

Gendered Parenthood in the 21st century? Everyday Time Use and Stress in Sweden, 2000/01–2010/11

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ABSTRACT

This paper examines gender differences in everyday stress among parents in Sweden. Recently, maternal stress has become a public health concern. One of the explanations to why mothers more than fathers get stress-related diagnoses is the unequal division of labor at home. This paper investigates mothers' and fathers' time allocation and its association with everyday stress in Sweden, using time diary data from the 2000/01 and 2010/11 Swedish Time Use Survey (SWETUS), including self-reported stress on the diary day. Mothers were more likely to experience stress than fathers, especially during weekdays in 2010/11. Mothers' excess everyday stress experiences during weekdays were partly due to their childcare responsibilities and that their time was fragmented. Differences between mothers and fathers were significant in 2010/11 but not in 2000/01.

KEYWORDS

Time use, stress, gender, paid work, housework, childcare, time fragmentation

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INTRODUCTION

Time is one of our most valuable resources, yet restricted to 24 hours (or 1,440 minutes) per day. Thus, it is associated with choices largely determined by sex and life cycle stage. Cross-national evidence show that parenthood puts pressure on men and women in their time allocation choices, with implications for gender differences in earnings as well as well-being.

With married women's, and particularly mothers' increasing employment outside the home, the dual-earner model overtook the traditional male breadwinner model in Europe as well as in the United States (Drew, Emerek & Mahon 1998; Spain & Bianchi 1996). Despite an increase in women's paid work, their time spent in unpaid work has not declined enough to compensate for this (Bianchi 2000; Gauthier, Smeeding & Furstenberg 2004). Men have increased their time in unpaid work, but from low levels, and not enough to compensate for women's changing paid work (Coltrane 2000; Gershuny & Robinson 1988; Sullivan & Gershuny 2003). For many men and women, the total daily work hours are equal, but still unequally divided between paid and unpaid work, with men doing more paid work and women doing more unpaid work.

The rise of dual-earner couples, mothers' increased employment, and a growing sense of time pressure and overwork have raised concerns over how time is spent within modern families (Dinh, Strazdins & Welsh 2017; Jacobs & Gerson 2004; Kleiner 2014). While the time couples spend exclusively together has decreased (Amato, Johnson, Booth & Rogers 2003, 2007; Dew 2009), time as a family has been preserved (Genadek, Flood & Garcia-Román 2016; Neilson & Stanfors 2018), at the cost of mothers' (but not fathers') free time and time alone (Neilson & Stanfors 2018; Sayer 2005). There has also been a rise of intensive parenting norms, with both qualitative and quantitative research reporting that parents spend more time with their children than before (Bianchi, Robinson & Milkie 2006; Daly 2001; Dew 2009; Gimenez-Nadal & Sevilla Sanz 2011; Hays 1996; Lareau 2002; Neilson & Stanfors 2018).

That said, time pressures have increased over time, especially for working parents. Time pressures are particularly high when children are young and they need the most time-intensive care (Bianchi, Robinson & Milkie 2006). The period when young children are present in the household typically coincides with the time when men and women are establishing a career. Thus, there is a work-family conflict. Bringing up children is also costly in terms of money, which puts financial pressures on parents, especially during the phase of family formation, which furthers the conflict, to the extent that some experience 'parenting stress' (Pearlin 1983, 1989). Parenting stress is commonly described as 'role overload' in that parents try to juggle too much and too many roles, and perceive difficulties meeting them all (Cooper et al. 2009; Halpern-Meekin & Turney 2016; Harmon & Perry 2011). Evidence suggests that mothers experience more stress than fathers (Buddlemeyer, Hamermesh & Wooden 2017; MacDonald, Phipps & Lethbridge 2005; Connelly & Kimmel 2014; Musick, Meier & Flood 2016), though some argue that this may reflect measurement issues relating to gender and self-reported stress, or that maternal stress has been more investigated.

The work-family conflict, as well as parenting stress, can be mediated by workplace and social policies targeted at working parents. Public support for families vary considerably across contexts. In the United States (and other Anglo-Saxon contexts), public support for childrearing is limited, which means that being a parent comes with more stress than elsewhere (Glass, Simon & Andersson 2016; Margolis & Myrskylä 2011). In Sweden (and

other Nordic countries), on the other hand, there is extensive state support for working parents in terms of leave policies, income and job-protection, and subsidized childcare. There is probably no other place where there are better opportunities to combine work and family for all than Sweden, so this is a context where parental stress would be minimal. While the major part of the literature on parental stress and time use is on Anglo-Saxon contexts, parental stress has not been examined in a similar manner in Sweden (or any other Nordic country for that matter), despite being an interesting case given its strong dual-earner normative.

In this paper, I study time use and its relationship to everyday stress among parents, focusing on gender differences. The context is Sweden 2000/01-2010/11. The issue is topical and highly policy relevant. Stress impacts well-being negatively. Recently, stress among mothers has become a public health concern because of a dramatic increase in sickness leave due to stress-related psychiatric diagnoses among this group in Sweden (Försäkringskassan 2014a-d). This is associated with large individual as well as social costs. Some argue that women's stress-related sickness leave is because women, and particularly mothers, suffer from a double burden of paid work and unpaid work. While the combination of paid and unpaid work is part of the Swedish work-family model, the goal is a more equitable division of labor. Thus, reality contrasts with high ambitions regarding gender equality in both paid and unpaid work. If women as a group disproportionately bear the costs for this in terms of well-being, then action is called for. In this paper, I am particularly interested in the association between time in paid and unpaid work and stress, and whether it is gendered. Are all activities equally stressful for both mothers and fathers? Is stress among Swedish parents due to time pressure (hours and minutes or being interrupted), or is it about role overload? By answering these questions, this paper contributes to the literature on parenthood, gender and time use, but also to the literature on work-family balance and provides some policy-relevant recommendations.

BACKGROUND

This research draws on the literatures on time allocation, work-family conflict, and social determinants of parental well-being. These literatures are inter-related and put forward highly gendered results suggesting that the different time allocations of men and women may play an important role for the experience of stress among parents.

Time Allocation

Economic models of individual time use and household division of labor emphasize the rational and efficient allocation of resources in order to optimize output and utility. Typically individual time use is derived from the maximization of a household utility function subject to budgetary and time constraints. In its simplest version, the decision is between market work and leisure, but more realistically the time allocation choice is manifold rather than twofold, including leisure as something qualitatively different than other home time, such as housework (Becker 1965; Gronau 1973, 1977; Mincer 1962).

In a family, the optimization problem is about determining the most efficient allocation of each family members' time, given existing marginal values, which means agreeing on household division of labor and the quantity of each individual's leisure time. This commonly takes place through specialization of one partner in paid market work, and the other in unpaid non-market work, according to their comparative advantages (Becker 1991). Typically, women are assumed to be more productive in non-market activities, such as childcare and

housework, and thus the model predicts a gender-based division of labor,¹ but economic theory also implies that the degree of specialization may vary between couples depending on the comparative advantage of the partners.

The traditional neoclassical household model does not allow for conflicting interest and different utility functions of the spouses. In order to allow for these kinds of interactions, bargaining models were developed (Manser & Brown 1980; Konrad & Lommerud 1995; Lundberg & Pollak 1996).² The outcome of bargaining over intra-household time allocation is affected by the partners' relative earnings potential, and similar to that of specialization.

The gains to specialization are supposed to be the largest when there are (young) children in the household. Parenthood is often considered a major cause behind gender differences in time allocated to paid and unpaid work. Most studies find that the presence of young children strengthen a traditional division of labor, as women increase their time in unpaid work activities while men perform more paid work (Bianchi 2000; Sayer 2005 on the U.S.; Craig, 2005 on Australia). The extent to which men's and women's time allocation is affected by parenthood vary according to individual, household and contextual factors (Craig & Mullan 2010; Neilson & Stanfors 2014). Around 2000, evidence suggests that parenthood affected men and women more similarly than it had previously in Sweden, Norway and Finland (Dribe & Stanfors 2009; Neilson & Stanfors 2013), indicating that a new pattern may be emerging in the time use of parents in the Nordic countries where female labor force is high and the work-family conflict mediated through state support.

Work-Family Conflict

Work-family conflict is commonly defined as "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role" (Greenhaus & Beutell 1985:77). Accordingly, work-family conflict occurs when work interferes with family life or when family responsibilities interfere with work. For example, a parent experiences family-to-work conflict when a sick child needs to be cared for, while (s)he experiences work-to-family conflict when working hours make it difficult to attend a child's after-school activities or family dinners. Paid work thus not only conflicts with domestic work and care responsibilities but also with recreational aspects of family life and individual leisure. When even leisurely activities are to be scheduled, parents experience stress (Bianchi & Raley 2005; Daly 2001).

Empirical research distinguishes family-to-work conflict and work-to-family conflict as two distinctly different constructs (Frone, Russell & Cooper 1992; Netemeyer, Boles & McMurrin 1996). More attention has been directed to work-to-family conflict than to family-to-work conflict. That work interferes more with family commitments than vice versa may reflect the idea of the "ideal worker", who prioritizes work over family (Acker 1990; Hochschild 1997; Williams 2000). A variety of organizational features and practices sustains

¹ A key assumption in the Becker (1985) model is also that the individual allocates a given amount of time and effort to different activities (market work, non-market work, and leisure).

² These models are either cooperative or non-cooperative. In the former, spouses negotiate over time and resource allocation based on their bargaining power, determined by how well each spouse would fare in the absence of cooperation (e.g. divorce or separation in a non-cooperative relationship), while in the latter individuals simply maximize personal welfare by under-provision of the household common good.

the notion that work should trump other commitments (Ely & Meyerson 2000), especially in the United States and other contexts with long work hours.

Both work and family demand commitment, time and energy. Typically, periods when demands are the most articulate – peaks of family formation and career growth – tend to coincide. Reconciling the demands of work and home is thus a challenge for many, but experiences of work-family conflict are most common among men and women belonging to dual-earner couples with (young) children at home (Bellavia & Frone 2005; Moen & Yu 1999). Many workers feel stressed when they try to accommodate the demands of both work and family. A common strategy for solving this problem among is to limit work demands by, for example, working part-time. Time pressure does not only arise because of work demands as people also face time demands at home, for example both basic upkeep of the household and maintaining personal relationships demand time.

Parental Stress

It goes without saying that parenting is demanding. Being a parent not only comes with the responsibility to provide materially for the child and make sure that basic needs are fulfilled, but also with a wish to fulfill the child's emotional and psychological needs and well-being in a broader sense. The experience of parenting and the demands that come with it may set off a subjective stress reaction (Pearlin 1983). We may understand this reaction from different perspective, one being that of time costs and tradeoffs, and another being that of role strain and overload.

Time Costs and Tradeoffs

Time allocation choices are restricted and associated with time costs and tradeoffs. Specialization is assumed to increase efficiency within households. To the extent that individuals feel that they do not have enough time to do everything on their agenda, they may experience stress (Bonke & Gerstoft 2007; Hamermesh & Lee 2007). Parents are particularly likely to face tradeoffs between paid and unpaid work since they have demands from both work and family, especially when children are young and time-intensive (Becker 1965; Gronau 1977).

Because men and women spend different amounts of time on paid and unpaid work, and also perform different tasks within time use categories, they face different tradeoffs, and are potentially subject to stress in different ways. Women do more unpaid work than men, who perform more paid work, and this pattern is stronger among parents. As mothers commonly are engaged in more emotionally demanding childcare activities, parenthood comes with more stress for women than for men (Mattingly & Sayer 2006; Musick, Meier & Flood 2016). Moreover, children commonly reduce women's free time more than men's, which limits time for recuperation (Neilson & Stanfors 2018; Sayer 2005). In line with this, mothers, especially working mothers, report more stress in connection with childcare/time with children than fathers (Connelly & Kimmel 2014; Hill 2005; Musick, Meier & Flood 2016).

Though paid work may be stressful, it also comes with resources in terms of money, which may help off-setting stress, but it also comes with resources in terms of self-fulfillment and self-esteem. For most people, paid work as well as unpaid housework and childcare each have elements of both pleasure and pain (Nomaguchi & Johnson 2016). For example, enjoying time off with family and spending quality time with children is leisurely, while routine activities in the same configurations are drudgery. Sleep is, however, serving as a

straightforward stress mediator (Danielsson et al. 2012). The literature on stress suggests that it is the total hours of work and the timing hereof that matter for stress (Presser 1993), but also that it is the intensity, combination of demands and responsibilities, and the frequency of interruptions that add to stress and work-family conflict (Bolger et al. 1989; Connelly & Kimmel 2014; Floro 1995). This is true for both paid and unpaid work (not all eight-hour days at work are equally stressful, nor are all hours spent caring for children). The combination of paid and unpaid work, increases the potential for conflicting demands and role overload, and thereby also the potential for stress increases.

Role Overload

Role strain theory describes challenges and conflicts that people experience as they engage in normal social roles in different configurations (Pearlin 1983). Parenting stress is seen as role overload occurring when a parent experiences that role demands exceed his/her capacity to meet them. Role strain may also imply the experience of being held captive in a particular role, while preferring to be able to act outside of it. Role strain may be due to incompatible demands of multiple roles, like work and family, but may also occur when role sets change and individuals need to adjust their behaviors. This kind of 'role restructuring' may also cause stress (Pearlin 1983).

Both men and women experience parenting as stressful, but research suggests it is especially stressful for mothers (Bianchi & Milkie 2010; Buddelmeyer, Hamermesh & Wooden 2017). This is not surprising given persistent gender roles along the lines of male primary breadwinner and female primary caregiver, and consequent household division of labor among parents, despite increasing female work orientation. It also reflects that research has focused more on mothers and parenting stress in the context of changing motherhood than on how fathers experience parenting in the context of changing fatherhood (Harmon & Perry 2011; Nomaguchi, Brown & Leyman 2017).

While mothers today are more likely to be working than before, and fathers have become more involved in childcare and other unpaid activities, there is still a division of labor with men dominating paid work and childcare and housework being the female domain. The increasing prevalence of dual-earner families means that most men and women have abandoned the full-specialization model, and instead they both juggle work and family demands. Thus, it becomes relevant to establish how time in paid and unpaid work, respectively, is associated with experiences of stress among parents. Recent research suggests that the relationship between parents' own employment and stress is both gendered and class-based, and that social structure, culture, but also relationship status determine parental strain and the well-being of parents in terms of stress (Nomaguchi, Brown & Leyman 2017; Nomaguchi & Milkie 2017). Much of this research focus on fragile and low-income families, and the results are not necessarily representative for all. Moreover, extant research comes largely from the United States and other Anglo-Saxon contexts (e.g. Macdonald, Phipps & Lethbridge 2011 on Canada; Craig & Churchill 2018 on Australia) and would benefit from an understanding of the situation in other contexts, such as Sweden, where gender equality is well-projected, and the support for both men's and women's combined work-family roles is comprehensive. This should mediate stress among parents and reduce gender differences in the experience of everyday stress.

DATA

I used two waves of the Swedish Time Use Survey (SWETUS) conducted by Statistics Sweden (see Mohlén 2012; Rydenstam 2003 for discussions on data collection and quality). SWETUS is a time diary study of nationally representative cross-sectional samples. In this case I use the surveys from 2000/01 (N=7,955) and 2010/11 (N=6,477). The survey methodology remained consistent over time, with response rates ranging from 50 percent in 2000/01 and 41 percent in 2010/11, a decline that is reflective of widespread survey-response trends in Sweden and elsewhere (Curtin, Presser & Singer 2005)³. In nearly all cases, respondents completed one weekday and weekend day time diary. These diaries reported how individual respondents spent their time on more than 100 different activities in ten minute intervals, the location of these activities, and who was present during the activities performed. Survey data on time use were complemented by interview and register data on demographic and socioeconomic indicators.

The analyses focused on experiences of everyday stress among parents in Sweden. Everyday stress, arising from what goes on in everyday life, is determined by so called chronic stressors (Pearlin 1989; Turner et al. 1995). It is different from stressful life events, which typically are unique or rare events, such as job loss or the sudden death of a family member with different impacts on well-being. In the present study, I investigated mothers' and fathers' experiences of stress using a sample of men and women aged 25-54, excluding students, with at least one child under 18 in the household (see Table 1). These are typically most committed to the labor force, and also most likely to combine work and family, experiencing a heavy burden of paid and unpaid work compared to other groups, with potentially negative impacts on well-being. In total, I used information for one weekday and one weekend day from more than 2,500 individuals. Almost a fifth of the sample experienced stress during the diary day; there was no real increase across time. The average age of the sample was 40 years. The majority of mothers and fathers were partnered (87 percent in 2000/01 and 90 percent in 2010/11)⁴. Among partnered mothers and fathers, the overwhelming majority lived in dual-earner households (97 percent across waves), with both partners working full-time (35+ hours/week) in more than half of these couples. Educational attainment of the sample increased over the period.

TABLE 1 ABOUT HERE

METHOD

Dependent Variable

The dependent variable exploited in this study was derived from a survey question asked to all survey takers which read "Did you feel stressed during the diary day?"⁵ This question was asked on the diary day. It captures an individual experience or feeling, which relates to that specific day, and is likely associated with the activities performed during that day. It is thus not an assessment of a typical day (or other time periods) or overall life satisfaction, but rather a reflection of what happened during the diary day. Possible answers were "yes" and "no". The dependent variable is thus a binary variable taking the value 1 if the respondent felt stressed during the diary day, and zero if not. It is not as accurate as physiological indicators such as measures of cortisol levels, but it has some advantageous features. For example, the

³ According to Statistics Sweden, there was a general drop in response rates over the 1990s. The decrease in response rates regarding time use is completely in line with that found for other kinds of studies.

⁴ If partnered, they are in heterosexual relationships.

⁵ The same question was asked in the 2000/01 and 2010/11 waves.

same-day applicability limits recall bias, leading to hedonic rather than evaluative responses (Steptoe et al. 2015:3). Moreover, it relates to an overall assessment of the diary day.⁶ It thus differs from the American Time Use Survey 2010 experimental modules, which assessed different emotions (stress being one) on a scale ranging from zero to six for three randomly selected activities per individual. The different measures are good for different study purposes.

Independent Variables

As discussed above, there are a number of factors affecting the experiences of everyday stress among parents. Some of these factors are available as variables at the individual, or household level, while others are not directly observable in the data. Among what is available, *Gender* is one of the main independent variables explored in this study. Other independent variables of interest are indicating daily time uses such as *Paid work*, *Routine housework*, *Childcare*, *Leisure and Sleep*, potentially associated with stress experiences. *Paid work* includes shorter breaks, but not lunch and commuting time. *Routine housework* is made up of regularly-performed activities such as cooking, cleaning, washing, doing dishes, grocery shopping and related transportation; *childcare* includes caring for own children in both routine (e.g. bathing and feeding) and quality (e.g. reading to and interacting with children) activities; *leisure* includes a variety of activities such as walking, hiking, performing sport, and participating in clubs; it excludes television, but includes other screen time⁷; and *sleep* (which includes night sleep and naps). While the three former activities potentially adds to stress, though not necessarily similarly for mothers and fathers, both leisure and sleep are thought to mediate stress for both men and women.

I estimated regressions exploring gender while controlling for age, education, and work status at the individual level. *Age group* was categorized in five-year increments ranging from 25 to 54. Education was categorized as primary, secondary and higher based on Sweden's Sun 2000 ranking system, which is comparable to the International Standard Classification of Education 1997. *Work status* identified respondents who worked full time (>35 hours/week), part-time (1-34 hours/week), which is relevant in Sweden where those with children under 12 are entitled by law to work reduced hours, yet more women than men take up on this opportunity, and not working. I also controlled for factors at the household level of relevance for parents' experience of stress. These variables included whether the individual is partnered or not, number of children in the household (1, 2, or 3 or more), age of youngest child (0-3, 4-12, 13-18), and partner's work status (along the same lines as own work status); all potentially associated with stress experiences. I also considered household income as a control to test for the possibility that the stress experienced was due to restricted monetary resources (i.e. economic stress) rather than to time pressure. In some regression, a binary *gender* indicator was interacted with *survey year* (i.e. 2000/01 and 2010/11) to examine gender differences in change over time, since women report more stress than men.

Analytic Strategy

I first calculated weighted proportions of the dependent variable, stratified by wave and gender, and tested for statistically significant differences by gender and wave during weekdays and weekend days (Table 2). Because time pressure is most salient on weekdays

⁶ Though the validity of self-reported measures of stress has been debated, evidence suggests that objective measures of stress by observers are at least as subject to bias and measurement error (Semmer, Zapf & Greif 1996: 305).

⁷ It is a rather conservative measure of leisure because TV time is increasing.

when most people are working, I focus on the experience of everyday stress on weekdays in the remainder of the analysis. Weighted mean minutes across activities that likely affect experiences of everyday stress among parents were calculated by wave and gender, and I tested for statistically significant differences by gender and wave (Table 3). Table 3 displays how men and women in the sample allocate their time on paid work, routine housework, childcare, leisure and sleep. Together with maintenance housework (which is a limited time use category) and the residual category ‘Other’ (not shown), the activities add to a total of 1,440 minutes per day. I then applied linear probability models to analyze the determinants of self-reported stress during the diary day (for a general discussion on the advantages of linear probability models compared to a logit, see Carina Mood 2006). Stress ($Stress_i$) is modelled as a function of the individual’s gender, age, education, and work status (X_i), and household characteristics (Z_i), such as partnership status, number of children, age of youngest child, and partner’s work status. In some models, household income was controlled for. In one set of models, the association between time in different activities (G_i) and stress during the diary day was considered. In the fullest models, I estimated:

$$Stress_i = \alpha_0 + \beta_1 X_i + \beta_2 Z_i + G_i + \varepsilon_i \quad (1)$$

As for the multivariate analysis, I first estimated models for men and women separately, investigating the determinants of everyday stress among parents. Then, I investigated pooled models (including both men and women) where I was particularly interested in the male-female differences (i.e. the gender gap) in terms of the likelihood of experiencing stress during the diary day, using various model specifications exploring the impact of individual and household characteristics as well as the impact of different time uses and total work load. Individual sampling weights corrected for survey design (stratified random sample) and oversampling throughout the analyses. Sensitivity analyses were conducted (see below).

DESCRIPTIVE ANALYSIS

Descriptive information regarding stress and time allocation among mothers and fathers (25-54) is presented in Tables 2 and 3. Table 2 shows that women were more likely than men to report stress during the diary day; about 20 percent of mothers experienced stress during the diary day compared to 16 percent of fathers.⁸ It is also evident that stress was more prevalent on weekdays than on weekend days when most people are free from paid work, do not face as much scheduling demands, and are subject to less time pressure. Table 2 indicates significant gender differences in the experience of everyday stress, though the pattern is not consistent. In 2000/01 mothers were significantly more stressed than fathers on weekends, but this changed over the years. In 2010/11, mothers were significantly more stressed on weekdays. The gender stress gap increased, but there were no significant within-gender differences between 2000/01 and 2010/11.

TABLE 2 ABOUT HERE

Table 3 describes mothers’ and fathers’ time allocation and that there were both within-year gender differences and within-gender differences across 2000/01 and 2010/11 in this respect. The information in Table 3 forms the backdrop against which mothers’ and fathers’ experiences of everyday changes should be assessed. Despite Sweden being a frontrunner

⁸ MacDonald, Phipps & Lethbridge (2005) report substantially higher levels of self-reported stress for Canadian women and men in the same age range, though their sample is not restricted to parents.

when it comes to gender equality in the labor market and in the home, Swedish fathers did significantly more paid work than Swedish mothers. Mothers did, however, increase their labor supply between 2000/01 and 2010/11, primarily on the extensive margin. On the other hand, mothers did significantly more unpaid work than fathers. Women dominated time in both routine housework and childcare. They did almost twice as much housework (an average of about 120 minutes per day in 2000/01 and 110 minutes per day in 2010/11 compared to around 60 minutes for fathers), but childcare was somewhat more evenly shared. In parallel with increased paid work, mothers reduced the time devoted to housework between 2000/01 and 2010/11, though paid work on average increased more than housework was reduced. Fathers increased their time in childcare (on the extensive margin), but did not change their time in housework. While paid work, routine housework, and childcare are all potential stressors, leisure and sleep are mediators (and even inhibitors) of stress. Contrary to popular belief, mothers enjoyed more leisure and sleep more than fathers. There were no significant differences when it comes to leisure, neither according to gender nor to change over time. There were, however, significant gender differences in sleep, with mothers reducing their sleep time significantly between 2000/01 and 2010/11, which narrowed the gender sleep gap.

TABLE 3 ABOUT HERE

MULTIVARIATE ANALYSIS

The multivariate analysis has three stages. In the first, I explore the determinants of everyday stress at the individual and household level, separately by gender. I also explore the associations between self-reported stress and time in paid and unpaid work, asking whether all activities are equally stressful or whether it is the total commitment to work (paid or unpaid) that is important. In the second stage, I focus on male-female differences. I examine the gender stress gap, and investigate what explains the fact that mothers are more stressed than fathers during weekdays. The third stage of the multivariate work focuses on the time dimension and examines to what extent gender differences changed between 2000/01 and 2010/11.

Table 4 presents OLS estimates of the determinants of everyday stress. Three models are estimated separately by gender: Model I accounts for individual characteristics such as age, level of education and work status; Model II also accounts for household characteristics such as partnership status, number of children, age of youngest child, and partner's work status; while Model III extends on Model II by accounting for household income. Not many variables at individual or household level are statistically significant, neither for men nor for women. Most estimates are, however, robust to the addition of variables to the model. It is clear that most variables explored affect men and women differently. For example, higher education is positively associated with father's experience of stress on weekdays, but not really with mothers' experience of stress. Not working reduces maternal stress, but affects paternal stress in the opposite way, though not significantly. Mothers', but not fathers', experience of stress during weekdays is affected by age of youngest child, with stress decreasing significantly with older ages compared to the 0-3s. Mothers and fathers are also affected in different way by their partner's work status, and mothers' experiences of everyday stress is mediated by higher household income.

TABLE 4 ABOUT HERE

Table 5 shows OLS estimates of 10-minute increases in different time uses and the associations with men's and women's experiences of stress during weekdays. It also shows how an increase by 10 episodes during the diary day affect everyday stress experiences among parents. The estimates come from regressions following the same outline as in Table 4, with each time use introduced separately to different model specifications (I-III). A variable measuring total time spent on paid and unpaid work during the day was explored, and so was a variable measuring the total number of episodes of non-similar activities. While the former variable measures work load during the diary day, the latter measures fragmentation of time. Though the estimates are small, they establish a number of associations between time use and everyday stress experience. These associations are highly robust to model specifications. Paid work adds to both mothers' and father's stress. Routine housework is truly insignificant, while childcare adds to mothers' stress (a 10-minute increase in childcare time increases the likelihood of experiencing stress during the diary day by 0.4 percent). Total work load adds to both mothers' and fathers' experiences of stress. Of note, an increase in the number of episodes of non-similar episodes, measured in 10-minute increments throughout the diary day, adds significantly to mothers' stress (an increase by 10 episodes increases the likelihood of experiencing stress during the diary day by 3 percent) but does not matter for fathers. While mothers and fathers, on average, devote similar amounts of time to paid and unpaid work combined, mothers' time, on average, is made up of more episodes than fathers' total work time during the diary day. This reflects gendered time use as mothers' involvement with children and housework typically leads to more fragmented time through brief spells of different chores following upon each other. It also reflects an aspect of the diary methodology with paid work as gross time while unpaid activities are taken down as net time, which often leads to an underestimation of women's time compared to men's time.

TABLE 5 ABOUT HERE

Turning to the gender stress gap among parents, mothers, on average, were 4.9 percent more likely to experience stress during weekday diary days than were fathers (see Model I in Table 6). This gap shrank somewhat when age (and its squared term) was added to the model, but was further unaffected by the inclusion of other individual characteristics (see Models II and III in Table 6), in that the gender gap remained at 4.5 percent. It is noteworthy that household characteristics, including partnership status, number of children, age of youngest child, and partner's work status, which theoretically should matter for everyday stress experiences, mattered little for the gender gap (see Model IV in Table 6). Household income (added in Model V in Table 6) adjusted the gap somewhat, indicating that women's experiences of stress to a minor degree was due to lack of economic resources. Overall, the variables in the data did not contribute to an explanation of gender differences in everyday stress experiences, but rather indicated that the level difference in mothers' and fathers' stress is due to other factors.

TABLE 6 ABOUT HERE

The results presented in Table 7 further our understanding of the gender gap in everyday stress experience among Swedish parents. Following the same model specifications as in Table 6, the estimates in Table 7 shows how different time uses matter for the gender stress gap. The output should be read with the estimates presented in Table 6 in mind. For example, the raw gender stress gap (0.049*** in Table 6) increased with the addition of all time uses, except for childcare, which explained part of the gap. The addition of paid work, routine

housework, leisure, sleep, and total work load, respectively, made the gap bigger. The number of episodes reduced the gender stress gap. The way different time uses, introduced separately, changed the gender stress gap is consistent across model specifications. In the fullest model specification (V), the gender stress gap was reduced and statistically insignificant with the inclusion of childcare or number of episodes during the diary day.

TABLE 7 ABOUT HERE

The results can be understood through the relationship between the time use variable introduced, gender, and stress. Adding a time use variable that explains stress (i.e. a variable that increase stress and women do more of) like childcare will reduce the stress gap. However, adding a time use variable that increase stress and that women do less of, like paid work, will increase the stress gap. This logic is straightforward when it comes to the results for paid work (increases stress, see Table 5, women do less, see Table 3), childcare (increases stress for women, see Table 5, women do more, see Table 3), and number of episodes (according to same logic as childcare). It is less straightforward when it comes to housework, which according to prior estimates did not affect everyday stress experiences among parents. Women, however, do substantially more routine housework than men, even when they are working, and have young children in the household. This may very well be role overload in a progressive context where men and women are supposed to partake in both the labor market, and in housework and the daily care of children, but where women do more of the latter two.

Leisure and sleep are, on the other hand, both stress mediators. They affect mothers' and fathers' stress experiences similarly (see Table 5), but women get more of both, especially sleep. The fact that the gender gap increased with the addition of either leisure or sleep, says something about optimal time use and its counterfactual: Had women not slept more than men, they would likely have been even more stressed.

Finally, models including an interaction between gender and survey year were estimated. The difference in everyday stress for mothers compared with fathers was marginally significant in 2010/11, but not in 2000/01, irrespective of model specification. Predicted mean values of everyday stress experience were also robust to model specification. The predicted proportions of fathers experiencing stress during a diary weekday are 22 and 18 percent in 2000/01 and 2010/11, respectively, and 23 and 26 percent for mothers.

SENSITIVITY ANALYSIS

As a check of robustness of the results, I ran all regressions on an extended sample including all parents age 20 to 60. Results (available from author) from these estimations do not differ from estimates shown in any meaningful way and do not affect the argument of the paper. I also investigated the role of work-related stressors, considering occupation-related characteristics such as managerial responsibilities, prestige (commonly associated with high workload) or working in occupations that demand close contact and interaction with other individuals (emotionally draining and stressful), and estimated regressions controlling for such occupational characteristics, but this mattered little and did not affect the results or conclusions drawn in this paper.

CONCLUDING DISCUSSION

This paper used micro data from two waves of the Swedish Time Use Survey (SWETUS) to explore the associations between paid and unpaid work responsibilities for experiences of

everyday stress among parents. Gender differences in the quantity and type of work done, and in the impact of that work on stress, are central to the analysis. The first section of the analysis established that mothers are more likely to feel stressed during the diary day than fathers, and that weekdays are more stressful than weekend days.

The second section of the analysis evaluated the determinants of everyday stress among parents. Despite their theoretical and empirical motivations, not many variables at individual or household level are statistically significant determinants of mothers' and fathers' experience of stress, indicating that the level difference between mothers and fathers in everyday stress is determined by something else. Most variables, however, affect men and women differently. Time in different paid and unpaid activities is also evaluated as determining stress among parents. Paid work adds to both mothers' and father's stress. Unpaid work, however, render mixed results. Routine housework does not matter for neither men nor women in their experiences of everyday stress. Childcare adds to mothers', but not to fathers', stress. Childcare may be less stressful for fathers because they do more fun things with their kids, especially when it comes to the proportion of time spent on quality activities rather than routine chores. Total work load adds to both mothers' and fathers' experiences of stress. The number of episodes during the diary day adds significantly to mothers' stress, which adds a qualitative dimension to the total work load. This pattern says something about role overload in present-day Sweden where the majority of parents work, but the division of labor still is unequal. For men, unpaid work has no association with experiences of everyday stress. This is an important gender difference, which may reflect gendered spheres of responsibility. Childcare adds to mothers' stress and mothers perform significantly more childcare than fathers. Mothers also spend more total time with children, with them being present when the primary activity is something else than childcare. Also, the number of episodes, which women, on average, have more of than men, only matters for mothers.

The third section of the multivariate analysis examined the gender stress gap among parents. Mothers, on average, were 4.9 percent more likely to experience stress during weekday diary days than were fathers. This gap was only marginally adjusted when individual and household characteristics were considered, which suggested that the difference in mothers' and fathers' everyday stress is due to other factors. When considering time in different activities, it became clear that childcare explained part of the gap, and so did the number of episodes. The addition of paid work, routine housework, leisure, sleep, and total work load, respectively, made the gap bigger. The interpretation is that role overload is more of an issue for Swedish mothers, who commonly work while keeping the main responsibilities for home and family. Their stronger commitment to unpaid work also makes their time more fragmented, which contributes to everyday stress. In this context, devoting less time to paid work, and sleeping more may be coping strategies; had women, on average, not done that, they would likely have been more stressed.

The results are interesting given the high ambitions when it comes to gender equality in Sweden. Sweden is considered to be at the frontline when it comes to gender equality with high female labor force participation, generous support for parents to combine work and family – it even falls within the political ambition that men and women should divide domestic work equally. Though advanced compared to other countries, there is still a division of labor along gendered lines. There is a gendered association between time in paid and unpaid work and stress, and childcare is stressful for mothers who do the bulk of it. Everyday stress is primarily a problem among Swedish mothers who commonly combine paid work

with primary responsibility for unpaid work at home. Everyday stress is, however, not so much about time pressure in daily hours and minutes as it is about role overload among mothers. Experience of everyday stress is also about mothers' time being more fragmented. Taken together, mothers may be more stressed than fathers because they are "operation managers" at home, which involves overseeing the production of goods and provision of services in the household. Like the job description of an operations manager is to make sure an organization is running as well as it possibly can while satisfying customers, it often falls on mothers to have the household run smoothly while making sure that the needs of household members are satisfied. To the extent that this comes at a price of individual women's well-being or at a social cost with women being put on sick leave due to stress-related psychiatric diagnosis, policy measures are needed. The design of such measures is, however, complicated. It is far more difficult to change people's behavior in the domestic sphere than to change their behavior with respect to paid labor because the incentive structures are different. More research is needed on this issue, especially given the Swedish policy goals for gender equality. This study confirms the burden of unpaid work for mothers, but it also highlights that not all aspects of unpaid work affect everyday stress in the same way for mothers and fathers.

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Table 1. Weighted Proportions of Variables Used in Regressions

	2000/01			2010/11		
	All	Men	Women	All	Men	Women
Gender						
Man	.47			.47		
Woman	.53			.53		
Stressed during diary day	.18	.17	.20	.19	.16	.21
25-29 years	.08	.06	.09	.05	.03	.07
30-34 years	.18	.17	.19	.16	.14	.17
35-39 years	.24	.23	.24	.25	.26	.25
40-44 years	.24	.26	.23	.23	.23	.22
45-49 years	.17	.17	.17	.21	.24	.19
50-55 years	.09	.11	.08	.10	.10	.09
Level of education						
Primary	.13	.16	.11	.06	.08	.04
Secondary	.52	.51	.53	.42	.46	.39
Higher	.35	.33	.37	.52	.46	.57
Work status						
Full-time	.73	.92	.55	.70	.92	.49
Part-time	.19	.04	.32	.21	.05	.36
Not working	.08	.04	.12	.09	.02	.15
Partnership status						
Partnered	.87	.90	.85	.90	.93	.86
No partner	.13	.10	.15	.10	.07	.14
No of children in household						
1 child	.36	.33	.39	.40	.40	.41
2 children	.44	.45	.42	.44	.43	.45
3 or more children	.20	.22	.19	.16	.17	.15
Age of youngest child						
0-3 years	.25	.26	.24	.33	.34	.31
4-12 years	.52	.53	.51	.41	.41	.42
13-18 years	.23	.21	.25	.27	.26	.27
Partner's work status						
Full-time	.59	.41	.75	.58	.44	.73
Part-time	.16	.31	.03	.15	.28	.03
Other	.11	.16	.06	.11	.18	.05
No partner/missing	.14	.11	.17	.16	.14	.19
Household income						
Lowest 25%	.12	.08	.17	.05	.02	.08

Middle 50%	.61	.65	.58	.45	.45	.46
Highest 25%	.26	.27	.25	.49	.53	.46
Weekday	.50	.50	.51	.50	.50	.50
Weekend	.50	.50	.49	.50	.50	.50
N	2,983	1,135	1,848	2,054	789	1,265

Note: Decimals subject to rounding.

Source: Swedish Time Use Survey (SWETUS) 2000/01 and 2010/11.

Table 2. Weighted Proportions Experiencing Stress during Diary Day

	2000/01			2010/11		
	All	Weekday	Weekend	All	Weekday	Weekend
Men (%)	16.7	21.6	11.8	16.2	18.3	13.7
Women (%)	19.8*	23.0	16.4*	21.4*	26.6*	16.3
N	2,983	1,506	1,477	2,054	1,025	1,029

Note: * $p < .05$. Within-year gender differences. I tested for within-gender differences between 2000/01 and 2010/11 but there were no significant differences.

Source: See Table 1.

Table 3. Weighted Mean Minutes across Multiple Time Allocations on Weekdays

	2000/01		2010/11		Δ 2000/01-2010/11	
	All	If $t > 0$	All	If $t > 0$	All	If $t > 0$
Paid work (Men)	423	548	446	532	23	-16
Paid work (Women)	288*	471*	328*	470*	40†	-1
Routine housework (Men)	52	64	57	67	5	3
Routine housework (Women)	118*	121*	104*	110*	-14†	-21†
Childcare (Men)	45	70	55	82	10†	12
Childcare (Women)	75*	98*	84*	107*	9	9
Leisure (Men)	117	130	106	122	-11	-8
Leisure (Women)	129	138	129	137	0	-1
Sleep (Men)	441	441	434	434	-7	-7
Sleep (Women)	462*	462*	447*	447*	-15†	-15†

Note: * $p < .05$. Within-year gender differences. † $p < .05$. Within-gender differences between 2000/01 and 2010/11.

Source: See Table 1.

Table 4. Determinants of Experiencing Stress during Diary Day, Weekdays by Gender (OLS estimates)

	Model I		Model II		Model III	
	Men	Women	Men	Women	Men	Women
Age	-.038	.009	-.021	.004	-.019	.005
Age ²	.000	-.000	.000	-.000	.000	-.000
Level of education						
Primary	ref	ref	ref	ref	ref	ref
Secondary	.016	.005	.029	.015	.028	.017
Higher	.123***	.037	.136***	.033	.142***	.042*
Work status						
Full-time	ref	ref	ref	ref	ref	ref
Part-time	-.016	-.023	.009	-.031	.004	-.033
Not working	.102	-.038	.113	-.066*	.112	-.075*
Partnership status						
Partnered			ref	ref	ref	ref
No partner			-.113	.027	-.115	.000
No of children in household						
1 child			ref	ref	ref	ref
2 children			-.070**	.032	-.070**	.035
3 or more children			-.034	.049	-.035	.051
Age of youngest child						
0-3 years			ref	ref	ref	ref
4-12 years			-.002	-.066*	-.001	-.070*
13-18 years			.063	-.157***	.067	-.162***
Partner's work status						
Full-time			ref	ref	ref	ref
Part-time			-.034	-.096	-.040	-.107*
Other			-.040	.110*	-.050	.101*
No partner/missing			-.046	.066	-.052	.058
Household income						
Lowest 25%					ref	ref
Middle 50%					.019	-.089**
Highest 25%					-.010	-.092*
Wave						
2000/01	ref	ref	ref	ref	ref	ref
2010/11	-.044	.033	-.055*	.032	-.049*	.038
Constant	.974	.111	.737	.134	.681	.190
R ²	.028	.007	.048	.026	.049	.030
N	1,961	1,570	1,961	1,570	1,961	1,570

Note: Decimals subject to rounding.

Source: Swedish Time Use Survey (SWETUS) 2000/01 and 2010/11.

Table 5. Time Use Determinants of Experiencing Stress during Diary Day, Weekdays by Gender (OLS estimates of 10-minute or 10-episode increases in different time uses) according to model specifications in Table 4.

	Model I		Model II		Model III	
	Men	Women	Men	Women	Men	Women
Paid work	.002***	.001**	.002***	.001***	.002***	.001***
Routine housework	-.001	-.000	-.001	-.001	-.001	-.001
Childcare	-.000	.005***	-.000	.004**	-.000	.004**
Leisure	-.003***	-.004***	-.003***	-.004***	-.004***	-.004***
Sleep	-.004***	-.005***	-.004***	-.004***	-.004**	-.004***
Total work (paid + unpaid work)	.003***	.002***	.003***	.002***	.003***	.002***
Total number of episodes	-.000	.030***	-.003	.030***	-.003	.030***
N	1,961	1,570	1,961	1,570	1,961	1,570

Note: Decimals subject to rounding.

Source: Swedish Time Use Survey (SWETUS) 2000/01 and 2010/11.

Table 6. The Likelihood of Experiencing Stress during Diary Day, Weekdays (OLS estimates)

	Model I	Model II	Model III	Model IV	Model V
Gender (ref cat = man)					
Woman	.049***	.045***	.045***	.046*	.042*
Age	No	Yes	Yes	Yes	Yes
Education and work status	No	No	Yes	Yes	Yes
Household characteristics	No	No	No	Yes	Yes
Income	No	No	No	No	Yes
Constant	-.543	-.745	1.916	2.008	1.239
R2	.003	.006	.013	.015	.017
N	2,531	2,531	2,531	2,531	2,531

Note: All models include controls for survey year. Model II controls for age and its squared term, Model III also controls for own education and work status, while partnership status, number of children in the household, age of youngest child, partner's work status are added to Model IV. Model V also includes a control for household income.

Source: See Table 1.

Table 7. The Likelihood of Experiencing Stress during Diary Day Net of Time Use, Weekdays (OLS estimates) according to model specifications in Table 6.

	Model I	Model II	Model III	Model IV	Model V
Woman					
Paid work	.067***	.065***	.058***	.062***	.058**
Routine housework	.053***	.051**	.048**	.050**	.046*
Childcare	.039**	.038**	.043**	.042*	.038
Leisure	.055***	.052***	.050**	.049**	.045**
Sleep	.055***	.052***	.051**	.056**	.051**
Total work (paid + unpaid work)	.057***	.053***	.048**	.050**	.046*
Total number of episodes	.033*	.031	.036*	.036	.032
N	2,531	2,531	2,531	2,531	2,531

Note: All models include controls for survey year. Model II controls for age and its squared term, Model III also controls for own education and work status, while partnership status, number of children in the household, age of youngest child, partner's work status are added to Model IV. Model V also includes a control for household income.

Source: See Table 1.