ** significant at $p < 0.01$; * significant at $p < 0.05$; + significant at $p < 0.10$; 1 – Majority of hours in majority of days are worked between 16:00 and 24:00 hours; 2 – Majority of hours in majority of days are worked between 00:00 and 08:00 hours; 3 – Majority of hours in majority of days are worked between 08:00 and 16:00 hours, also includes small group working varying schedules. 4 – Dummy for indicating when at least some of the work is carried out in weekend days; 5 – Dummy indicating when the couple is nationally heterogeneous (e.g. Dutch and Surinamese); 6 – Perceived level of (moral) support received from partner, reference to the mean support of the respective sample.

Table 3b: Effect of schedules on relationship dissatisfaction, ordered logit regression coefficients

	Males				Females			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Work schedule of respondent								
Working fixed evening schedule[1]	0.003	0.007	0.007	0.004	0.398	0.366	0.467	0.242
Working fixed night schedule[2]	-0.114	-0.156	-0.576	-0.287	-0.009	-0.149	-0.185	-0.512
Working fixed day schedule [3] (Ref)	0	0	0	0	0	0	0	0
Working in weekend [4]	0.229 +	0.262 +	0.204	0.244 +	-0.003	-0.003	-0.009	-0.006
Working in weekdays only (Ref)	0	0	0	0	0	0	0	0
0 – 12 hours a week	0.262	0.277	0.002	0.003	0.342 *	0.377 *	0.003	0.105
13 – 20 hours a week	0.237	0.244	0.181	0.002	0.450 **	0.435 *	0.153	0.290
21 – 35 hours a week	0.186	0.172	-0.118	-0.007	0.351 *	0.353 *	0.116	0.217
36 + hours a week (Ref)	0	0	0	0	0	0	0	0
Work schedule of partner								
Working fixed evening schedule		-0.143				0.270		
Working fixed night schedule		-0.506				0.466		
Working fixed day schedule (Ref)		0				0		
Working in weekend		0.104				-0.106		
Working in weekdays only (Ref)		0				0		
No work (incl. less than 12 hours)		0.204				0.500 *		
13 – 20 hours a week		0.458 +				-0.331		
21 – 35 hours a week		0.422 +				0.174		
36 + hours a week (Ref)		0				0		
Socioeconomic characteristics								
Born in 1928 – 1945 (Ref)			0				0	
Born in 1946 – 1955			-0.611				-0.130	

	Males				Females			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Born in 1956 – 1965			-0.534				-0.326	
Born in 1966 – 1975			-0.869				-0.737 *	
Born in 1975 – 1985			-1.566				-1.192 **	
Partners' mean education			0.007				-0.008	
Partners' mean ISEI			-0.001				-0.001	
Partnership/family characteristics								
Cohabiting			0.555	0.108			0.270 +	0.004
Married (Ref)			0	0			0	0
National heterogeneity[5]			0.342	0.121			0.467 +	0.407 *
National homogeneity (Ref)			0	0			0	0
At least one child younger than 3 years			-0.003	-0.255			0.002	-0.178
At least one child between 4 and 12 years			0.356	0.345 *			0.520 **	0.449 **
At least one child older 12 years			0.134	0.326 *			0.251	0.613 **
No children (Ref)			0	0			0	0
Partnership conflict[6]				2.640 **				2.911 **
N of cases	1,154	1,154	1.006	1.076	1,502	1,502	1,239	1,379
Nagelkerke R Sq	0.004	0.013	0.041	0.201	0.008	0.015	0.059	0,260

Source: NKPS 2002/04 authors' own calculations

Notes: Sample consists of cohabiting and married couples, where at least one partner has a paid job. ** significant at $p < 0.01$; * significant at $p < 0.05$; + significant at $p < 0.10$

1 – Majority of hours in majority of days are worked between 16:00 and 24:00 hours;

2 – Majority of hours in majority of days are worked between 00:00 and 08:00 hours;

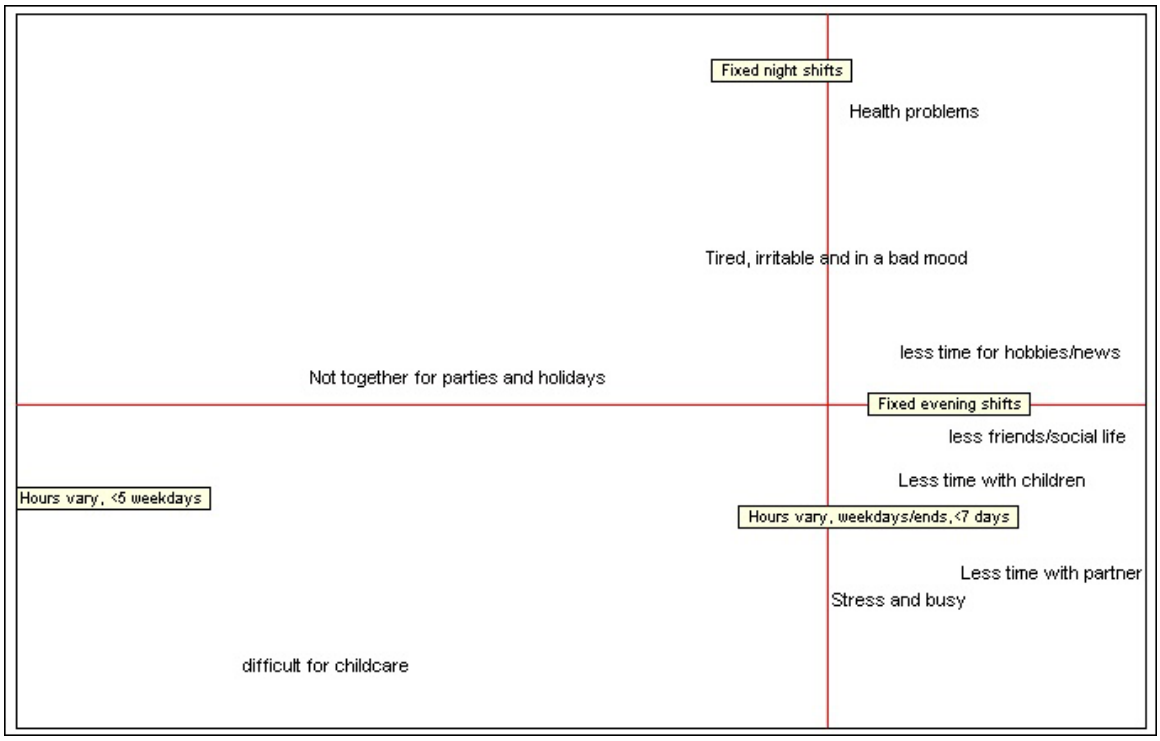
3 – Majority of hours in majority of days are worked between 08:00 and 16:00 hours, also includes small category of individuals with varying schedules;

4 – Dummy for indicating when at least some of the work is carried out in weekend days;

5 – Dummy indicating when the couple is nationally heterogeneous (e.g. Dutch and Surinamese);

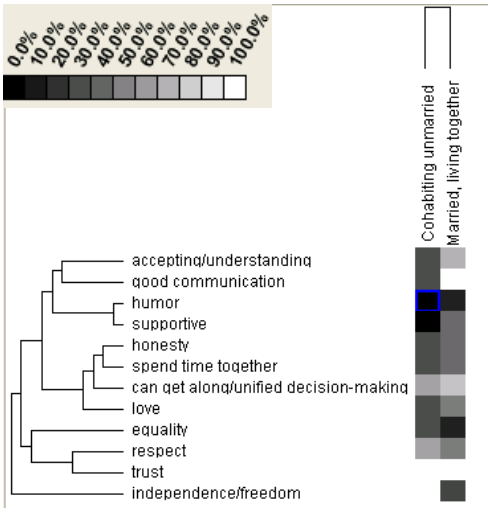
6 – Perceived level of partnership conflict (4-item scale, $\alpha = .842$).

Figure 1. Correspondence Analysis of Type of Non-Standard Work Time by Negative Aspects of Non-standard Work Times



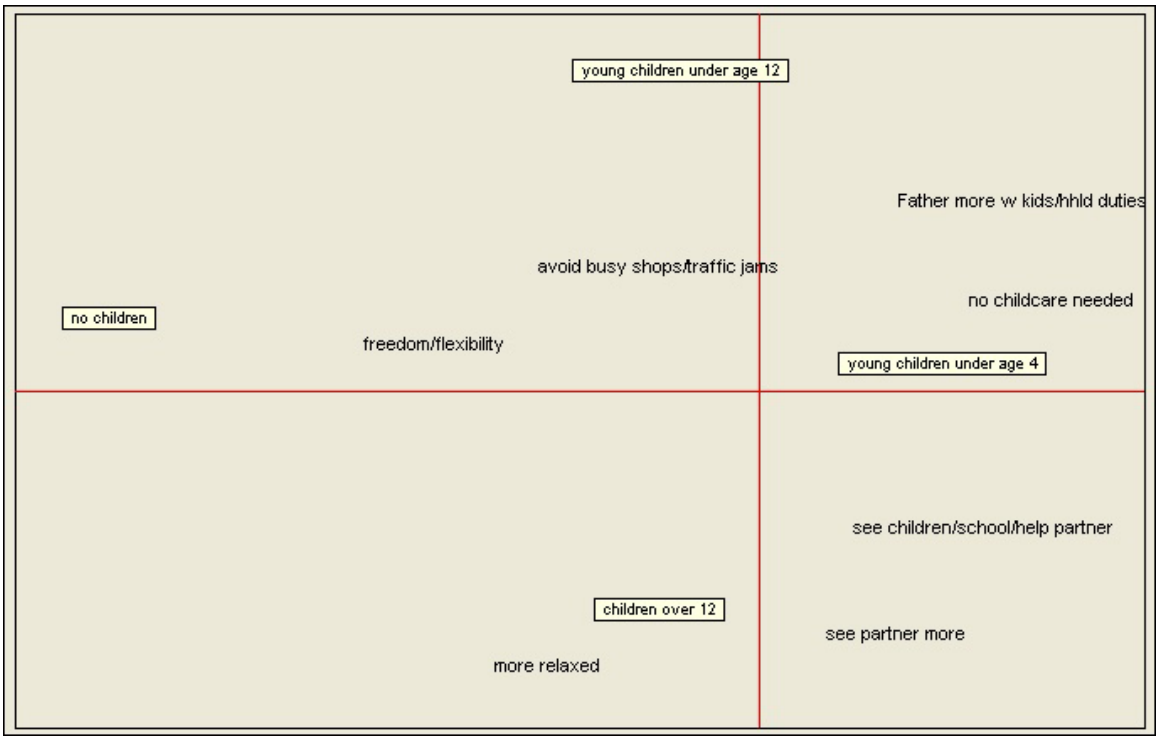
Source: Authors' calculations from NKPS Qualitative Minipanel of Non-Standard Work Times and Partnership Quality and Stability, 2006

Figure 2. Heatmap Plot of Characteristics of a Good Relationship by Unmarried cohabitation versus Married Couples



Source: Authors' calculations from NKPS Qualitative Minipanel of Non-Standard Work Times and Partnership Quality and Stability, 2006

Figure 3. Correspondence Analysis of Age of Children by Positive Aspects of Non-standard Working Times



Source: Authors' calculations from NKPS Qualitative Minipanel of Non-Standard Work Times and Partnership Quality and Stability, 2006