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Enabling family policies, changing gender norms: increasing childcare and housework among Norwegian fathers from 1980–2010

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ABSTRACT

Father politics belongs to different 'worlds', according to Michael Rush. The Nordic 'world' has developed better opportunities for fathers' involvement in unpaid family work than other Western countries, thus lessening the gap between increasing social expectations and fathers' practices. In recent decades, Norwegian fathers have increased the time they spend on childcare and housework. This article explores the role of fathers' education in generating this change. Our analysis of four linked time use surveys in 1980, 1990, 2000 and 2010 showed that the fathers spent more time on both housework and childcare in 2010 than in 1980, even when compositional changes among the fathers, including increased levels of education, were accounted for. This development likely resulted from enabling family policies, generation replacement and changing gender norms. While the total time devoted to housework and childcare increased among the fathers across all educational groups, in 2010 the fathers with a long university education spent the most time on these activities. They also had the highest rate of change, especially in the 2000s, which may indicate a further consolidation of new father practices.

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Educational differences; family policy; fathers' housework; fathers' childcare; generation replacement; time use

Introduction

Expectations regarding fathers' involvement in unpaid family work are growing. However, while fathers' time spent on such work has increased in all Western societies, fathering practices remain diverse (Seward & Rush, 2015). Father politics belongs to different 'worlds', according to Michael Rush (2011, 2015). The Nordic 'world' has developed better opportunities for father's involvement in unpaid family work than other Western countries. For example, father-friendly parental leave policies have contributed to the lessening of the gap between social expectations and actual father involvement (Rush, 2015).

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However, to better explain changes in fathers' time use, more knowledge is needed about how different groups of fathers are involved in unpaid family work (Sullivan, 2010). Studies have shown that highly educated fathers spend more time on unpaid work than those who are less highly educated, both in absolute and relative terms, compared with their partners (Altintas, 2016; Davis & Greenstein, 2004; Sayer et al., 2004; Sullivan, 2010). The interpretation is that highly educated fathers are more gender equality oriented and support the ideals of involved fatherhood (Altintas, 2016; Sayer et al., 2004; Sullivan, 2010). In comprehending change, it is important to examine two types of change at the same time (Gershuny, 2000; Sullivan, 2010): One that results from changes in the relative distribution of socioeconomic groups, and one brought about by changes in the behaviours of people in different socioeconomic groups. Fathers' time spent on childcare and housework may thus increase because of an increase in the relative size of the groups that typically spend much time on these activities, because all or some groups increase the time they spend on these activities, or a combination of both.

In past decades, Norwegian fathers have increased the time they spend on both childcare and housework (Ellingsæter & Kitterød, 2021). In this study, we examined the role of fathers' education in generating this change. Four linked time use surveys, which included time diaries from 1980, 1990, 2000 and 2010, constituted the basis of our analysis. Time use diaries are frequently used in international research in this field and are considered one of the best data sources for unpaid work (Bianchi et al., 2000; Gershuny, 2000; Robinson & Godbey, 1997; Sullivan, 2013; Sullivan et al., 2018).[1] We addressed three research questions. First, we asked whether and to what extent the increase in fathers' time in unpaid family work was due to structural changes in the father group, particularly increased levels of education (RQ 1). Second, we asked whether highly educated fathers have been pioneers of involved fatherhood, whether their practices diffuse to all fathers over time, or whether educational differences tend to intensify over time (RQ 2). Third, we asked if patterns of change in childcare and housework differed (RQ 3).

Long-term, slow processes: lagged generational change

Women's time in paid work has changed more than men's time in unpaid work, a gap sometimes characterized as 'the unfinished revolution' (Altintas & Sullivan, 2016; Esping-Andersen, 2009; Evertsson, 2014; Gerson, 2010). However, the revolution metaphor may be somewhat misleading as changing gender relations are not distinguished by rapid and dramatic change that occurs at a certain point in time; rather, it takes the form of a silent drip over longer periods of time (Sullivan et al., 2018). Accordingly, the trend towards increasing gender equality in the family should be understood as a complex long-term, slow and uneven process, and significant change cannot be expected in a short time (Sullivan et al., 2018). Furthermore, all long-term processes may have setbacks, which means that fathers' unpaid work will not necessarily increase linearly over time.

Changing fatherhood encompasses change at both macro and micro levels and involves complex relationships between institutional factors, ideological structures and individual resources (Hobson & Morgan, 2002; Hook, 2006; Sullivan et al.,

2018). Early socialization of the individual and social interaction with others/partners later in life interact with societal contexts of norms, regulative systems and material limitations, and change is influenced by historical contingency, namely, historically specific configurations of employment patterns, family policies and gender ideologies (Sullivan et al., 2018).

Sullivan and colleagues' concept of 'lagged generational change' explains why changes in the gender division of labour in housework and childcare span generations and is subject to deceleration and acceleration. At an individual level, the time use pattern on a certain day is the result of a long sequence of experiences that have formed the individual's life history and interacted with opportunities and limitations for social action at different points in time (Sullivan et al., 2018). Daily gender practices and interactions both reflect and shape factors at an institutional level (e.g. gender ideology, public discourses, welfare systems, legal systems). Over time, changes at an individual level will increase pressure for new regulatory reforms at a macro level (e.g. reforms in welfare systems and services). Changes in norms and regulations at a macro level will then feedback on socialization and interaction at an individual level. The processes involved in change do not occur at the same time at different levels, which is why time lags are expected at both micro and macro levels.

Every new parent generation encounters new opportunities and limitations (Gerson, 2010), and expectations and opportunities are shaped by existing institutional setups. Different welfare regimes (configurations of education, work life and welfare policies) constitute the institutional framework that is the basis of 'regime socialisation' (Goerres & Tepe, 2012). A regime approach shows how national factors may affect how fathers and mothers combine or share paid and unpaid work (Altintas & Sullivan, 2017).

Researchers have suggested that the Nordic welfare state context has contributed to more gender-equal time use patterns and that fathers in Nordic states spend more time on childcare and housework than fathers in other countries (Esping-Andersen & Billari, 2015; Hook, 2006, 2010; Hook & Wolfe, 2012; Neilson & Stanfors, 2014). The Nordic type of context has a direct impact on time use by giving parents access to certain resources and services and an indirect impact by changing parenthood norms (Hook, 2010). Accordingly, fathers' unpaid family work is expected to change from one generation to the next, and this change will be influenced by the institutional context.

Diffusion: education and gender ideology

Another mechanism that may contribute to changes in fathers' domestic time use is diffusion processes. According to diffusion theory, social innovations are first embraced by the highly educated (Sani & Treas, 2016; Sullivan et al., 2014). Time-intensive parenthood norms have been spreading, so expectations about active parental engagement and the stimulation of children's skills are likely to also involve fathers (Sani & Treas, 2016). When highly educated fathers are increasing their time spent on childcare and housework, this may at first increase the differences between them and other less highly educated groups. Elite practices may then eventually spread to parents with less education, thereby diminishing socioeconomic differences. This is in line with Esping-Andersen and Billari (2015), who contended that, in many countries, the support of gender equality as

an ideal and practice is diffusing from higher to lower social strata. They argued that the process will accelerate once a critical mass is reached, in the same way as it has in the Nordic countries. Given this assumption, educational differences in fathers' time use would be the largest at the start of the period examined in this study and subsequently decline over time. However, in some countries, educational differences in fathers' time use, especially time spent on childcare, are increasing (Altintas & Sullivan, 2016; England & Srivastava, 2013).

Educational differences are assumed to reflect differences in attitudes, values and ideologies (Sullivan, 2010). Researchers have suggested that educational level correlates with gender equality ideology and predicts the degree of gender-equal attitudes (Nitsche & Grunow, 2016). Gender ideology is a set of accepted cultural assumptions about the fundamental nature of women and men and their relative value (Chatillon et al., 2018). It reflects the degree to which an individual believes in separate spheres in the gender division of labour (Evertsson, 2014).

Ideology is important for practices; individual attitudes to gender roles are related to the actual division of labour in families (Evertsson, 2014). Education is an individual resource that implies different opportunities, for example, in the labour market. Still, research indicates that the gender division of labour is more in line with culture-based sociological theories that emphasize new norms for childcare rather than economic theories emphasizing opportunity costs (for a review, see Evertsson, 2014). Evertsson (2014) maintained that if the symbolic coupling of gender and tasks is to be changed, an articulated gender equality needs to be shared by the couple. Her study showed that the gender ideology of young Swedish women and men influenced the time spent on housework. When a gender equality ideology is absent, traditional gender roles are more likely to be reproduced.

However, other researchers have proposed that structural factors may also be of importance, with the highly educated having more flexibility at work and partners with similar levels of education. A US study found that, compared to less educated fathers, highly educated fathers were more involved in childcare because they more often had highly educated partners who pushed them to spend more time on children-related activities, thus fulfilling intensive parenthood norms (England & Srivastava, 2013). Moreover, gender traditional work – family adaptations may be influenced by barriers at the workplace. For example, another US study suggested that if institutional barriers were removed, the majority of people would prefer gender-equal couple relationships that are independent of education and gender (Pedulla & Thébaud, 2015).

Childcare and housework: different processes of change?

Changes in time spent on childcare versus time spent on housework may differ, and the processes of change may vary among different socioeconomic groups (e.g. Sullivan, 2010, 2013). Thus, it has been argued that in analysing changes in fathers' time use, it is important to distinguish between childcare and housework (Hook, 2010; Sullivan, 2013).

People are considered to be more resistant to change when it comes to the time spent on housework than that engaged in childcare. In contrast to time with children, which is considered an attractive activity, housework is often referred to as something most people tend to avoid (Evertsson, 2014; Sullivan et al., 2018). It has also been contended

that housework tasks are inflexible: They need to be performed daily, often at certain times, and limit the time available for other chores (Hook, 2010). This line of reasoning is behind the thesis of the importance of relative resources in couples' negotiations of the distribution of housework: The person with the greatest resources (education, income) will negotiate away the least attractive tasks (Evertsson, 2014). This perspective is often complemented with the autonomy thesis, which states that women use their income to buy their freedom from housework. However, we note that the purchase of domestic help is not widespread in Norway (Kitterød, 2012). Another perspective links couples' division of labour to culture and symbols. Both childcare and housework are associated with women and women's work, which implies that gender is symbolically manifested in the division of labour (Evertsson, 2014).

A comparative study indicated that fathers in Nordic earner – carer regimes, where mothers and fathers are expected to be both workers and carers, are more involved in both housework and childcare than fathers in male breadwinner regimes (Nordenmark, 2015). Accordingly, attitudes about which role fathers should play correspond to fathers' actual involvement in family work. Swedish time use studies have shown that the impact of parenthood on mothers and fathers' time use is more equal than it used to be: Having children leads to more housework and less paid work not only among women, but also among men (Dribe & Stanfors, 2009). A similar pattern was found for Norway (Kitterød & Rønsen, 2013). A Swedish longitudinal study showed that attitudes towards gender equality are no longer influenced by the transition to parenthood (Kaufman et al., 2016). This trend is interpreted as a result of both institutional change, such as universal access to childcare services, and changed gender norms. However, the diminishing significance of a change in family status is more evident among those who live in liberal gender regimes than other regimes. The norm of involved parenthood seems to be strong among both mothers and fathers. The relationship between gender policy regimes and fathers' involvement seems to be more pronounced regarding housework than childcare (Nordenmark, 2015). This provides a reason to expect significant changes in time use in both childcare and housework among Norwegian fathers.

Fathers' time use and the Norwegian setting

In the 30-year period we examined, significant changes took place in Norway regarding attitudes towards gender equality and the division of labour in the family (Ellingsæter & Kitterød, 2021). Gender equality ideology correlates with educational level; those with the highest level of education are most inclined to support gender equality (Hellevik & Hellevik, 2012). Other studies have found a correlation between gender equality and the division of labour in the family (Kjeldstad & Lappegård, 2010). Hence, we expected that increasing support for gender equality in society during the study period would contribute to greater gender equality in unpaid work.

Cohort replacement interacting with institutional change was likely a central mechanism behind the changes in time use among the fathers in the four surveys in our study. The fathers in 1980 and 2010, which comprise the start and end of the study period, represent two different father generations. The differences are evident in several dimensions: Fathers' early socialization, experiences from education and work life and patterns of partner interaction were influenced by changing gender

ideologies, gender distribution in education and workplaces and welfare arrangements for parents. Those who became fathers in 1980 had grown up in the 1950–1960s in families that still were gender traditional, and as fathers, they had few expectations about their contribution to unpaid family work. For example, maternity leave was replaced by parental leave only in 1978. By contrast, those who became fathers in 2010 had grown up in the 1980s – 1990s in families that were increasingly marked by working mothers and ideas about gender equality, and their experiences of education and work life were influenced by growing gender equality. Several structural changes, like increasing levels of education in the population[2] and changing processes of family formation, also occurred during this period. Fathers in 2010 were older and had more education when they had their first child. They had greater expectations not only about the more equal distribution of unpaid work, but involvement in children's everyday life was also attributed intrinsic value.

The gradual development of a family policy setup that facilitated the inclusion of mothers and fathers as both workers and carers contributed to these expectations. However, earner – carer reforms expanded at different paces at different periods of time and have occasionally also been conflictual (Ellingsæter, 2016). The 1980s saw the extension of the rather short parental leave and slow improvements in childcare expansion. The 1990s were contradictory. Norway's pioneering introduction of time reserved for fathers in the parental leave scheme on a use-it-or-lose-it basis – the four-week father quota in 1993 – signalled that family work is also the father's responsibility (Brandth & Kvande, 2020). By contrast, the introduction of a cash-for-childcare benefit (1998) recognized stay-at-home mothers. The benefit was conditioned on the non-use of publicly subsidized childcare services and led to a halt in the growth in the employment rate among mothers with children in the target group (i.e. children aged 1–2 years). Reforms in the 2000s were supportive of gender equality and included extensions of the father quota, and a considerable increase in the number of places available in childcare services, especially for the youngest children, and the introduction of parents' rights to places in childcare services for their children. By the turn of the millennium, the father quota was still only four weeks, but it was extended to five, six and nine weeks in 2005, 2006 and 2009, respectively. In 2000, only 37% of children aged 1–2 years were enrolled in childcare services, but this subsequently increased to 79% in 2010. In 2010, nine out of 10 preschool-aged children were enrolled in childcare, and mothers' employment started to increase again. While class differences in parents' care for the youngest children were evident in the mid-2000s, in the 2010s, earner – carer practices (i.e. mothers and fathers sharing breadwinning and childcare responsibilities) had become common across class divisions (Bjørnholt & Stefansen, 2019). While the father quota enabled fathers to have closer relationships with their children and to become more confident carers (Brandth & Kvande, 2020), the impact of the marked childcare expansion on fathers' time use is more uncertain. In principle, the need for fathers to be at home may decrease when most children are attending kindergarten.

There are no studies of educational differences in fathers' time spent on housework and childcare in Norway during the period we examined. A comparative study from around 1990, which included Norway as well as Canada, Germany and Italy, found that less educated fathers in Norway spent as much time on childcare as highly educated fathers (Sayer et al., 2004). This was considered an effect of family and gender equality

policies. However, unlike our analysis, the study did not distinguish between long and short university education. This distinction may be important since, in Norway, the most highly educated men (master's level) express the most egalitarian gender role attitudes (Hellevik & Hellevik, 2012).

Data and analytical strategy

Data

Our analyses were based on four Norwegian time use surveys conducted in 1980–1981, 1990–1991, 2000–2001 and 2010–2011 by Statistics Norway. The respondents kept a diary for two consecutive days, and the samples were spread evenly throughout the year. The diaries had fixed time slots[3] for which the respondents wrote down their activities. The activities were then coded according to a detailed coding list. The analyses in the present article were based on the main activities only, which is in line with common practices in the field (Sullivan, 2010; Sullivan et al., 2018). The respondents' demographic information was collected via a single interview with each individual and, in 2000 and 2010, also from public registers. The sample consisted of individual respondents. The data thus shows the gendered division of labour at a group level, which is often the case in this field (e.g. Sayer et al., 2004; Sullivan et al., 2018). The response rates in the four surveys were 65%, 64%, 50% and 49%, respectively. The data in the two latest surveys had been weighted to adjust for bias in the response rates (for further details, see Rønning, 2002 and Holmøy et al., 2012). The comparability between the surveys was reasonably good, at least with respect to the rather broad activity categories that we looked at.

We relied on a subsample of fathers in heterosexual unions (married or cohabiting) aged 25–59 years who had at least one child younger than 16 years[4] in the household. The child could be the man's biological child, adopted child or stepchild. The analysis sample comprised a total of 3,606 diary days (i.e. 1,092, 808, 807 and 899 for the 1980, 1990, 2000 and 2010 surveys, respectively). A few of the respondents (three in our sample) filled in only one of the diary days. We excluded a few observations where the education of the respondent was unknown.

Dependent variables

We looked at housework and childcare, which are the activities that are typically discussed in research on fathers – and mothers' – time spent on unpaid family work. Following Sullivan (2010), we focused on the activities that were reported as the main activities in the diary:

- *Housework*, comprising food preparation, dishwashing, housecleaning, washing clothes, etc.
- *Active childcare*, comprising the time slots where actively focusing on the children in the household constituted the respondent's main activity. Common tasks were nursing and assistance, playing, talking, reading aloud and escorting children to and from various arrangements.[5]

- *Housework and childcare together*, to provide a better picture of the changes in fathers' unpaid work and differences across educational groups.

Independent variables

Survey year and father's level of education constituted our two most important independent variables.

- *Year*, for each survey
- *Father's educational level*

In terms of the latter, we distinguished between primary/secondary level education (reference), university level up to four years (bachelor's level) and university level of five years or more (master's level).[6] The information on education was taken from the surveys in 1980 and 1990 and from public registers in 2000 and 2010. The information on education was not completely comparable across the surveys. First, there may have been some misreporting in the surveys. Second, in 2005, Statistics Norway changed the definition of educational levels in their registers in accordance with international guidelines, and stricter requirements were set for having completed education at upper secondary and university level. Some of those who had previously been placed in the upper secondary level were thus placed in the primary school category, and some who had previously been placed at university level were placed in the upper secondary education category. The changes had greater consequences for the distinction between primary school and upper secondary level than the distinctions between the other educational levels. We therefore did not distinguish between the two lowest levels in our analyses.

We included five control variables:[7]

- *Age of the youngest child* (0–1 year, 2–3 years, 4–6 years, 7–15 years)
- *Number of children below 20 years in the household* (one, two, three or more)
- *Day of week* (weekdays vs. weekend days)
- *Respondent's age* (continuous and squared)
- *Respondent's employment and working hours*. Those who performed paid work for at least one hour per week or were temporarily absent from such work were considered employed. Working hours were normal weekly hours in the main job and possible secondary jobs. We distinguished between non-employed, 1–39 h and 40 + hours.

Analytical procedure

We started by analysing whether the increase in fathers' time spent on housework and childcare from 1980 to 2010 held when we adjusted for the structural changes in the group of fathers (i.e. compositional changes with regard to the number and ages of children and the father's age, education and working hours). Furthermore, we investigated whether the changes varied across educational groups. In the analyses, we used a pooled data file based on the four time use surveys from 1980 to 2010. For each of the

three dependent variables (i.e. housework, childcare, housework + childcare), we provided results from two models. First, we controlled for age of the youngest child, number of children and day of the week. Next, we added controls for fathers' age, education and working hours. To investigate whether the effect of fathers' education changed over time, we added an interaction term between the survey year and the fathers' education. Plots with the predicted values are presented in Figures 1–3.

We used standard ordinary least squares regressions in the multivariate analyses. Although time-use data often contains a high number of zero observations, many researchers recommend ordinary least squares regressions because zero observations are not usually a result of censoring or truncation but stem from the respondent not doing a certain activity as per the diary (e.g. Altintas, 2016; Hook & Wolfe, 2012; Stewart, 2013). To account for repeated observations (two days per respondent), we used robust standard errors. For the two latest surveys, we used weighted data in the analyses and reported the number of observations unweighted.

Changes in fathers' housework and childcare, 1980–2010

We started by providing an overview over the changes in fathers and mothers' time spent on paid and unpaid work from 1980 to 2010 (Table 1), reported as the average number of minutes per day.[8] We also provided the fathers' time use as a percentage of the sum of the mothers and fathers' time use to indicate the gendered division of labour. Notably, we did not have data for the individual couples. The fathers spent slightly less time on paid work[9] in 2010 than in 1980, while the mothers' paid work increased and thus accounted for a higher share of the parents' total paid work hours at the end of the period than the beginning. The fathers' total family work increased significantly during the period, from 171 min per day in 1980–226 min per day in 2010. There was a clear decline in the

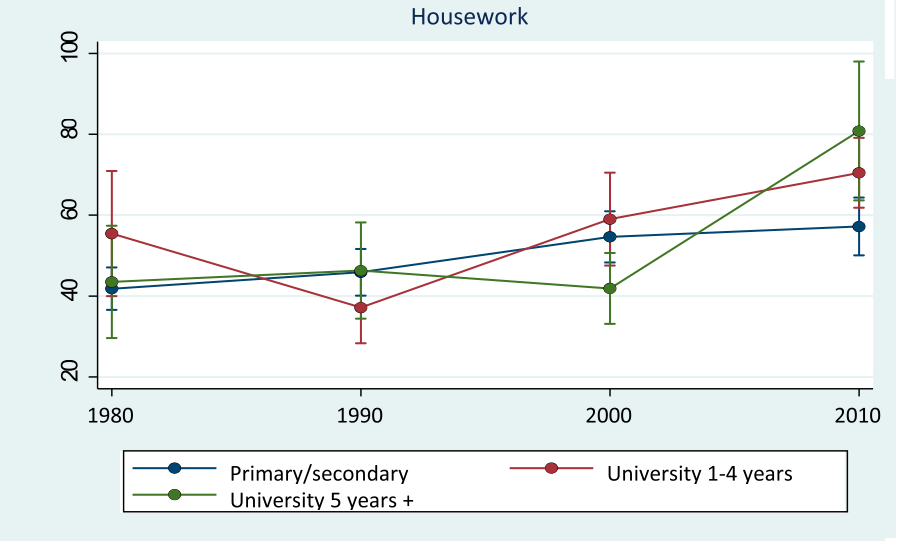

Figure 1. Predicted values for the time spent by fathers on housework by year and educational level. Minutes per day, 95% confidence intervals.

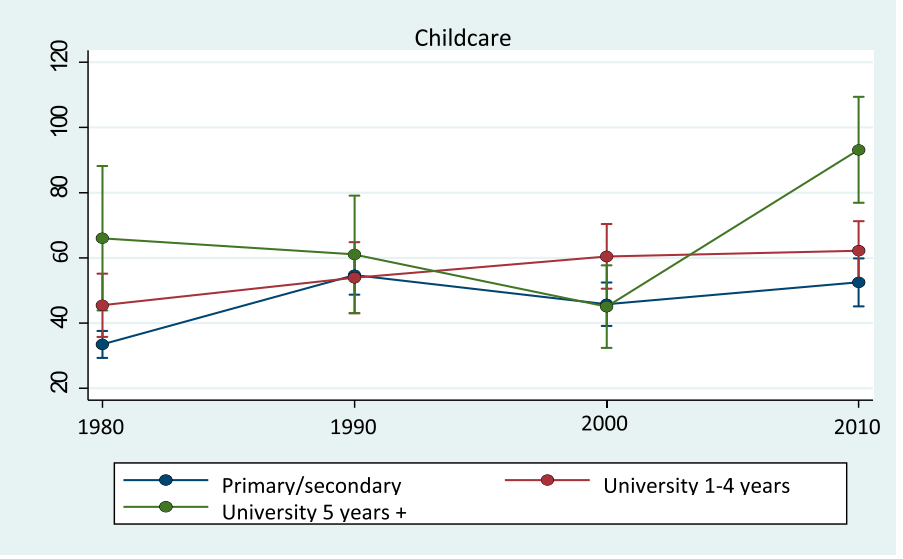

Figure 2. Predicted values for time spent by fathers on childcare by year and educational level. Minutes per day, 95% confidence intervals.

mothers' family work, and the gender difference was thus significantly reduced. In addition to housework and childcare, which were the topics of this study, family work also included maintenance work[10] and errands[11] (Holmøy et al., 2012). Fathers increased their time for both housework, childcare and errands, whereas mothers did considerably

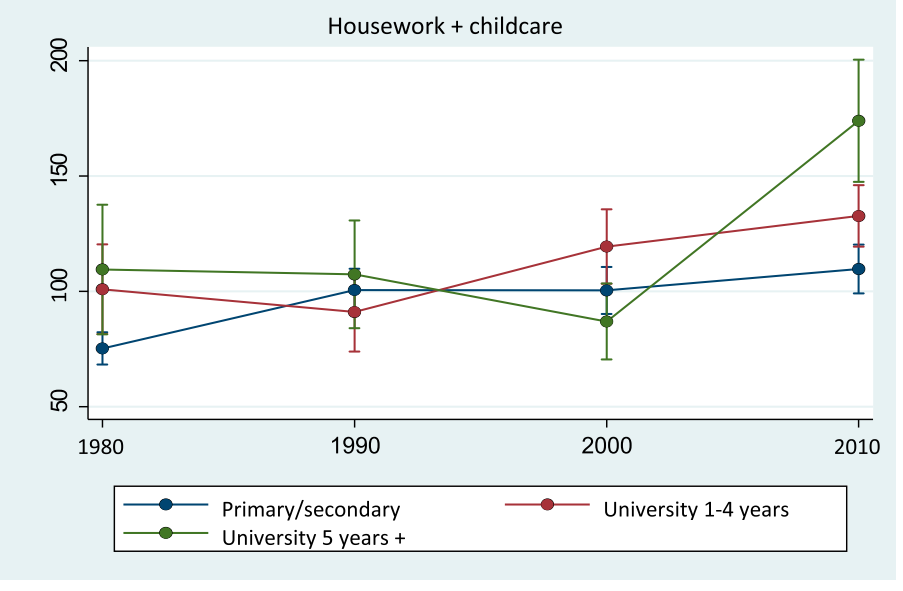

Figure 3. Predicted values for time spent by fathers on housework and childcare by year and educational level. Minutes per day, 95% confidence intervals.

Table 1. Time spent on paid work and unpaid family work among married/cohabiting men and women aged 25–59 years with children younger than 16 years in the household, average minutes per day, and fathers' time use as a percentage of the sum of the fathers and mothers' time use.

	1980	1990	2000	2010
Paid work				
Fathers	347	337	337	320
Mothers	129	160	200	217
Fathers' share	73%	68%	63%	60%
Family work, total				
Fathers	171	188	199	226
Mothers	364	350	307	314
Fathers' share	32%	35%	39%	42%
Family work, different categories				
Housework				
Fathers	45	44	55	64
Mothers	210	164	128	124
Fathers' share	18%	21%	30%	34%
Childcare				
Fathers	38	55	50	59
Mothers	86	113	92	96
Fathers' share	31%	33%	35%	38%
Maintenance work				
Fathers	41	36	37	41
Mothers	15	16	15	19
Fathers' share	73%	69%	71%	68%
Other family work (including errands and travel)				
Fathers	46	52	61	61
Mothers	54	57	72	75
Fathers' share	46%	48%	46%	45%
Number of observations				
Fathers	1,092	808	807	899
Mothers	1,200	990	812	903

less housework but spent more time on childcare, errands and the like. The time spent on maintenance work was stable for both fathers and mothers.

Our first research question (RQ 1) was whether, and to what extent, the increase in fathers' unpaid work had resulted from compositional changes in the group of fathers, particularly higher educational attainment. The descriptive statistics show that the proportion of fathers with education at a primary or secondary level decreased during the period, while the proportion with a short university education (bachelor level) increased (Table 2). Moreover, the proportion of fathers with very young children (i.e. younger than 2 years) was slightly lower in 1980 than in later years, while the fathers' average age was slightly higher in 2010 than in previous years. The proportion who worked at least 40 h per week was higher in 1980 than in later years. This probably reflects a reduction in the standard working hours from 40 to 37.5 h per week in 1987 for groups that were not already covered by this regulation.

The multivariate analysis of changes in the fathers' housework[12] revealed that the fathers spent considerably more time on housework in 2010 than in 1980, even when compositional changes were accounted for (Table 3). The difference in fathers' housework time between 1980 and 2010 amounted to 18 min per day in model 1 and 14 min per day in model 2. Hence, the increase in fathers' housework during the period was the result of compositional changes in the father group only to a small extent. However, the development varied somewhat over time with little or no change in the 1980s, a slight increase in the 1990s and a further increase in the 2000s. This

Table 2. Descriptive statistics, independent variables. Fathers with children younger than 16 years in the household, percentages and averages.

	1980	1990	2000	2010
Age of youngest child				
0–1 years	13	21	17	21
2–3 years	18	19	20	17
4–6 years	21	19	23	18
7–15 years	48	41	40	43
Number of children				
One	25	27	25	27
Two	51	49	46	46
Three or more	24	24	28	27
Day of week				
Weekdays	71	69	67	71
Weekend	29	31	33	29
Fathers' age in years, average	37.9	38.0	38.0	40.1
Education				
Primary/secondary level	74	72	61	59
University, 1–4 years	19	21	29	31
University, 5 + years	7	7	11	10
Working hours, weekly				
Not employed	2	7	3	5
1–39 h	19	40	43	45
40 + hours	79	53	54	50
Number of observations	1,092	808	807	899

was in line with the descriptive results (Table 1), but the increase from 2000 to 2010 was not statistically significant at conventional levels in the multivariate analyses (cf. notes below Table 3 on statistical significance for differences between years).

The multivariate analyses also showed that fathers spent more time on childcare[13] in 2010 than in 1980, even when compositional changes were adjusted for (models 3 and 4; Table 3). In the most comprehensive model (model 4), the difference between 1980 and 2010 was about nine minutes per day. However, the development was uneven, with a slight increase in the 1980s, a levelling off or decline in the 1990s, followed by an increase in the 2000s.

In terms of the sum of housework and childcare, both the multivariate models (models 5 and 6; Table 3) revealed a certain increase across all decades, and particularly in the 2000s. According to the most comprehensive model (model 6), the fathers in 2010 spent about 23 min more per day on housework and childcare than the fathers in 1980. This indicates a considerable change towards more involved fathering practices among most fathers in the period under study, also when we considered structural changes in the group of fathers, including the more highly educated fathers.

Our second research question (RQ 2) pertained to the relationship between the fathers' education and time spent on housework and childcare and whether this changed during our study period. In particular, we asked whether highly educated fathers have been pioneers of involved fatherhood and whether educational differences have reduced or intensified over time. In analysing the four surveys together, we found a positive association between the fathers' education and time for housework and childcare (Table 3). For childcare, the relationship was linear, while for housework we noted a clear difference between the fathers with primary or secondary education on the one hand and those with university education on the other.

To investigate possible changes in the connection between fathers' education and time spent on unpaid work, we included an interaction term for each dependent variable

Table 3. Regression results of the fathers' time spent on housework and childcare, minutes per day.

	Housework		Childcare		Housework and childcare	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Year (ref.: 1980)						
1990	−0.96(a)	−3.03(b)	10.13**	5.19	9.17(*)(e)	2.17(e)
	(3.48)	(3.65)	(3.33)	(3.60)	5.29	(5.63)
2000	8.96*	5.26(c)	5.51(*)(d)	−0.57(c)	14.47**(e)	4.69(d)
	(3.65)	(3.82)	(3.20)	(3.24)	(5.23)	(5.31)
2010	18.77***	13.88**	15.96***	9.25**	34.73***	23.14***
	(3.72)	(4.07)	(3.36)	(3.48)	(5.35)	(5.64)
Age of youngest child (ref.: 7–15 years)						
0–1 years	−1.21	3.39	89.99***	86.85***	88.78***	90.24***
	(5.20)	(6.47)	(7.18)	(8.64)	(9.40)	(11.48)
2–3 years	−1.46	4.81	62.56***	57.70***	64.02***	62.51***
	(5.94)	(6.92)	(5.25)	(6.34)	(8.51)	(10.06)
4–6 years	−5.39	−2.16	43.19***	41.08***	37.81***	38.91***
	(4.49)	(5.10)	(4.47)	(4.89)	(7.09)	(7.61)
Number of children (ref.: one)						
Two	−0.58	−3.60	15.08**	12.27*	14.50*	8.68
	(4.56)	(4.73)	(4.83)	(4.94)	(7.07)	(7.20)
Three+	8.03	4.65	10.63*	8.13	18.66*	12.78
	(5.68)	(5.95)	(5.29)	(5.58)	(8.40)	(8.69)
Day of week (ref.: weekdays)						
Weekend	21.51***	21.47***	14.08**	14.22**	35.59***	35.69***
	(4.19)	(4.19)	(4.25)	(4.22)	(6.23)	(6.15)
Age		4.28(*)		6.65*		10.94**
		(2.34)		(2.64)		(3.75)
Age squared		−0.05(*)		−0.09**		−0.13**
		(0.03)		(0.03)		(0.04)
Education (ref.: primary/secondary level)						
University, 1–4 years		8.89*		9.15*		18.03**
		(4.40)		(4.33)		(6.58)
University, 5+ years		6.54		22.06***		28.60**
		(5.89)		(6.13)		(9.48)
Working hours (ref.: 1–39 h)						
Not employed		−16.22 (*)		10.81		−5.42
		(8.53)		(14.56)		(18.18)
40+ h		−6.80(*)		−13.44***		−20.24**
		(3.96)		(3.80)		(5.85)
Intercept	37.62	−49.02	−8.21	−120.64	29.41	−170.66
	(4.91)	(46.78)	(4.64)	(55.47)	(7.11)	(76.54)
R^2	0.034	0.045	0.235	0.255	0.149	0.172

Note: Robust standard errors in parenthesis. $N = 3606$.
***$p \leq .001$, **$p \leq .01$, *$p \leq .05$, (*) $p \leq .10$.
(a) Differs from 2000/2010 ($p \leq .01$/.001).
(b) Differs from 2000/2010 ($p \leq .05$/.001).
(c) Differs from 2010 ($p \leq .05$).
(d) Differs from 2010 ($p \leq .01$).
(e) Differs from 2010 ($p \leq .001$).

between the year of study and the father's education in the multivariate analyses. Figures 1–3 show the predicted values. For housework, there seemed to be a stronger positive relationship between the fathers' time input and level of education in 2010 than in previous years (Figure 1). The difference between the most highly and the less educated fathers was greater in 2010 than in 1980 (24 vs. 2 min per day, respectively), which indicates a larger increase in housework time among the former than the latter group of fathers during the period. Moreover, in terms of childcare time, the connection with

the fathers' education was stronger in 2010 than in 1980, but the difference was not statistically significant (Figure 2). Looking at the sum of housework and childcare, a greater difference was clear between the most and less educated fathers in 2010 than in 1980 (64 vs. 34 min per day, respectively; Figure 3). However, the change in the direction of greater differences between educational groups was not unambiguous. In 2000, the fathers with a short university education stood out with the most family work.

The pattern of change in the fathers' time use thus varied across the educational groups. For all the groups, however, the fathers' total time on housework and childcare rose from 1980 to 2010, even when all the control variables were adjusted for (Figure 3). With respect to our third research question (RQ 3), where we asked whether the patterns of the changes differed between housework and childcare, as already indicated, the fathers spent more time on both types of activities in 2010 than in 1980 (Table 3). In terms of the fathers in the different educational groups (Figures 1 and 2), there was an increase in both housework and childcare across all the groups, but some of the changes were not statistically significant. Moreover, both housework and childcare time increased more in the 2000s than in the previous decades, particularly among the most highly educated fathers. For this group of fathers, housework and childcare time decreased slightly in the 1980s and 1990s, but the estimates were imprecise. In interpreting the patterns of change for the different groups of fathers, it is important to bear in mind that the relative sizes of the groups changed as the fathers achieved higher levels of education. The fathers with primary and secondary education may thus have had different characteristics in 2010 than in 1980, and the same may apply to the fathers with university degrees. Notwithstanding, consideration must be given to the fact that the distinctions between the educational groups varied slightly across the surveys due to changes in registration and coding.

Conclusion

Changes in Norwegian fathers' time spent on unpaid family work from 1980 to 2010 support the claim that the Nordic 'world' has facilitated father involvement in the family: Fathers increased their time spent on both housework and childcare during this period. The increase was also consistent after controlling for changes in the relative distribution of structural factors, including the fathers' educational levels. In terms of the total time spent on housework and childcare, the fathers in all the educational groups increased their time use. It was thus not the highly educated fathers that led the way. This finding differs from the expectations in the literature that involved fatherhood is an elite practice spread by diffusion to the less highly educated. Further deviating from another assumption in the literature, we found that the fathers' time spent on housework was not more resistant to change than their time spent on childcare.

Gender differences in time spent on unpaid family work narrowed over time: While the fathers increased their time spent on both housework and childcare, the mothers reduced their time on housework, and their time on childcare fluctuated during the study period and was only slightly higher in 2010 than in 1980. This analysis is not a commentary on the division of labour at a couple level, but the marked changes among the fathers across all educational groups gives reason to believe that more and more couples in Norway are sharing paid and unpaid work more equally. Studies of couples based on survey data support this (Knudsen & Wærness, 2007).

The processes of change were uneven over the four decades under study. This corroborates an understanding of change towards gender equality in the family as a complex, long-term process and not a 'revolution' of dramatic change occurring at a certain point in time. While cohort replacement was likely to be a general driver in the slow processes of change towards more gender-equal time use, our analyses indicated that changes at a macro level (i.e. in the national institutional settings) may have generated both a standstill and acceleration as they interacted with the micro level of how fathers' new practices were spread among the different groups of fathers. For the entire 1980–2010 period, institutional change seems to have facilitated the diffusion of ideas and practices, leading to a considerable increase in men's unpaid family work across all educational groups. Gradual family policy reforms enabled more gender-equal practices in families by providing new opportunity structures and generating new expectations among new generations of fathers. The slowing of change in the 1990s and subsequent acceleration in the 2000s support the idea that policies play a role in the diffusion of new practices and attitudes. While policy developments in the 1990s were contradictory in terms of gender equality messages, the 2000s were a decade of marked change with extended earmarked leave for fathers and the finalization of childcare services as a universal arrangement. In our study, the parents' increased use of childcare services occurred in tandem with the fathers' increasing their time spent on children and the mothers not reducing that time. This suggests that parenthood norms emphasizing time with children are an important driving force.

Nevertheless, the most highly educated (master's level) fathers were distinct in terms of the most time spent on unpaid family work in 2010 and the highest speed of change, at least in the 2000s. This finding suggests that our distinction between bachelor and master's levels within the college educated group is important. However, it is not because these fathers were pushed by their highly educated partners, as presumed in the literature, as the pattern remained after controlling for partners' education and employment (Ellingsæter & Kitterød, 2021). The strong increase in unpaid family work in the 2000s may indicate a further consolidation of new father practices in this educational group. The increase in time spent on housework, in particular, may signal a new gender-equal 'normal' that is less driven by extrinsic factors (e.g. partner pressure and work situations). The highly educated fathers in 2010 were the group that had been most exposed to ideas about gender equality and expressed the most gender-equal attitudes. They were more likely to have grown up with working mothers and to have experienced more gender-balanced educational and work contexts. These experiences may have created expectations about gender-equal fatherhood practices, including with relation to housework. Such a father role implies a fundamental break with the symbolic coupling between gender and tasks.

The most recent Norwegian time use data are now more than a decade old. New data will disclose whether the growth in fathers' childcare and housework continued in the 2010s. The past decade has involved changes both in the father group and the institutional setup. Today's fathers have more education and are a little older than the fathers 10 years ago, and more mothers are working full time. Family policy signals to fathers have also fluctuated; the father quota was cut to 10 weeks in 2014 but extended again to 15 weeks in 2018. An interesting question is thus whether gender-equal fatherhood practices are becoming the new normal among fathers without the highest level of education.

Notes

1. In Norway, these surveys have been carried out every 10 years, with the most recent in 2010.
2. https://ssb.no/statbank/table/08921/
3. 15-minute intervals in 1980 and 1990 and 10-minute intervals in 2000 and 2010.
4. We used this age limit because childcare activities were only coded for children aged 0–15 years.
5. This implies a narrow definition of childcare. Much childcare, particularly for older children, is done in parallel with other chores, such as cooking and watching TV.
6. It can be problematic to compare educational groups over time as the characteristics of the groups will change as more people become highly educated. It is likely that the less educated fathers became a more select group than before. Differences between the educational groups may also be related to unobservable characteristics that were not captured in the sample surveys.
7. These variables are usually controlled for by researchers in this field. In addition, they often control for domestic aid and whether people have flexible working hours or not. Controlling for these variables did not impact our results.
8. The averages comprised the respondents who performed the activities on the diary day as well as those who did not. Both weekdays and weekends were included. The averages per week were thus obtained by multiplying by seven.
9. Paid work included the time spent on working, including breaks and travel to and from work, as this appeared in the respondents' diaries.
10. Gardening, renovation, repairing, mending, etc.
11. Errands, administration and travel related to this.
12. The respondents who performed housework on the diary day constituted 63%, 71%, 82% and 82% in the 1980, 1990, 2000 and 2010 surveys, respectively.
13. The respondents who performed childcare on the diary day constituted 51%, 62%, 61% and 65% in the 1980, 1990, 2000 and 2010 surveys, respectively.

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