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Ragni Hege Kitterød and Marit Rønsen

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Abstract:
While long total work hours (paid plus unpaid work) have usually been framed as a problem for employed women, researchers now ask whether more involved fathering practices imply a double burden for men, too. Based on the Norwegian Time Use Survey 2010, and using three different measures of total workload, our analyses suggest that the father's total workload exceeds the mother's when he works full time and she part time and there are school-aged children in the household. Fathers also perceive more time pressure than mothers in these couples. Full-time work for both partners may give a longer total workload for mothers, but the difference is more modest than in full-time / part-time couples and is not statistically significant in our sample. Gender differences in total workload vary during the week, with longest hours for fathers on weekdays, and longest hours for mothers on weekends.

Keywords: Gender equality, double burden, paid and unpaid work, second shift, total workload.

JEL classification: D13, J18, J21, J22

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Address: Ragni Hege Kitterød, Statistics Norway, Research Department. E-mail: rhk@ssb.no

Marit Rønsen, Statistics Norway, Research Department. E-mail: mrr@ssb.no

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Sammendrag

I mange land diskuteres det hvorvidt økt yrkesdeltakelse gir lengre samlet arbeidstid (summen av betalt og ubetalt arbeid) for kvinner enn for menn. Etter hvert som menn deltar mer i hus- og omsorgsarbeidet samtidig som de fleste har full jobb, ofte med lange arbeidsuker, har flere pekt på at menn nå kan ha minst like lang samlet arbeidstid som kvinner i en del par. I såkalt liberale velferdsstater som USA, Canada og Australia finner man gjerne at full jobb gir lengre samlet arbeidstid for mødre enn for fedre (ofte omtalt som "the doble burden"), og mange etterlyser en familie- og arbeidsmarkedspolitikk etter skandinavisk modell, som gjør det lettere for foreldre å kombinere jobb og hjem.

Vi sammenligner mødres og fedres samlede arbeidstid i Norge basert på Tidsbruksundersøkelsen 2010. Undersøkelsen kartlegger befokningens tidsbruk ved at deltakerne noterer sine aktiviteter og hvem de er sammen med over en periode på to døgn. Internasjonalt brukes slike data mye i analyser av samlet arbeidstid. Vi benytter tre mål for samlet arbeidstid; 1) summen av tid til yrkesarbeid, ulønnet arbeid og utdanning, målt som hovedaktivitet, 2) 1 + ulønnet arbeid som biaktivitet mens fritid eller personlige gjøremål er hovedaktiviteten, og 3) 1 + tid sammen med barn under 12 år. Vi skiller mellom par der begge jobber heltid, par der han jobber heltid og hun deltid, par der han jobber heltid og hun ikke er yrkesaktiv, og par der han jobber deltid eller ikke er yrkesaktiv. Omtrent åtte av ti par tilhører de to første gruppene.

I par der begge jobber heltid kan det se ut til at mor har noe lengre samlet arbeidstid enn far når det er store barn i husholdningen (yngste barn 7-19 år), men forskjellen er ikke statistisk signifikant i vårt utvalg. En tilpasning med far på heltid og mor på deltid gir lengst samlet arbeidstid for far når det er store barn i husholdningen, og dette gjelder uansett hvilket mål vi benytter for samlet arbeidstid. Fedre i slike par rapporterer også oftere enn mødre at de opplever stort tidspress. Når det er mindre barn i husholdningen (yngste barn 0-6 år), er det ingen signifikant forskjell mellom mors og fars samlede arbeidstid i par med en heltids-/deltidstilpasning. Kjønnsforskjeller i samlet arbeidstid varierer mellom hverdag og helg. Når han jobber heltid og hun deltid, har han lengst samlet arbeidstid på hverdager, mens hun har lengst samlet arbeidstid i helgene (lørdag og søndag).

Det er nå få heltidshusmødre i Norge. I den lille gruppen av par der han jobber heltid og hun ikke er yrkesaktiv, betrakter kun en av tre mødre seg som hjemmearbeidende, mens mange er studenter, arbeidsledige eller uføre, og ganske mange har nedsatt helse. I slike par har far ofte lengre samlet arbeidstid enn mor, men han har likevel kortere samlet arbeidstid enn fedre i de to første gruppene av par. Kjønnsforskjellen bunner først og fremst i at mødre i slike par har kortere samlet arbeidstid enn andre mødre.

1. Introduction

There is an ongoing debate in many countries as to whether women's increased labour market participation entails that they have longer total work hours than men, particularly when they combine full-time work with young children (Milkie et al. 2009; Sayer et al. 2009; Craig 2006 and 2007; Gershuny 2000). In her famous book *The second shift*, Hochschild (1989) argued that full-time work implied a double burden for mothers in the US. Based on in-depth interviews with 50 couples, she found that fathers did not increase their domestic work in response to their partners' paid work, so that mothers had to do a second shift at home after finishing their paid job (the first shift). This resulted in considerably greater total workloads for women than for men, amounting to an extra month per year. Later analyses using diary-based time use studies have debated and nuanced these findings. Although some support Hochschild's finding that a full-time job involves longer total workloads for mothers than for fathers, the gender difference is usually more modest than in Hochschild's study and also varies with couples' work-time arrangements (for instance Milkie et al. 2009; Sayer et al. 2009). Moreover, results differ as to whether parallel activities, or so-called multitasking, are accounted for, with larger gender differences when parallel tasks, particularly childcare, are included in the analysis (Sayer et al. 2009; Craig 2006 and 2007).

Stalker (2011) argues, however, that more involved fathering practices in recent decades could imply that the double burden of market and domestic work may increasingly be shared by fathers and that parental status may be expected to have a greater effect on men's time-use patterns than in earlier decades. Moreover, parents' total workload is supposed to vary by the nation's welfare regime context (ibid; Gornick and Mayers 2008). Most of the above cited studies apply to so called liberal welfare states such as the US, Australia and Canada in which family- and labour-market policies have not caught up with the changes in women's labour force participation. Long standard work hours coupled with a lack of work-family reconciliation policies such as paid parental leave, subsidised childcare and measures to stimulate fathers' family involvement may result in heavy workloads for full-time working mothers in these countries. Shorter standard work hours and more developed work-family policies are supposed to facilitate more egalitarian gender patterns of work and family life (ibid).

The current paper contributes to the research on gender differences in total workloads by analysing mothers' and fathers' total work hours in a social democratic country like Norway, with generous work-family policies, high gender-equality ambitions, rather short standard paid work hours, and active policy measures for facilitating mothers' employment and encouraging men's family involvement. The concept of the "caring father" was institutionalized in the Scandinavian countries

well before it was made a political topic elsewhere (Leira 2002), and Norway was also the first country in the world to implement a father's quota in the parental leave scheme in 1993. Fathers are increasingly expected to be actively involved with their children. The Norwegian time use surveys reveal a significant increase in coupled fathers' time spent on unpaid family work in recent decades, particularly among those with young children (0-6 years) (Kitterød 2013), and men report that work-related requirements interfere with their family life at least as often as women do (Statstics Norway 2013a). Mothers' employment rate is almost as high as fathers' in Norway, but part-time work is still rather common for mothers but very rare for fathers (Kitterød and Lappegård 2012). Hence, fathers may now have longer total work hours (paid plus unpaid work) than mothers in some couples, particularly when the mother works part time.

The empirical analysis is based on the Norwegian Time Use Survey 2010. We differentiate between parents with younger and older children and between couples with various work-time arrangements. We also explore possible differences between weekdays and weekends. Since most mothers are gainfully employed in Norway, either on a full-time or part-time basis, we focus particularly on couples where both parents work full time and those where the father works full time and the mother works part time. We also show some results for the small groups of couples where the mother is not employed at all, while the father works full time and those where the father works less than full time or has no paid work. We employ three different measures of total workload; one based on main activities only, one also including parallel activities, and an even more expansive measure including time spent with children. Moreover, we compare perceived time pressure among fathers and mothers in the couple types.

2. Theoretical considerations and previous research

While many theories try to explain couples' division of paid and unpaid work, i.e. the degree of specialization, theoretical considerations are scarcer in analyses of couples' total workloads; i.e. the sum of the partners' paid and unpaid duties. However, although Becker's (1991) economic theory on specialization and comparative advantage primarily applies to couples' allocations of paid and unpaid work, it is sometimes employed in discussions of the partners' total work commitments as well. The supposition is that since men's and women's roles are complementary and decisions on the allocation of market work and unpaid family work are made on the basis of efficiency (the partners' comparative advantages in either type of work), the partners will have roughly equal total workloads and similar amounts of leisure (Stalker 2011; Sayer et al. 2009). This is also what could be expected on the basis

of more general considerations of fairness in couples. For instance, Fraser (1994) argues that equality in leisure time is crucial to gender equity.

In contrast, the so-called "doing-gender" perspective in sociology predicts that full-time work for women results in larger total workloads since they are usually accountable for unpaid work irrespective of their paid work hours. It is supposed that men will not increase their housework in response to women's longer paid hours and that women may hesitate to reduce their housework even when they have a full-time job (Sayer et al. 2009). According to this theory, women and men continuously construct and reconstruct their gender identity in their daily lives. For men, this entails undertaking typical masculine tasks, such as paid work, and avoiding activities with female connotations, such as housework, while women's gender identity is strengthened by doing housework (West and Zimmerman 1987). This perspective has received some support in studies of couples' allocation of housework (Bittman et al. 2003) and is also used to explain why men's unpaid work hours are unresponsive to their partner's employment (Sayer et al. 2009). However, the perspective may be less relevant for childcare than for routine housework, since parents report greater enjoyment of childcare activities (Bianchi et al. 2012), and men tend to be more positive to childcare than to routine housework (Almqvist et al. 2011; Brandth and Kvande 2003). Childcare also holds an investment component that may give it greater meaning than housework, and relationships with children are long-lasting and irreplaceable (Connelly and Kimmel 2010). Moreover, there are significant country differences in "doing gender effects", with smaller effects in countries with a high level of gender equality than in countries more traditional gender practices and norms (Cooke and Baxter 2010; Cooke 2006). The "doing gender" perspective may therefore be less relevant in a social democratic country like Norway than in liberal and conservative welfare states with less developed dual-earner policies. In Norway, men's time spent on housework has increased considerably in recent decades, and most men now undertake some housework every day (Kitterød 2013).

Using diary-based time use surveys, several researchers find that men and women on average have roughly similar workloads when both paid and unpaid tasks are counted (Robinson and Godbey 1997; Gershuny 2000). They therefore argue that women's second shift does exist in the sense that women spend more time than men on unpaid family work, but not when it comes to total work hours. Women's larger responsibility for family work is counterbalanced by men's longer hours in paid work. Therefore, it should not be called a double burden. These findings are consistent with the view that rational time allocation and complementary gender roles lead to fairly equal total workloads for men and women.

However, Craig (2006 and 2007) contends that women's workload is significantly underestimated if only main activities are counted, which is the case in the above cited studies. Women multitask more than men, and childcare in particular is often combined with other activities such as leisure or personal care. Based on the Australian Time Use Survey 1997 Craig (2007) demonstrated that women's total workload increased far more than men's when parallel activities were accounted for. For instance, for mothers with children below five years of age the total workload increased with 44 % when secondary work activities were included, while the corresponding increase for fathers was only 17 %. Hence, she holds that women, and especially mothers, actually do have a second shift in the sense that they have higher total work commitments than men, not only in the sense that they are more specialized in unpaid family work. Like Craig, Milke et al. (2009) included secondary activities when they compared the total work hours of full-time working mothers and fathers with preschool children in the US. They found that workloads increased by 10 percent for mothers and 6 percent for fathers when secondary activities were counted, which is far less than the augmentation demonstrated by Craig (2006 and 2007). Although women's childcare practices may differ in the two countries, this may also suggest that parallel activities are captured differently in different time use surveys, and that less unpaid work is recorded as parallel activities in the survey used by Milkie et al. (2009) than in the survey used by Craig (2006 and 2007). Unlike main activities, which are reported by all participants for all time intervals and amount to 24 hours per day by all participants, the registration of parallel activities is usually more optional and therefore varies more across individuals. Moreover, respondents' reporting of parallel activities seems to be sensitive to the examples presented in the survey guidelines (Kitterød 2001), so that different guidelines may result in differences across surveys in the amount and type of parallel activities recorded.

It has also been pointed out that overall gender equality in total workloads masks considerable heterogeneity among couples with different employment arrangements (Milkie et al. 2009; Sayer et al. 2009). Using American and Australian time use data, Sayer et al. (2009) found that women on average had longer total work time than men when both partners worked full time in the labour market, but significantly shorter total work commitments in so-called "male breadwinner couples" where the female partner was not employed and the male partner worked full time. A so-called "neo-traditional arrangement" with women working part time and men full time also entailed somewhat longer total hours for men, although the difference was more modest than when the woman was not employed. The largest gender gap was found in the small group of so-called "untraditional" couples where the female partner was employed, while the male partner worked part time or not at all. Women in such couples had considerably longer total work commitments than men, but this was due to men's short

workloads, and did not entail particularly long hours for women. Both in Australia and the US, men's paid and unpaid work hours were fairly constant across couple types, except for the small group of couples where the man worked part time or did not work at all. As could be expected, women's unpaid work hours varied significantly across couple types with the most substantial time inputs in the home-maker couples and the shortest time inputs in couples with two full-time jobs. The authors were surprised to find that the more traditional the family arrangement, the more men's total work exceeded women's. This was most extreme when he was employed and she was not. They speculate that as women's employment became more of a norm at the societal level, more housework was expected of men and less of women irrespective of the partners' employment arrangement. The renegotiations of domestic duties in dual-earner couples may thus have affected male breadwinner couples as well, reducing even home-making women's housework and increasing sole-breadwinning husbands' family involvement. Hence, even men in traditional male breadwinner couples are now supposed to do housework, while women do less than previous full-time homemakers.

Reminding us that the focal group in Hochschild's (1989) study was couples where both partners worked full time and had at least one young child in the home, Milkie et al. (2009) argue that scholars sometimes talk about "the second shift" without context or qualification in that they do not differentiate between various work-time arrangements, and also include couples with older children or no children at all in the analyses. Based on American time use data from 2000 and 2003, Milkie et al. (2009) showed that only about one third of mothers of preschoolers where employed full time, while 42 per cent were not employed at all. Full-time working mothers with young children did significantly more housework and childcare than fathers, but this was partly counterbalanced by somewhat shorter hours in the labour market. The end result was that mothers' total workload exceeded fathers' with five hours per week, but this was only one third of the difference that Hochschild claimed in her study. Like Sayer et al. (2009) they found that in terms of total workloads, homemaker mothers emerged as outliers. They had considerably shorter total workloads than their partners and also shorter total workloads than part-time or full-time employed mothers.

As for Norway, there are few previous analyses of women and men's total work hours based on the two most recent times use surveys from 2000 and 2010. However, the time use surveys from 1970 and 1980 showed that part-time work for women entailed fairly equal total workloads in couples, while full-time work for both partners resulted in longer total work commitments for women than for men, and full-time housewifery for women resulted in greater total workloads for men (Lingsom and Ellingsæter 1983). The 1990-survey showed a somewhat different picture in that full-time

employment for both partners entailed approximately similar total workloads for women and men, while part-time work or full-time homemaking for women resulted in somewhat longer total work commitments for men (Haraldsen and Kitterød 1992). These analyses where based on main activities only, however. Including parallel activities might give somewhat different results. There have been considerable changes in parents' time use patterns in Norway since 1990, with mothers spending more time in the labour market and fathers spending more time on unpaid family work (Kitterød 2013).

In the current paper, we compare fathers' and mothers' total workloads in present day's Norway. In addition to looking at main activities only as in previous studies of Norway, we include parallel activities and time spent with children, and in addition to analyzing all days as a whole, we differentiate between weekdays and weekends.

3. Work-family policies and practices in Norway

In recent decades, several work-family-policy reforms have been implemented in Norway in order to encourage the combination of paid work and family duties for both men and women. Gender equality in paid and unpaid work has been an important goal, but there has also been a certain focus on parental choice and flexibility regarding employment and childcare. It has been argued that the Norwegian work-family policies are characterised by a certain ambivalence since dual-earner policies such as generous parental leave and good access to affordable and high-quality childcare exist side by side with cash-for-childcare entitlements that promote a more traditional breadwinner model (Ellingsæter 2003). In the last decade, however, policies encouraging a symmetrical family model in which men and women participate on equal terms in paid and unpaid work have become more dominant, while cash-for-care entitlements have been scaled back.

Historically, there has been a large unmet demand for formal daycare in Norway, particularly for the youngest children, and compared with the other Nordic countries, Norway was a laggard in this respect (Leira 2002). However, the coverage has greatly improved, particularly in the last decade. In 1980 only 7 percent of children 1-2 years attended a day-care center, while in 1990 and 2000 the corresponding proportions were 15 and 37 percent, respectively (Table 1). Following a political agreement in 2003 that resulted in an ambitious plan for the escalation for publicly subsidised childcare, Norway witnesses a tremendous growth in children's day-care attendance. In 2010 as much as 79 percent of children 1-2 years and 97 percent of children 3-5 years attended a day-care center, mostly on a full-time basis. From 2009, all children who became one year old by the end of August in the year of application were guaranteed a place in publicly subsidised day care. Following a maximum

price reform in 2003, the price for a place in the day-care center has also been substantially reduced. It is now widely recognized in Norway that publicly subsidised day-care centers are good pedagogical institutions that provide ample opportunities for development, activity and socialisation, give vital preparation for formal schooling and contribute to reducing social inequality (St.meld. No 41:2008-2009; NOU 2009:10; Drange and Telle 2010). Parents have also become more positive to very young children being cared for in day-care centers in the recent decades (Kitterød et al. 2012; Ellingsæter and Gulbrandsen 2007).

Table 1. Percentage of children in kindergarten in Norway 1980-2010

Age of child	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1-2 years	7	9	15	31	37	38	41	44	48	54	62	69	75	77	79
3-5 years	27	38	52	66	78	80	83	85	88	91	92	94	96	96	97

Source: Children in kindergarten, Statistics Norway, http://www.ssb.no/emner/02/barn_og_unge/2012/barnehage/

The right to job-protected leave for both parents in connection with childbirth has existed in Norway since 1977. The leave period was considerably extended in the 1980s and 1990s, reaching 42 weeks with full pay or 52 weeks with 80 percent wage compensation in 1993. In connection with the extension in 1993, four weeks were reserved for the father (the father's quota). Nine weeks were reserved for the mother (three weeks prior to delivery and six weeks after delivery), while the remaining 39 weeks could be shared according to the parents' own preferences. All further extensions have been reserved for the father, resulting in a fathers' quota of five weeks in 2005, six weeks in 2006, 10 weeks in 2009, 12 weeks in 2011 and 14 weeks in 2013. In the two last amendments some of the extra weeks to the father were taken from the weeks that the parents may share as they like, reducing the joint period by two weeks in 2009 and another week in 2011. An important aim of the father's quota is to enhance men's involvement in unpaid family work both during his reserved period and beyond. Moreover, the quota is supposed to ease and advance mothers' return to paid work following childbirth and thereby promote gender equality in couples' employment and childcare time (NOU 2008:6). Following the paid parental leave, each parent is also entitled to one year of unpaid leave.

In the late 1990s, a cash-for-childcare benefit was introduced.[1] All parents of 1-2 years old children who did not use state-sponsored childcare were entitled to the benefit, and children in part-time care received a reduced benefit proportional to stipulated weekly attendance. The stated purpose of the reform was to enable parents to spend more time with their children, give parents more flexibility in

[1] The benefit was introduced for one year old children in August 1998 and for two year old children in January 1999.

their work and childcare choices, and distribute public transfers more equally between users and non-users of subsidised childcare (Ministry of Children and Family Affairs, 1998). It was also argued that the cash benefit would upgrade the status of women's traditional family work (Ellingsæter 2003). Prior to the implementation of the reform, voices in the public debate argued that parents should spend more time with their children and that full-time work for both parents might be stressful for the family (Ellingsæter 2005). However, it was not a requirement that parents should look after children themselves in order to receive the benefit, and many parents actually spent the benefit on private nannies (Pettersen 2003).

The great majority of parents of eligible children did indeed use the benefit, but the high take-up rate was associated with the low coverage of public childcare in the late 1990s (see Table 1). In 1999, the parents of 73 percent of 1-2 years old children received the benefit, but since then, the percentage has diminished in tandem with the growth in publicly approved childcare places. In 2012, parents received the benefit for only 22 percent of 1-2 year olds (Egge-Hoveid 2012). In 2006, the maximum age for children who were eligible for the benefit was reduced from 36 to 35 months, and in August 2012 it was further reduced to 24 months.

The Norwegian Time Use Survey has been carried out every tenth year since 1970, and it shows that like in many other Western countries, parents' time use has become more similar in recent decades. Fathers now spend less time in the labour market and more time on family work, while the opposite changes have taken place in mothers' time-use patterns. For mothers, the re-adjustments were particularly large in the 1970's with a significant reduction in routine housework and a considerable increase in paid work hours (Kitterød 2013). The decline in housework has levelled off in the last decade, however, and in 2010 mothers spent just as much time on housework as in 2000. Their paid work hours continued to increase though. After some levelling off in the 1990s, fathers' paid hours decreased again from 2000 to 2010, while their unpaid hours were expanded significantly. In previous decades, smaller gender differences in household work has been more due to changes in mothers' than in fathers' time use, but since the turn of the millennium the diminishing gender gap is solely due to the increase in men's household work.

According to the Norwegian Labour Forces Survey, women's employment rate is now nearly as high as men's. In the age group 25-54 years, 82 percent of women and 87 percent of men are employed (Statistics Norway 2013b). However, as much as one third of the women work part time, and few, only about one out of ten, work longs hours, i.e. at least 40 hours per week. For men, the

corresponding figures are 7 and 24 percent (Statistics Norway 2010). Hence, the gender difference in time spent on paid work observed in the time use surveys reflects somewhat lower employment rates among women than men as well somewhat shorter work hours. Although most fathers make use of the father's quota in the parental leave scheme, and some take even longer leaves, mothers still take a longer leave than fathers in most couples (Bringedal and Lappegård 2012).

Like the other Scandinavian countries, Norway has a strongly gender-segregated labour market with high percentages of women in the public sector and in education, health and social work, and men more concentrated in the private sector and in manufacturing and finance (Jensberg, Mandal and Solheim 2012). Public sector jobs are usually depicted as more family friendly than private-sector jobs, with more flexibility and less expectations of very long work hours (Halrynjo and Lyng 2009). Standard full-time work hours in Norway are shorter than in many other countries, 37.5 hours per week, and the Norwegian Working Environment Act guarantees parents' rights to reduced hours, unless this puts the interest of the employer at risk. Although many mothers work part time in Norway, this is usually long part time, i.e. at least 20 hour per week. According to the Labour Force Statistics, the large majority of part-time employees, about 90 percent, are so-called voluntary part timers (Statistics Norway 2011). [2]

In the current paper we ask whether there are gender differences in total workload among parents in contemporary Norway. We look at the average for all coupled parents and differentiate between various work-time arrangements with a particular focus on couples with two full-time jobs and couples where the male partner works full time and the female partner works part time. We also distinguish between weekdays and weekends and between couples with younger and older children (youngest child 0-6 years and 7-19 years). The work-family policy reforms in recent decades have been particularly directed at parents with young children, and previous analyses (Kitterød 2013) reveal that as far as fathers are concerned, it is first and foremost those with children below school age who have reduced their paid work and increased their unpaid work since the turn of the millennium. For mothers, we observe an increase in paid work for those with children below school age, but not for

[2] However, involuntary part-time employment is fairly strictly defined. It requires that people say they want longer settled work hours, are actively seeking longer hours and are ready to start within a month (http://www.ssb.no/en/arbeid-og-lonn/statistikker/aku/kvartal/2013-04-30?fane=om#content). If using a broader definition based only on the statement that one wants longer hours, about one-fourth of female part timers may be characterised as involuntary part-time workers (Kjeldstad and Nymoen 2012).

those with older children. When children reach the age of three, age of the youngest child now only modestly impacts women's time spent on paid work in Norway.

4. Data, measurements and analysis strategy

Data source

The empirical analysis is based on the latest Norwegian time use survey conducted in 2010-2011. Time diaries are usually regarded as the best source of data for people's time allocation, because all types of activities are recorded, including paid and unpaid work, and because the diary format forces respondents to adhere to a 24 hours time constraint (Robinson 1985; Robinson and Godbey 1997). The Norwegian survey captured people's time use by asking a sample of individuals 9-79 years of age to keep a diary for two consecutive days. The total sample was spread evenly throughout the year so that all days were equally represented. The net sample comprised 3,975 persons, and the response rate was 48 percent. The data have been weighted to adjust for bias in the response rate. Further details about the data collection are documented in Holmøy et al. (2012).

The diaries had fixed ten-minute intervals, and for each time-slot participants were asked to write down their most important activity and possible simultaneous (secondary) activities. Activities where subsequently coded according to a detailed coding list with a total of 167 codes. For each time-slot, respondents were also asked to indicate whether they were alone or with other people. This enables us to construct a measure for time spent with children.

Prior to keeping the diary, a 20-minute interview mapping demographic and socio-economic background information was carried out, either by telephone or by a personal visit. Such interview information on the respondent's and the partner's paid work arrangements is used to construct our principal independent variable. The other independent variables such as the number and ages of children in the household are also based on the interview information, and some variables used to describe the different couple types are based on register information that was linked to the interview data. The dependent variables in the analyses, namely fathers' and mothers' time spent on paid work, unpaid work and educational activities, as well as their total workload, are taken from the time diary. Information on main activities, parallel activities and time spent with children is used. Information on the parents' perceived time pressure is taken from the interview section, however.

The unit of analysis is the single day. Since each participant kept a diary for two days, the number of days is twice the number of respondents. A small number of respondents completed only one day. In the interview section, there is, of course, only one observation per respondent. We present people's time use as the average number of hours per day spent on specific activities. The average covers all days of the year, including weekdays, weekends and holidays. We also present results for weekdays and weekends separately.

The analysis is based on a subsample of 1,069 married/cohabiting parents (531 fathers and 538 mothers) with at least one child below 20 years of age in the household. The subsample comprises 2,136 diary days. Parents in couples where either the mother or the father had parental leave at the time of the interview were omitted because their time use differs from their ordinary time routines.

Measures of total workload

We utilise three measures for parents' total workload:

- **Total work 1**: The first measure is based on main activities only and is the sum of peoples' time spent on paid work, unpaid work and educational activities. Educational activities are seldom included in total-workload measures in analyses in the field, but we argue that they may be regarded as a type of work in that they restrict people's time for leisure and personal activities. Although parents in general spend little time on educational activities, they may be important in some family types in Norway, particularly in couples with non-employed mothers. Paid work encompasses travelling time as well as actual work hours. Unpaid work includes routine housework tasks (food preparation, dishwashing, house cleaning, washing and mending clothes), direct childcare (nursing and assistance, playing, talking, reading aloud and escorting children to and from various arrangements), maintenance work, shopping and other errands as well as administrative chores such as organizing the daily routines. Educational activities include time at school/university as well as related homework tasks.
- **Total work 2:** The second measure also includes work recoded as a secondary activity in connection with primary activities like leisure or personal tasks such as eating, personal hygiene etc. This measure (work as either a primary or secondary activity) is meant to capture multitasking, which is usually found to be more common for mothers than for fathers (Craig 2006 and 2007). However, it turns out that parents rarely report work as a secondary activity in Norway, and this is true even for childcare activities. We therefore also use a third measure including time spent with children.

- **Total work 3:** Combining information from the activity part of the dairy with the part capturing time spent with different people, we constructed a measure of time either spent on paid work, unpaid work or education as a main activity, and/or in company with one or more children below 12 years of age in the household. Time spent with children is the time in which the parents indicated in the diary that they were together with one or more children in the household. This does not presuppose direct interaction and it can, in principle, go along with any activity except sleep. According to the guidelines, periods of sleep were to be coded as time alone. We include time spent with children below 12 years of age, since this is the age limit for parents' right to paid leave to look after sick children in Norway. Hence, from the age of 12, children are supposed to be able to look after themselves for some hours. We could, of course, also have chosen a higher age limit, which would entail an even more extensive measure of parents' unpaid work. Older children also need supervising and attendance, but the older the children, the more difficult it is to disentangle care from parents' own leisure. Craig (2007) did not include time with children when discussing women's second shift in Australia, because the measure was difficult to separate from recreational time and therefore was too broad. However, since little unpaid work is recorded as secondary activities in the Norwegian time use study, we need to look at time spent with children in order to try to capture multitasking related to childcare.

It is, of course, impossible to get a precise picture of parents' childcare time trough quantitative data sources, since childcare is a multifaceted activity with unclear limits towards leisure and personal activities. The time-diary enables us to construct some relevant measures, but we are aware that these have their shortcomings. For instance, parents are usually responsible for their children also during the night, but this is not recorded as childcare in the time-diaries in the Norwegian survey since periods of sleep are coded as time alone. Moreover, periods in the evening when children have been put to bed and the parents have to stay at home to supervise them will not be exposed in the diary since parents neither report childcare activities, nor indicate that they spend time with children when they are in bed. Still, we believe that time-use surveys constitute the best data available for analysing the questions explored in this article. The childcare measures we utilise are frequently used by time-use researchers (for instance Gautier et al. 2004).

Measures of perceived time pressure

We use two measures of the parents' perceived time pressure taken from the interview section of the survey. Respondents were asked how often they had so many duties to carry out on weekdays that it was difficult to get everything done, and how often there were activities they would have liked to do

on weekdays that they could not undertake because of time pressure. Each question had four possible answers, namely a) often, b) sometimes, c) seldom and d) never. We distinguish between the category "often" on the one hand, and the remaining answers on the other, and label the two measures "Time pressure 1" and "Time pressure 2".

The couple's employment status

In accordance with Sayer et al. (2009), we classify the respondents according to the partners' combined employment status and paid work hours as reported in the interview section of the study. Those who carried out at least one hour of paid employment in the week prior to the interview, or where temporary absent from such work because of holidays, illness, parental leave etc., where classified as employed and were asked to report their usual weekly work hours. We look at four couple types: 1) dual breadwinner couples in which both partners are employed full time (35 hours or more per week), 2) couples in which the male partner is employed full time and the female partner is employed part time (less than 35 hours per week), which Sayer et al. call "neo-traditional couples", 3) couples in which the male partner is employed full time and the female partner is not employed, which Sayer et al. call "male breadwinner couples", and 4) couples in which the male partner is employed part time or not at all and the female partner has any employment status (called "unconventional couples" by Sayer et al.). Since most mothers are gainfully employed in Norway, the majority of couples fall into one of the first two categories. There are now few full-time housewives in Norway (Kitterød and Rønsen 2013). Hence, the third category is small and comprises female students and disabled women in addition to a small number of full-time home makers. It would therefore be misleading to label this group "male breadwinner couples" like Sayer et al. (2009) do.

Independent variables

In order to describe the four couple types, we use information from the interview and from added register data. The respondents' health, what they regard as their main activity, and the number and ages of children in the household are taken from the interview, while their educational attainment and age is based on register information.

Analysis strategy

After presenting some descriptive statistics for the analysis sample as a whole and for each of the four couple types, we present gender differences in total workload for each type, based on the three definitions of total workload. The sample procedure and the sample weights should in principle ensure equivalent sub-samples of mothers and fathers in each couple type. However, due to the small number

of observations, there are some differences on important variables such as the ages and number of children in the household. Since these variables are strongly correlated with total workload, we run a number of multivariate analyses where the ages and number of children are controlled for. We then present results for weekdays and weekends separately, and finally, we investigate possible gender differences in perceived time pressure in each couple type.

5. Results

Descriptive statistics

In our sample, couples with two full-time working parents constitute about half of all couples with at least one child below 20 years of age in the household, while couples with a full-time working male partner and a part-time working female partner comprise about three out of ten couples (table 2). Only a small minority of couples has a traditional arrangement with the male partner working full time and the female partner not employed (12 percent according to the fathers' reporting and 7 percent according to the mothers' reporting), and the same is true for other adaptations where the male partner works part time or not at all, and the female partner has any employment status (9 percent according to the fathers' reporting and 13 percent according to the mothers' reporting). The distribution of couple types is approximately similar for parents with a youngest child in the age group 0-6 years, and parents with school-aged children.

Table 2. Employment arrangements among married/cohabiting parents with children in different age groups (age of youngest child), 2010. Percent

	Both full time	He full time, she part time	He full time, she not employed	Other	Total (N, persons)
Fathers, children 0-19 years	48	31	12	9	100 (531)
Mothers, children 0-19 years	52	28	7	13	100 (538)
Fathers, children, 0-6 years	45	30	15	10	100 (220)
Mothers, children, 0-6 years	50	26	9	15	100 (229)
Fathers, children 7-19 years	50	31	11	8	100 (311)
Mothers, children 7-19 years	55	29	6	11	100 (309)

Looking at the characteristics of the various couple types, we see, as could be expected, that the third and fourth group differ somewhat from the majority of couples where the father works full time and the mother works either full time or part time. Fathers in the fourth couple type (he works part time or not at all) more often than other fathers report having health problems, have somewhat lower educational attainment and more often look upon themselves as mainly being a student, unemployed or disabled or retired (table 3). They may also be somewhat older than the other fathers and have

somewhat older children, but the differences are hardly statistically significant given the small number of observations in this couple type. The mothers in the fourth couple type do not report more health problems than other mothers, but may be somewhat less educated and more seldom look upon themselves as gainfully employed than mothers in the two first couple types do. As for fathers, these differences are hardly statistically significant, due to the small number of observations.

Table 3. Descriptive statistics for married/cohabiting fathers and mothers with children 0-19 years of age with different employment arrangements. 2010. Percent

	Fathers					Mothers				
	Both full time	He full time, she part time	He full time, she not employed	Other	**All**	Both full time	He full time, she part time	He full time, she not employed	Other	**All**
Respondent's health										
Excellent/very good	77	70	71	36	**70**	80	67	41	70	**73**
Good	17	24	17	25	**20**	15	21	22	17	**17**
Fairly good/bad	6	6	12	38	**10**	5	12	36	14	**10**
Respondent's education										
Primary school	11	13	15	10	**10**	12	13	12	27	**14**
High school	41	40	45	54	**43**	30	36	60	39	**35**
University 1-4 years	36	33	25	18	**33**	43	43	20	27	**39**
University 5-6 years	11	11	9	5	**10**	12	2	-	3	**7**
Unknown	1	3	5	13	**3**	3	5	8	4	**4**
Main activity										
Employed	100	99	100	50	**95**	100	94	3	73	**88**
Student	-	1	-	12	**1**	0	3	24	1	**3**
Unemployed	-	-	-	6	**1**	-	1	16	4	**2**
Disabled/retired	-	-	-	31	**3**	-	-	23	9	**3**
Home worker	-	-	-	-	**-**	-	1	33	11	**4**
Other	-	0	-	2	**0**	-	1	2	2	**1**
Respondent's age										
-34 years	13	14	18	13	**14**	19	20	34	29	**22**
35-44 years	45	43	42	43	**44**	49	45	47	44	**47**
45-49 years	23	21	19	21	**22**	21	21	7	11	**19**
50 years +	19	22	21	22	**20**	11	14	12	16	**13**
Average	43.1	43.2	42.3	44.0	**43.1**	41.1	40.9	38.7	39.7	**40.7**
Age of youngest child										
0-1 years	11	5	15	4	**9**	8	9	10	21	**10**
2-3 years	13	21	16	22	**17**	11	16	23	17	**14**
4-6 years	16	16	20	22	**17**	21	14	18	13	**18**
7-12 years	26	29	19	8	**25**	26	24	27	23	**25**
13-19 years	34	29	31	44	**33**	34	36	22	27	**33**
Number of children										
1 child	39	30	45	45	**38**	35	33	37	42	**36**
2 children	45	42	27	34	**41**	46	44	26	44	**44**
3 or more children	16	28	28	21	**21**	19	23	37	14	**21**
N (persons)	257	166	62	46	**531**	286	151	37	64	**538**

Mothers in the third couple type, in which the male partner works full time and she is not employed, seem to have more health problems and somewhat less education than other mothers. As could be expected, they also more often regard themselves as mainly students, unemployed, disabled, or home workers. Again, statistical significance is hard to reach because of the small number of observations, but the results at least suggest that mothers in this group have poorer labour market resources than other mothers (in terms of health and education), and also that most are not traditional housewives, but do not participate in the labour market for other reasons.

Total workload by employment arrangement and age of youngest child

Looking at averages across all couple types, we find, like previous studies, that fathers and mothers have pretty similar total workloads in Norway (table 4). Adding up time spent on paid work, unpaid work and education as a main activity (Total work 1), men with a child below 20 years of age have a total workload of 9 hours per day, which is only ten minutes more than women in the same group. To be sure, women spend more time than men on unpaid work, but this is offset by men's longer hours of paid work. Neither gender spends much time on educational activities, which could be expected given that most people finish their education before they get children.

Including secondary work activities only modestly expands parents' total workloads in Norway (Total work 2). Fathers' workload increases with only 1 percent and mothers' with 2 percent. Even among mothers with small children (youngest child 0-6 years of age) secondary work activities add only 3 percent to the total workload based on main activities only (Total work 1). The fact that unpaid work, including childcare activities, was rarely reported as a secondary activity in Norway probably reflects that such activities were seldom mentioned as a secondary task in the examples presented to the respondents. It may also result from the high percentages of children that attend a day-care center or an after-school programme in Norway. Hence, parents may prefer to focus actively on their children when they are at home.

Including time spent with children below 12 years of age (Total work 3) augments both fathers' and mothers' total workload by approximately 18 percent compared with the total workload based on main activities only, and hence, even according to our most expansive measure of total work, there are, on the average, modest gender differences in total workload among parents in Norway.

Parents with small children (below seven years of age) have somewhat longer total work hours than those with older children irrespective of the measure used, but averaging across all couples, we find

modest gender differences for parents with small children as well as for parents with school-aged children.

Hence, it seems that mothers do not, on the average, multitask more than fathers in Norway in the sense that they undertake more unpaid work as secondary activity or spend more time with children while personal or leisure activities constitute the main task in a given time slot. However, women do report more leisure as a secondary activity than men in Norway (Vaage 2012, Table 1.18), and this may represent another type of multitasking than the one captured by secondary unpaid work activities, such as housework and childcare.

Table 4. Paid work, unpaid work and total work among married/cohabiting fathers and mothers with children in different age groups (age of youngest child). Hours and minutes per day, average. 2010

	Children 0-19 years		Children 0-6 years		Children 7-19 years	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Paid work	5.21	3.55	4.49	3.32	5.45	4.12
Unpaid work	3.35	4.48	4.29	5.40	2.53	4.09
Education	0.05	0.08	0.08	0.11	0.02	0.05
Total work 1	9.01	8.51	9.27	9.23	8.40	8.26
Total work 2	9.06	9.03	9.34	9.41	8.44	8.34
Total work 3	10.38	10.36	11.57	12.09	9.36	9.26
N (diary days)	1,059	1,077	438	458	621	619

Although there are, on the average, modest gender differences in total work hours for coupled parents in Norway, some differences emerge when we distinguish between couples with different employment arrangements (table 5). Full-time work for both partners seems to lead to somewhat longer total work hours for mothers than for fathers, particularly when the youngest child is in the age group 7-19 years. When the male partner works full time and the female partner works part time, we observe the opposite pattern, however, and this is particularly true in couples with school-aged children. In these couples, fathers' total workload is about 1 hour longer than mothers' according to the two first measures, and about 1 ½ hour longer according to the third measure. Mothers' shorter paid work hours are not fully compensated with unpaid work in these couples, so that long hours in the labour market for fathers coupled with comprehensive involvement in unpaid family work result in a greater total workload.

As for the two remaining couple types it seems that an arrangement where the father works full time in the labour market and the mother is not employed, involves a greater total workload for the father, while an adaptation where the father works part time or not at all and the mother has any employment

status, implies a greater workload for the mother. This is mainly because mothers in these couples work longer hours in the labour market.

Table 5. Paid work, unpaid work and total work among fathers and mothers, by employment arrangement and age of youngest child. Hours and minutes per day, average. 2010

	Both full time		He full time, she part time		He full time, she not employed		Other	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Children 0-19 years								
Paid work	5.26	4.53	6.23	3.27	4.45	0.19	2.23	3.11
Unpaid work	3.42	4.25	3.01	5.09	3.49	5.40	4.33	5.06
Education	0.03	0.01	0.03	0.07	0.00	1.02	0.27	0.03
Total work 1	9.10	9.19	9.27	8.43	8.35	7.01	7.23	8.20
Total work 2	9.16	9.31	9.31	8.56	8.41	7.12	7.27	8.34
Total work 3	10.40	11.01	11.11	10.19	10.29	9.38	8.51	10.10
N (diary days)	512	573	332	302	123	74	92	128
Children 0-6 years								
Paid work	4.58	4.36	6.14	3.34	3.15	0.18	1.59	1.57
Unpaid work	4.40	5.07	3.40	6.14	4.53	5.43	5.36	6.28
Education	0.06	0.02	0.04	0.04	0.00	1.36	0.41	0.01
Total work 1	9.44	9.45	9.59	9.52	8.19	7.38	8.16	8.27
Total work 2	9.52	10.01	10.04	10.12	8.27	7.50	8.22	8.50
Total work 3	12.09	12.25	12.16	12.39	11.29	10.45	10.47	11.16
N (diary days)	197	238	136	120	61	36	44	64
Children 7-19 years								
Paid work	5.45	5.04	6.31	3.22	6.16	0.19	2.44	4.22
Unpaid work	3.02	3.55	2.30	4.25	2.36	5.37	3.38	3.48
Education	0.00	0.01	0.02	0.10	0.01	0.22	0.02	0.04
Total work 1	8.47	9.01	9.02	7.57	8.53	6.18	6.37	8.14
Total work 2	8.51	9.09	9.06	8.05	8.57	6.29	6.49	8.20
Total work 3	9.39	10.01	10.20	8.46	9.22	8.21	7.10	9.07
N (diary days)	315	335	196	182	62	38	48	64

However, the small number of observations in some of the couple types in Table 5 means that the observed differences may not be statistically significant. In addition, there are some differences in the reported numbers and ages of children in the household between mothers and fathers within the same couple type (Table 3). This is particularly true in couple types three and four. For each couple type and for all three total workload measures, we therefore ran a multivariate analysis of gender differences with controls for the number and ages of children in the household.[3] The analyses were also run separately for parents with children 0-6 years of age and parents with children 7-19 years of age. Mothers constitute the reference group. The results are presented in table 6. Since gender is our principal explanatory variable in the analyses, only gender differences are shown.

[3] Since respondents kept a diary for two consecutive days, we used the SAS-procedure SURVEYREG to get robust standard errors.

As for couples where both partners work full time, there are no statistically significant gender differences in the parents' total workload. This is the case whether we look at parents with children in the age group 0-6 years, 7-19 years, or 0-19 years. The estimated coefficients indicate that mothers may have a somewhat higher total workload than fathers when the youngest child is in the age group 7-19 years, particularly when we look at the most expansive measure of total workload, but the coefficients are not statistically significant at conventional levels.

Table 6. Results from multivariate analyses of the effect of gender on total work 1, 2 and 3, controlling for number of children and age of youngest child. Minutes per day, 2010. (Mothers constitute the reference group)

	Both full time	He full time, she part time	He full time, she not employed	Other	All
Children 0-19 years					
Total work 1	-7.79	34.56	94.37**	-64.51	8.63
Total work 2	-13.69	25.91	90.26**	-71.06*	1.48
Total work 3	-21.06	36.39*	60.41*	-63.20	0.46
N (diary days)	1,085	634	197	220	2,163
Children 0-6 years					
Total work 1	2.96	-6.30	62.79	-28.92	1.87
Total work 2	-4.30	-20.52	60.72	-41.37	-8.54
Total work 3	-11.68	-24.21	33.49	-55.11	-13.33
N (diary days)	435	256	97	108	896
Children 7-19 years					
Total work 1	-14.30	63.70**	119.46**	-92.50	13.55
Total work 2	-18.96	58.84*	114.16*	-94.00	-8.93
Total work 3	-29.17	81.08***	53.43	-67.94	-10.34
N (diary days)	650	378	100	112	1,240

***=statistically significant at 0.01-level, **=statistically significant at 0.05-level, *=statistically significant at 0.10-level.

In couples where the father works full time and the mother works part time, fathers have significantly longer total work commitments than mothers according to all the three workload measures when the youngest child is in the age group 0-19 years. The gender difference is rather substantial. For instance, the father's total work hours exceed the mother's with 64 minutes per day according to the first total workload measure (only main activities), and with 81 minutes per day according to the third total workload measure (main activities + time with children). However, for parents with children 0-6 years old, there are no statistically significant gender differences in total workload, and this is true irrespective of workload measure. The estimated coefficients are actually negative, but they are much smaller than the coefficients for parents with older children.

For couples with school-aged children there are also substantial gender differences in total workload in couple type three (the father works full time and the mother is not employed), with considerably longer total work commitments for the father. Although the estimated coefficients are large and positive both for parents with younger and older children, they are statistically significant only for

those with older children. According to the two first total workload measures, the father's workload exceeds the mother's with about two hours per day in these couples. This is not because fathers have particularly long total work commitments, but because mothers have fairly short total work hours (see table 5). It is important to remember that most of these mothers do not look upon themselves as primarily home workers and that a significant proportion has health restrictions and/or is unemployed. Some of them may therefore not have the strength to spend much time on housework or paid work even if they would prefer to do so.

In couple type four (the father works part time or not at all, and the mother has any employment status) we observe few statistically significant gender differences, but the estimated coefficients are fairly large and negative, indicating that the mother's total workload exceeds the father's, as could be expected. This is particularly true for parents with school-aged children. As demonstrated in table 5, fathers in these couples have fairly short total workloads due to little time spent on paid work, while the mothers actually have longer paid hours than the mothers in couple type 2 (he full time/she part time).

The right column in table 6 shows that for all couple types taken as a whole, there is no gender differences in total workload for any of the total workload measure, which corroborates the results presented in table 4.

Total workload on weekdays and weekends

Parents face different time constrains on weekdays and weekends, and full-time work in particular may imply more restrictions on weekdays. Gender differences in parents' total workload may therefore vary between weekdays and weekends. Because of the small number of observations in couple types three and four, we investigate differences between weekdays and weekends for the first two couple types only.

Total workloads on weekdays and weekends for parents with younger and older children are shown in table 7. In couples with two full-time jobs and children 0-6 years of age, mothers and fathers have rather similar total workloads on weekdays and weekends. For parents with older children, however, fathers' total work hours seem to exceed mothers' on weekdays, while the opposite is true on weekends. This pattern is also found in couples where the father works full time and the mother works part time, and this is true irrespective of the age of the youngest child. In order to test whether these

gender differences are statistically significant, we run multivariate analyses controlling for age and number of children in the household. Results are presented in table 8.

Table 7. Paid work, unpaid work and total work among fathers and mothers on weekdays and weekends, by employment arrangement and age of youngest child. Hours and minutes per day, average. 2010

	Both full time				He full time, she part time			
	Weekdays		Weekends		Weekdays		Weekends	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Children 0-6 years								
Paid work	6.45	6.02	0.35	0.32	8.10	3.55	1.11	2.40
Unpaid work	4.06	4.51	6.05	5.51	3.13	6.24	4.51	5.50
Education	0.09	0.02	0.00	0.00	0.05	0.05	0.00	0.00
Total work 1	11.00	10.55	6.40	6.23	11.28	10.23	6.02	8.31
Total work 2	11.07	11.10	6.51	6.43	11.33	10.39	6.08	9.03
Total work 3	12.57	13.01	10.13	10.40	13.05	13.00	10.04	11.46
N (diary days)	141	170	56	68	98	86	38	34
Children 7-19 years								
Paid work	7.47	6.25	0.45	0.59	7.53	4.27	2.55	1.22
Unpaid work	2.40	3.36	3.56	4.53	2.23	4.12	2.49	4.48
Education	0.01	0.02	0.00	0.00	0.01	0.14	0.03	0.02
Total work 1	10.27	10.02	4.40	5.52	10.17	8.54	5.47	6.13
Total work 2	10.31	10.10	4.42	6.04	10.19	9.01	5.57	6.20
Total work 3	11.14	11.03	5.45	6.51	11.11	9.41	8.04	7.04
N (diary days)	222	245	93	90	140	117	56	65

Table 8. Results from multivariate analyses of the effect of gender on total work hours on weekdays and weekends, controlling for number of children and age of youngest child. Minutes per day, 2010. (Mothers constitute the reference group)

	Both full time		He full time, she part time	
	Weekdays	Weekends	Weekdays	Weekends
Children 0-6 years				
Total work 1	8.34	9.12	61.85*	-191.04***
Total work 2	1.33	3.7	49.75*	-215.23***
Total work 3	0.10	-19.84	7.27	-131.63***
N (diary days)	311	124	184	72
Children 7-19 years				
Total work 1	22.53	-73.72***	76.32**	-16.73
Total work 2	19.78	-84.01***	70.47**	-18.71
Total work 3	2.68	-82.51***	76.84**	46.92
N (diary days)	467	183	257	121

***=statistically significant at 0.01-level, **=statistically significant at 0.05-level, *=statistically significant at 0.10-level.

In couples with two full-time jobs and school-aged children, mothers' total work commitments exceed fathers on weekends and this is true for all three workload measures. The gender difference amounts to about 70 minutes per day according to the first measure and about 80 minutes per day according to the second and third measures. On weekdays, fathers' total workload exceeds mothers', but the difference is not statistically significant. Thus, the coefficients observed in table 6, which covers all weekdays, mask different patterns on weekdays and weekends for full-time working parents with school-aged

children. Also in couples where the father works full time and the mother works part time, gender differences in total workload differ between weekdays and weekends, with mothers having heavier workloads than fathers on weekends, while the opposite is true on weekdays. For parents with school-aged children, the gender differences on weekends are not statistically significant, but for parents with younger children, the differences are substantial, amounting to well over three hours more for mothers for the first workload measure, almost four hours for the second one and well over two hours for the third one. In order to test whether the gender gaps in total workloads differ significantly between weekdays and weekends, we included an interaction term between gender and weekday in the multivariate analyses. The gender differences in total workload diverge significantly between weekdays and weekends for couples with two full-time working parents and school-aged children as well as for full-time/part-time couples with both younger and older children (table 9). Hence, it is primarily on weekdays that fathers have longer total workloads than mothers, which results from adding more involved fathering practices to a full-time paid job. On weekends, mothers' longer unpaid work hours are not offset by more paid work for fathers.

Table 9. Results from multivariate analyses of the interaction effects of gender and day of week on total work hours for parents with different employment arrangements, controlling for number of children and age of youngest child. Minutes per day. 2010

	Both full time		He full time, she part time	
	Children 0-6 years	Children 7-19 years	Children 0-6 years	Children 7-19 years
Total wok 1				
Mother*weekday	16.74	-91.30**	-213.38***	-107.00*
Total work 2				
Mother*weekday	14.62	-99.36***	-226.75***	-102.93*
Total work 3				
Mother*weekday	-24.9	-77.24*	-110.26*****	-33.53
N (diary days)	435	650	256	378

***=statistically significant at 0.01-level, **=statistically significant at 0.05-level, *=statistically significant at 0.10-level.

Perceived time pressure

Although diary-based time use surveys are considered to be the best data source for studying gender differences in total workload, particularly when secondary activities are taken into account, such data are still sometimes held to be gender biased because women's family work is underestimated. In particular, it is difficult to capture time spent managing and organising household activities, and since this is often done by women, it is argued that women's total workload is miscalculated (Emerek 1989; Davies 1989; Hessing 1994; Lee and Waite 2005). Moreover, women's time patterns are usually more fragmented than men's in that women's housework and leisure consist of more and shorter episodes than men's (Mattingly and Bianchi 2003; Rydenstam 2001; Bittman and Wajman 2000). Hence, equal average workloads for fathers and mothers may mask different time structures. Rydenstam (2001)

argued that short breaks between episodes of housework are not really leisure, but should be counted as housework. Including such pauses in the calculations he found that women's housework time increased far more than men's. Likewise, women more often than men interrupt their leisure activities to look after children or perform housework (Mattingly and Bianchi 2003; Bittman and Wajman 2000). In line with this, qualitative studies show that the family's leisure activities are usually less free for women than for men since women bear the overall responsibility for organising it all and for looking after the children (Deem 1982). Thus, it is argued that women's free time tends to be less leisurely than men's and that part of it should actually be counted as housework. Based on more theoretical considerations, Tornes (1983) maintained that women more often than men face expectations of being continuously available for their family and therefore have less control over their time.

If women's total workload is actually underestimated in time use surveys, women may experience greater time pressure than men even if they are found to have similar or even shorter total workloads. We explore parents' perceived time pressure in various couple types by using two questions taken from the interview part of the The Norwegian time use survey. As explained in section 4, respondents were asked how often they had so many duties to carry out on weekdays that it is was difficult to get everything done, and how often there were activities that they would have liked to carry out on weekdays, that they could not undertake because of time pressure. We would, of course, prefer a more general question on subjective time pressure that does not refer to weekdays only, but since there were no such questions in the survey we have to settle for the ones that were actually asked. We put most trust in the first question, since it probably measures universal time pressure more exactly than the second one, which may presuppose that people have special hobbies or activities that they would like to spend time on. For each question, we show the proportion of parents that reported that they often felt busy.

Looking at all coupled parents with children below 20 years in the household, we find that 38 percent of the fathers and 36 percent of the mothers often felt busy according to the first question, and 21 and 28 percent respectively felt busy according to the second question (table 10). As could be expected, the percentages are somewhat higher for parents with young children than for those with older children, but on the whole there are only modest gender differences in perceived busyness among all couples taken together. When both partners work full time, fathers report busyness to the same extent as mothers, which is at odds with the presupposition that mothers' total workload is underrated in the time diaries. When he works full time and she works part time, the father reports time pressure more

often than the mother, and this is true for both time-pressure measures and irrespective of the age of the youngest child. Table 10 reveals some gender differences in the remaining two couple types as well, with fathers reporting busyness more often than mothers in the third couple type and mothers reporting busyness more often than fathers in the fourth couple type, but given the low number of observations, the results must be interpreted with caution.

Table 10. Percentage of fathers and mothers who often feel time pressure, based on two measures of time pressure, by employment status and age of youngest child. Percent

	Both full time		He full time, she part time		He full time, she not employed		Other		All	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Children 0-19 years										
Time pressure 1	40	43	43	29	31	27	23	31	38	36
Time pressure 2	32	36	36	21	31	16	10	21	21	28
N (persons)	257	286	166	151	62	37	46	64	531	538
Children 0-6 years										
Time pressure 1	45	49	49	39	39	28	34	37	44	43
Time pressure 2	39	42	42	32	42	16	16	25	37	35
N (persons)	99	119	68	60	31	18	22	32	220	229
Children 7-19 years										
Time pressure 1	37	39	39	23	23	26	13	24	34	32
Time pressure 2	28	31	32	13	20	15	3	17	26	23
N (persons)	159	167	98	91	31	19	24	32	311	309

In order to test whether gender differences are significant and to adjust for differences in the age and number of children in the household, we ran logistic regressions for each of the two time-pressure measures, estimating the odds of often feeling busy. The gender effects are reported in table 11 (mothers constitute the reference category). When the father works full time and the mother works part time, there are significant gender differences in perceived time pressure among parents with school-aged children, so that fathers report feeling busy more often than mothers. This is true for both busyness measures. When the father works full time and the mother is not employed, fathers report busyness more often than mothers in couples with small children, but this is true only for the second busyness measure. When the father works part time or not at all, the estimated coefficients suggest more perceived time pressure for mothers, but they are not statistically significant at conventional levels.

All things taken together, the analysis on perceived time pressure does not support the expectation that mothers feel greater time pressure than fathers in contemporary Norway, not even in couples where both partners work full time. On the contrary, fathers report more time pressure than mothers when he works full time and she works either part time or not at all. We might have seen a somewhat different picture if the time-pressure questions applied to the whole week, and not to weekdays only, since it is first and foremost on weekdays that fathers have a longer total workload than mothers. However, as the weekdays constitute the greater part of the week, the analyses in the present paper suggest that fathers with school-aged children do have a greater workload than mothers in certain couple types in Norway and also feel more time pressure.

Table 11. Results from logistic regressions of the effect of gender on feeling time pressure, controlling for number of children and age of youngest child. Odds ratios. (Mothers constitute the reference group)

	Both full time	He full time, she part time	He full time, she not employed	Other	All
Children 0-19 years					
Time pressure 1	0.92	1.81**	1.17	0.61	1.05
Time pressure 2	0.88	2.20***	2.70*	0.40	1.16
N (persons)	543	317	99	110	1,069
Children 0-6 years					
Time pressure 1	0.94	1.61	1.43	0.80	1.08
Time pressure 2	0.92	1.65	4.34**	0.62	1.14
N (persons)	218	128	49	54	449
Children 7-19 years					
Time pressure 1	0.92	1.96**	0.78	0.43	1.13
Time pressure 2	0.85	2.93***	1.24	0.18	1.17
N (persons)	325	189	50	56	620

***=statistically significant at 0.01-level, **=statistically significant at 0.05-level, *=statistically significant at 0.10-level.

It may be that fathers' greater involvement in housework and childcare in recent decades and also the expansion of kindergartens and after-school programmes imply more gender similarity in parents' time structure. Fathers may increasingly face the same expectations as mothers of continuous availability for children when they are at home. Since many school-aged children now attend after-school programmes in Norway, mothers have been relieved of some care work during day time. Part-time employment may thus imply more free time for mothers than previously.

6. Summary and discussion

While a *second shift* and a *double burden* have often been discussed primarily as problems for women, more involved fathering practices in recent decades combined with the fact that fathers are still the main providers in most families, has made researchers ask whether long total work hours are now also a problem for fathers. In the current paper we investigate possible gender differences in total workload among coupled parents with different employment arrangements in Norway. With its high gender-equality ambitions and well-developed work-family policies Norway constitutes an interesting case in this context. Researchers in liberal welfare states such as the US, Australia and Canada often look to the Scandinavian countries for policies that may relieve full-time employed mothers of their double burden and stimulate more involved fathering practices (for instance Esping-Andersen 1999; Gornick and Mayers 2008). Most children now attend a day-care center in Norway, usually on a full-time basis, and fathers with young children have become far more involved in childcare and housework. Mothers' employment rate is almost as high as fathers and there are now few full-time homemakers in Norway. However, mothers often work part time, but rarely very long hours in the labour market.

Utilising three measures of total workload, we find that full-time work for both partners entails approximately equal total workloads for mothers and fathers, and this is so irrespective of the age of the youngest child. Mothers may have somewhat longer total hours than fathers when there are school-aged children in the home, but the difference is not statistically significant in our sample. This counters the findings of Craig (2006 and 2007) and Milkie et al. (2009) that full-time employment gives longer total work commitments for mothers than for fathers in families with pre-schoolers in the US and Australia. Good access to publicly subsidized daycare coupled with fairly short standard work hours and involved fathering practices probably ease the combination of family and employment for mothers in Norway. This is more in accordance with Becker's (1991) theory on couples' time allocation than with the doing gender perspective (West and Zimmerman 1987). In full-time working couples with school-aged children, mothers' total work commitments exceed fathers on weekends, though, but this is evened out by fathers' longer workloads during the week.

Full-time work for the father and part-time work for the mother entails fairly equal total workloads for parents with young children, but significantly longer total workloads for fathers than for mothers when there are school-aged children in the home. Although mothers spend more time than fathers on unpaid work in these couples, this does not make up for fathers' longer paid hours. This is so even if multitasking and time spent with children are accounted for. It is primarily on weekdays that fathers' total workload exceeds mothers' in these couples. Thus, while part-time work for women in the 1970s

and 1980s resulted in equal total commitments in couples in Norway, mothers now seem to benefit from such arrangements in that they have less total work than their partners. This may be a result of more involved fathering practices, more after-school programmes and a considerable decrease in routine housework time. Fathers' longer workload agrees neither with Becker's theory on rational allocation of paid and unpaid duties nor with the "doing gender" perspective. Although fathers undertake less unpaid work than mothers in these couples, they do put in a significant amount of time on childcare and routine housework.

Also when the father works full time in the labour market and the mother is not employed, fathers' total workload exceeds mothers', at least in couples with school-aged children. However, only in one third of these couples the mother regards herself as a full-time homemaker, and a considerable proportion has health limitations. Hence, many mothers may not have the strength to undertake much unpaid work. The doing gender perspective may thus be less applicable in this couple type, since the father may have to step in at home in order for the family's daily life to work smoothly. Longer total hours for the father may therefore be the most rational adaptation.

In the small group of couples where the father either works part time or is not employed at all, mothers seem to have a heavier total workload than fathers, but this is due to fathers' short work hours rather than to mothers' extensive work commitments. However, there are few observations in this couple type in our data and the gender difference is not statistically significant at conventional levels.

All things considered, the analyses in the present paper suggest that mothers seldom bear a double burden in contemporary Norway. Although they have considerably longer total hours than fathers on weekends in some couple types, this is counterbalanced by fathers' longer total work time on weekdays. Contrary to Craig (2006 and 2007) and Milkie et al. (2009) we find only a very small increase in mothers' total workload when parallel activities were accounted for. This may reflect different childcare practices for parents in Norway, but may also indicate that secondary activities are reported differently in various time use studies, and that people's recording may be sensitive to the survey guidelines and the examples presented to participants. For instance, if childcare is rarely mentioned as a secondary activity in the examples, participants rarely record such activities. On the other hand, if much secondary childcare is included in the examples, respondents probably report a large amount of secondary childcare in their time diaries. Thus, secondary childcare may be less comparable across surveys than primary childcare. In order to capture childcare undertaken

simultaneously with leisure or personal care, we therefore include parents' time spent with children in one of our total-workload measures.

It has, however, been argued that time diaries tend to underrate mothers' total workload, and this is so even if secondary activities and time with children are accounted for (Emerek 1989; Davies 1989; Hessing 1994; Rydenstam 2001; Bittman and Wajman 2000; Mattingly and Bianchi 2003). Mothers are usually responsible for organising and coordinating the family's daily life and these managerial practices are rarely captured by time diaries. Moreover, mothers' time use tends to be more fragmented than fathers'. Therefore, mothers may experience more time pressure than fathers even though they have shorter total work commitments based on conventional measures. Nevertheless, we found that fathers more often than mothers report time pressure on weekdays when he works full time and she part time and when he works full time and she is not employed. Mothers do not report more time pressure than fathers in any couple type, not even in couples where both partners work full time. However, our subjective time-pressure measure only captures perceived time pressure on weekdays. Moreover, it may not fully capture parents' planning and managerial responsibilities.

We believe that the current paper makes an important contribution to the research on gender differences in parents' total work commitments by focusing on a social democratic country with well-developed work-family policies, active and involved fathering practices, high employment rates among mothers and few full-time housewives. The fact that full-time employment does not seem to imply a double burden for mothers in Norway is at odds with findings in many other countries, and suggests that employment-supporting policies and active fathering practices facilitate mothers' full-time work. On the other hand, the finding that full-time work for the father and part-time work for the mother implies shorter total work commitments for mothers than fathers with school-aged children indicates that work-time reductions now leave some room for leisure and personal activities for mothers, in addition to housework and childcare. Mothers may not be expected to be on the call for their children and spouse to the same extent as previously. Moreover, the fact that little unpaid work is recorded as a secondary activity in the Norwegian time use study reminds us that even though diary-based time use surveys are looked upon as a valid and reliable data source for unpaid work, the recording of childcare may be sensitive to the survey design and the examples presented to the respondents.

However, the analysis also has certain limitations. The small number of observations in each couple type makes it difficult to reach statistical significance. More significant gender differences might occur

with a larger sample, for instance in couples with two full-time jobs. Moreover, it is a shortcoming that our questions on subjective time pressure apply to weekdays only. More general questions could reveal more perceived time pressure for mothers since they often have longer total workloads than fathers on weekends. Moreover, it would be advantageous with questions that better capture parents' planning, coordination and managerial practises. Future research should also explore gender differences in parents' time structure, in order to uncover whether mothers' unpaid work hours are more fragmented than fathers. If this is the case, our total-workload measures may underrate mothers' total work commitments. Finally, it should be an ambition for future research to construct better measures of childcare time, including on-the-call time and passive supervision. This may nuance gender differences in total workloads in various types of couples. It would, of course, also be advantageous with data for real couples, and not individuals, as we have in our data. Last, but not least, the analysis would benefit from information on the partners' perceived fairness when it comes to each partner's total workload, and also on the reasons behind their work-time arrangements and allocation of domestic duties.

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Return to:
Statistisk sentralbyrå
NO-2225 Kongsvinger

From:
Statistics Norway

Postal address:
PO Box 8131 Dept
NO-0033 Oslo

Office address:
Kongens gate 6, Oslo
Oterveien 23, Kongsvinger

E-mail: ssb@ssb.no
Internet: www.ssb.no
Telephone: + 47 62 88 50 00

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