

**The future of the welfare state: paths of
social policy innovation between
constraints and opportunities**

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**Complementarity of work and care in the
United States, the Netherlands, and Norway**

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Abstract

Using time diary data from the 1971 to 2003 surveys in the United States, Norway, and the Netherlands, this paper analyses the relation between time spent on paid work and time spent on family, and focuses on the role of the welfare state. Furthermore, it compares Tobit and Two-stage least squares estimations. It is found that the impact of time spent on paid work on time spent on child care differs between welfare regimes to a certain extent. The estimations show that women who live in a less gender-egalitarian country seem to benefit less from their individual-level assets in the negotiation over unpaid work in the household. Besides that, the estimations indicate that work time influences fathers' child care time more than mothers' in each of the welfare states.

Keywords Balancing work and care – Time use – Child care - Welfare state – Two stage least squares - Tobit

Introduction

The time parents spend with their children appears to influence the development of children positively (Furstenberg et al., 1987, Büchel and Duncan, 1988). This makes some scholars to conclude that the time parents spend with their children can be considered as a major form of investment that is strongly related to children's development and well-being (Gauthier et al., 2004).

During last decades labour market participation of women increased substantially. Nowadays balancing work and family life has become one of the most important issues for families. With both spouses having a paid job, difficulties may arise as to who is responsible for the domestic and caring duties at home (Van der Lippe, 2007). According to Epstein (2004) an escalation of time demands has occurred in the family. The terms "time crunch", "time pressure" and "time squeeze" have frequently been used in the recent literature on family economics. It is often claimed that parents, and in particular parents with small children, is a group that suffers more from the shortage of time than most other groups (Hallberg and Klevmarken, 2003). This time pressure would suggest that parents devote less time to their children as decades ago. However, as Sayer et al. (2004), Bianchi (2000), and Bryant and Zick (1996) have shown for the Anglo-Saxon welfare states the United States, the United Kingdom en Canada, mother's time with children has tended to be quite stable over time. Also Gauthier et al. (2004) show an increase in time spent on child care during last decades for a selection of 16 industrialized countries. The consensus is not completely however. For the socio-democratic welfare state Sweden, Klevmarken and Stafford (1999) show that time spent on childcare decreased in the eighties and the beginning of the nineties.

This paper aims to add to this literature by analyzing the relation between time spent on paid work and time spent on child care and examining the role of the welfare state in this. Three welfare states are taken into account; the United States, Norway and the Netherlands. Each of these countries can be considered as a representative of a welfare state type. Although several papers on the relation between time spent on paid work and child care appeared for the United States during last decade, my reading of the literature is that no papers appeared on this subject for the Netherlands or Norway¹. Additionally, this paper extends previous studies on the interaction between time spent on work and child care by investigating the impact of the estimation technique used. I compare the results of tobit (as is usually applied in time use research, a.o. Gauthier et al., 2004) and two-stage least squares (2SLS) analyses. 2SLS regression allows us to deal with the interdependence of paid work and child care. There is some controversy in the literature on this "interdependence". Economists usually relate child care with the price of a mother's time rather than her employment hours. They assume that employment time and child care time are simultaneously determined (Zick and Bryant, 1996, Kooreman and Kapteyn, 1987). On the contrary sociologists usually relate child care with the hours of employment where these hours are treated as exogenous variable. If employment time and child care time are determined simultaneously, then the estimates of employment effects in past studies that have treated hours of employment as exogenous may be biased (Zick and Bryant, 1996). This paper endeavours to contribute to this discussion by discussing the results of both approaches.

¹ These countries were included in the analyses of Gauthier et al. (2004). However, the relation between the time spent on paid work and child care for these countries in specific could not be derived in that paper.

Theoretical and empirical considerations

Work and care

In line with others (a.o. Gauthier et al. (2004), Pailhé and Solaz (2008)) we choose the theory of the New Home Economics with its quality-quantity tradeoff argument as starting point to link employment changes with changes in child care (Becker and Lewis, 1973, Willis, 1987). The New Home Economics theory concerning time allocation between partners in the household focuses on the distribution of paid employment, leisure time and domestic work (child care/parental time and household work). Parental time, along with financial spending, establishes an investment in "child quality". Parents may invest more of their time in children in order to increase their "children's quality". With respect to the time allocation between the partners we assume in accordance with the New Home Economics model that the parents' comparative advantages determine the allocation of time; parents specialize according to their comparative advantage. Both partners may derive utility from caring for children and male and female time are assumed substitutes. The partner with higher market potential invests more time in the labour market, the partner who has lower income prospects assumes a larger share of the domestic work (Geist, 2005). According to this theory, household labour is not gendered, but is a function of time and effort spent in the paid labour market.

Empirical studies that focus on the interaction between work and child-care time for women in the United States have shown that despite the rise in mother's labor force participation, at the macro level mothers' time with children has tended to be quite stable over time (Bianchi (2000) for the United States, Pailhé and Solaz (2003) for France). Employed mothers appear to seek ways to maximize time with children, and differ from nonemployed mothers in other uses of time (housework, volunteer work, leisure). Gauthier et al. (2004) conclude for a selection of industrialized countries that employed parents devote slightly less time to their children than nonemployed parents, but that the difference is small compared to the difference by employment status in time devoted to paid work. In line with Bianchi (2000), they conclude that parents preserve their time with children by reducing time devoted to leisure and personal activities. This result was also found by Nock and Kingston in their 1988 analyses for the United States. Although they conclude that dual earners do not substitute "quality" for "quantity" of time with children, as employed mothers spent on their longest workday less time with children than non-employed mothers, they find that most of the time nonemployed mothers spent with their children (preschoolers) was not devoted to direct childcare or play, but to household work. Since (even) nonemployed mothers spend a relatively small part of their time on direct child care, the differences in time spend on direct child care between

employed and nonemployed mothers are minimal. Bryant and Zick (1996) come to somewhat different conclusions. They show that US employed white mothers in two-parent families devote much less time (about 40 percent less) to direct child care than their nonemployed counterparts. However, in their discussion they state that time with children in some activities may yield higher return than time in others, and that employed mothers spend up to 40 percent less time in direct child care than nonemployed mothers may be meaningless if the time given up has low returns and if, in its place, employed mothers substitute other kinds of time that have higher returns.

Welfare state

Welfare state regimes not only represent different types of labour market systems, as Kane and Sanchez (1994) considered to be important determinants of the domestic division of labour, but also stand for different ways that highly developed societies address gender stratification (Geist, 2005, p. 24). Macro-level explanations postulate that structural and cultural forces shape the way individuals and couples carry out their responsibilities (Knudsen and Waerness (2008, based on Geist, 2005). So, female empowerment at the macro level may influence the division of tasks in the households (Yodanis, 2005, Batalova and Cohen, 2002). Differences in country-level gender inequality – in wages, career trajectories, or political power – may influence the effect of individual level factors on the division of housework (Fuwa, 2004, p. 69). Fuwa compares Japan with Scandinavian countries. In Japan where gender inequality in many areas of social life is relatively severe, the resources a wife brings to the home, how many hours she works outside the home, and what she thinks about appropriate gender roles may not matter much in determining the division of housework. In Scandinavian countries, with more egalitarian social conditions, individual women may be able to negotiate the division of housework more effectively according to their individual-level characteristics. In this respect, Blumberg (1984) introduced the concept of “nesting” of micro-level units in a series of macro-level units. According to her women’s economic power, which can be used in negotiation with their partners, is determined by individual power resources and macro-level male domination in political, economic, and ideological areas. Women may possess high income relative to their partners, but their “net economic power” to be used in actual bargaining may be reduced by male dominance at the macro-level. Male dominated ideologies at the macro-level and male control over the political economy may act as “discount factors” against the power of individual women’s resources (Fuwa, 2004, p. 753, Blumberg and Coleman, 1989). Fuwa’s empirical results show that ironically, women who live in a less gender-egalitarian country – who are more likely to be burdened with a traditional division of housework – benefit less from their individual-level

assets in the negotiation over housework (Fuwa, 2004, p. 765). Building on Blumberg (1984) and Fuwa's (2004) analysis of the impact of gender inequality on the division of household labour we investigate the impact of the hours a women works outside the home on the time she spends on unpaid work at home (child care and household work) in the context of the welfare state. Does it increase with less gender inequality in society?

The arguments presented above lead to three hypotheses for this study:

- * Hypothesis 1. Time spent on child care is negatively influenced by time availability in all countries.
- * Hypothesis 2. Patterns of time spent on child care differ between welfare regimes independent of individual characteristics.
- * Hypothesis 3. The impact of time spent on paid work on time spent on child care systematically differs between welfare regimes.

Data and variables

To test these hypotheses time use data are analyzed from several cross-sections of the Multinational Time Use Study (MTUS²), 1971-2003, of the United States, Norway, and the Netherlands. An additional reason to focus on these three countries in particular is that for each of these countries a similar range of survey years is available³. After excluding cases with missing data on key variables, this study uses 2963 cases for the United States, 3649 for Norway and 5403 for the Netherlands.

The dependent variable is time spent on child care. This variable is measured in minutes per day (with a maximum of 1440 minutes a day). It is assumed to depend on time spent on paid work (model A), time spent on household work (model A), employment status (model B), age of the parent, educational level, household income, number of children younger than age 18 in the household, the presence of a (working) partner, rural or urban area, and day of the week.

To capture the interdependence between paid work, household work and child care I use two model specifications. In model A I use time spent on paid work and time spent on household work as explaining variables. These variables are measured in minutes per day. In an alternative specification I use employment status (employed full time (more than 32 hours a week), part time (32 hours a week or less) or nonemployed) to capture this interdependence.

² The Multinational Time Use Study (MTUS) was first developed in the early 1980s at the University of Bath, and adapted and harmonized at the Universities of Essex and Oxford afterwards. The MTUS has grown to encompass over 50 datasets from 19 countries, and is now incorporating recent data from the HETUS, ATUS, and other national level time use projects (<http://www.timeuse.org/mtus/>).

³ Although several South European and former communistic countries are included in MTUS, none of these countries has comparable data ranges/years in MTUS with the ones included for the USA, Norway, and the Netherlands. Because of that these countries were not taken into account in the analysis.

Holding age of the youngest child constant –as we do to some extent by selecting those men and women who have at least one child younger than age five in their household – a parent’s age reflects a later age at last birth (see Zick and Bryant, 1996, p.271). A later age at last birth may reflect greater parental investment in other activities. So, an increase in a parent’s age may be negatively related to time spent on child care.

The educational level of the parent is measured by a dummy variable that indicates whether or not the parent has finished higher education or high school. Higher education presumably leads to a greater understanding of the importance of parenting and a consequent increase in the time spent in child care (see Zick and Bryant, 1996, p.271). Various empirical studies have shown that better-educated parents tend to spend more time on paid work and childcare (see Leibowitz, 1974, Hill and Stafford, 1985). Furthermore, cross-sectional observations from large-scale social surveys about the working hours of better qualified (and hence more highly paid) workers suggests that as qualification levels rise, so do hours of work (Sullivan & Gershuny, 2001). From a theoretical perspective education reflects the relative resources men and women bring to relationships. Brines (1993), Presser (1994) and South & Spitze (1994) have found that men’s educational level is positively associated with their participation in housework. These results are inconsistent with the arguments of the relative resource perspective and are sometimes interpreted as indicating the relationship between education and ideology (Shelton & John, 1996, p. 305). With respect to the relation between education and time spent on unpaid work, Shelton & John (1993), South & Spitze (1994), and Brines (1993) show that women’s educational level is negatively associated with time spent on unpaid work.

With respect to income Sayer et al. (2004) have confirmed that higher income groups devote more time to paid work and child care than lower income groups, especially for mothers. The number of children is taken into account here as it could be considered as a kind of time constraint (see Shelton & John, 1996). Furthermore, the number of children younger than 18 in the household reflects the “demand side of care”. The more children in the household the larger this demand, and the more time parents spend on child care I assume. An alternative assumption is that the amount of household work increases with the number of children in the household and because of that more children result in less child care time. With respect to the effect of the number of children on time spent on housework, Gershuny & Robinson (1988) and Shelton (1992) have shown this effect is larger for women than for men. Women, and to a lesser extent men, tend to spend more time on household work as they have more (especially preschool) children (Presser, 1994, Brines, 1993, South & Spitze, 1994).

Furthermore, the presence of a partner and the workstatus of that partner are assumed to affect time spent on child care. The presence of a partner is taken into account since partners may tend to specialise; women are assumed to spend less time and men to spend more time on paid work. Studies that focus on comparisons of dual-earner and single-earner households find that women in dual-earner households are responsible for the majority of the household labour and that the division is often gender-typed by task although women in dual-earner households typically have less responsibility for such tasks than do women in single-earner households (see Shelton & John, 1996, p. 308). Furthermore, to take into account spatial differences in time use as is demonstrated by Schwanen et al. (2007), we distinguish between rural and urban areas in the analysis. Due to cultural differences in general and ideas on the combination of work and care, task division, and outsourcing of child care in particular, men living in rural areas are assumed to spend less time on child care than men living in urban areas and women living in rural areas are assumed to spend more time on child care. Finally, the day of the week is taken into account to control for week-weekend differences in time structures. Table 1 presents the covariates and matching descriptive statistics.

<<table 1 about here >>

Model

I use tobit and 2SLS models to examine to what extent the relation between time spent on paid work on time spent on child care differs by country. Because of the relatively high number of "zero cases" in the dependent variable I use tobit regression. 2SLS regression instead is more suited to deal with the interdependence between paid work and child care as both variables can be treated as endogenous. However this type of regression has more difficulties with a high number of zero cases.

The tobit model is based on the following latent variable model for time spent on child care (Y): $\hat{Y} = \beta'X + U$, where X is a k -vector of regressors, including 1's for the intercept, and the error term U is $N(0, \sigma^2)$ distributed, conditionally on X . The latent variable Y^* is only observed if $Y^* > 0$. In particular, the actual dependent variable is $Y = \max(0, Y^*)$ (see Bierens, 2004, McDonald & Mofitt, 1980).

The 2SLS model for time spent on child care (Y_1) and time spent on paid work (Y_2) is based on the following system of equations:

$$Y_1 = \alpha'X + \beta'Y_2 + U_1,$$

$$Y_2 = \Gamma X + U_2.$$

where $y_{1,t}$ is the dependent variable: time spent on child care, $Y_{2,t}$ is a vector of the other dependent variable: time spent on paid work, and X is a vector of the exogenous variables, including 1 for the constant term.

Results

Tobit

Tobit estimates of child care time for men and women with at least one child in their household appear in table 2 for the full dataset and in table 3 for each of the selected countries (the United States, Norway, and the Netherlands). I distinguish between model A (in which time spent on paid work and household work are included as independent variables) and model B (in which employment status is included instead).

The general model shows that over the 1971-2003 period Dutch women spend on average between 28 to 43 minutes per day - dependent on the model specification - less on child care than American women. Women in Norway spend on average most time on child care as well as their male counterparts. Men in Norway tend to spend about half an hour more on child care than men in the United States. Contrary to the Dutch women, Dutch men seem to spend more time on child care than the American.

With respect to the development of time spend on child care the estimates show - in line with estimates of Gauthier et al. (2004) - that contrary to the popular idea that nowadays parents devote less time to children than in the past, the time parents spend on their children has increased during last decades - at least for parents with children younger than five in their household. The upward trend is observed for both men and women, in each of the selected countries. The largest increase is found for men in the United States. Over the selected thirty years American men show an increase of more than an hour and a half per day in time spent in child care. The data show the smallest increase for Norwegian men; less than half an hour per day on average. An explanation could be that Norwegian men already spent most time on child care. However, comparison of means time spent on child care shows that in the beginning of the 21st century American men spend on average twenty minutes per day more on child care than Norwegian and Dutch men with young children.

<<table 2 about here>>

Although I have seen similar results earlier (Gauthier et al., 2004, Bianchi, 2000), the results are somehow puzzling; for the Netherlands and Norway the increase in time spent on child care was substantially larger for women than for men while especially the Netherlands is characterised by an substantial increase in labour market participation of

women in general and women with children in particular during last decades. Therefore I would have expected that these "young" mothers have less time to devote to childcare than "older" generations. However, the increase in female labour market participation (which reduces time availability) and the reduction of fertility rates in the selected countries (PM REF) have not led to a decrease in time spent on child care. The "child quality" argument may be an explanation for this; parents spend more of their time in childcare in order to increase their "children's human capital or quality".

That labour market participation hardly affects child care time is shown by the results in tables 2 and 3. Although labour market participation reduces child care time, paid work does not substitute child care time on a one-by-one level. The general model shows that an increase of time spent on paid work of 100 minutes per day leads to a reduction of time spent on child care of 18 minutes for women and 3 minutes for men. On average, full time working mothers spend 36 minutes per day less on child care than non employed mothers and part time working mothers spend 22 minutes less per day. For fathers the differences between the groups do not exceed the 10 minutes per day. Comparing the three countries, the impact of employment status seems smallest for the Netherlands, at least for mothers. While full time employment reduces mothers' child care time with more than 50 minutes per day in the United States –compared to non employment – the reduction is only 21 minutes in the Netherlands. Part time employment reduces mothers' child care time with about a quarter in the Netherlands and with half an hour in the United States and Norway. In the Netherlands, where part time work by men is not exceptional, part time work even increases time with children for men. Although the coefficient is nonsignificant, this might be a result of work-and-care policies in the Netherlands that allow women and men to reduce working hours in order to combine work and family life.

<<table 3 about here>>

In line with the hypothesis as argued by Zick and Bryant (1996), the general model shows a negative relation between the parent's age and the time spent on child care. Focussing on the countries this relation appears to hold for the Netherlands. For Norway the effect of a parent's age is not significant and for the United States the relation has the opposite sign, both for men and women. Probably older parents are more conscious of the importance of parent-child interaction for the child's development. Also, there may be an interaction with education. Higher educated persons are usually older when they start having children. Focussing on the effect of education, the estimations show that a higher education implicates more time spent on child care, both for men and

women. High educated women spend on average about an hour per day (dependent on the model specification and the country) more on child care than low educated women. For men the difference appears somewhat smaller, but is still substantial. So, these results subscribe the hypothesis that a higher educational level leads to a greater understanding of the importance of parenting and as a consequence an increase in the time spent on child care. Comparing the three countries, the results for the Netherlands are somehow different from the other countries. The difference in impact of educational level on child care time between men and women is relatively large in the Netherlands. While a higher educational level leads to a substantial (about an hour) increase in child care time for women, the increase in child care time for men is far less. Furthermore, having a medium educational level compared to having a low educational level increases child care time far less in the Netherlands than in the other countries.

Contrary to Sayer et al. (2004) the results of the general model estimations show that higher income groups devote less time child care than lower income groups, especially for mothers (for fathers the coefficients are not significant). Focusing on the countries included, the effect of income appears again positive for the United States (in line with Sayer et al. (2004), although mostly non significant. For Norway the effects are negative and significant for women; increasing household incomes implicate less child care time. For men the coefficients are non significant. An explanation for the negative income effect for women may be an interaction effect with labour market participation; the probability of female nonemployment may be higher in households with relatively low household incomes than in the other households. The result for the Netherlands are diverse. Women with medium household incomes tend to spend most time on child care and women with high household incomes tend to spend least time on child care, although the differences between the income groups are relatively small; 17 minutes per day at the maximum.

In line with Presser (1994), Brines (1993) and South & Spitze (1994), the results of the general model show that men tend to spend more time on child care when the number of children in their household increases, although the increase is quite small – about 2 minutes per day for each additional child. For women the coefficients are negative but non significant. Focusing on each of the countries, the differences between the United States and the Netherlands are remarkable. While more children lead to more child care time by women and men in the United States, more children lead to more child care time by men in the Netherlands, but to less child care time by women. Apparently the household demands that go along with more children are that large that they reduce child care time for women in the Netherlands. Although Gershuny & Robinson (1988) and Shelton (1992) have shown that the (positive) effect of the number of children on child

care time is larger for women than for men, the results of both the general and the country specific analyses in this paper do not underline these finding. Although women spend more time on child care than men they are less sensitive for the number of children.

With respect to the impact of the presence of a (working) partner, the general analyses show some evidence for the specialization argument; women with a working partner tend to spend more time on child care than women with a nonworking partner. For men the employment status of the partner does not seem relevant. The presence of a partner appears much more relevant than the working status of that partner. Both men and women tend to spend much more time on child care when they live with a partner than when they do not live with a partner. An explanation for this finding is that in one-parent households there is no basis for specialization; the parent has to earn the money, do the housework, and raise the children. There is simple less time available for child care. This "partner" effect might also be a "divorce effect"; persons who are divorced usually see their children less than those who live with their partner and children.

In line with my expectations the estimation results of the general model show that men living in rural areas spend less time on child care than men living in urban areas, probably due to differences in ideas with regard to task division and outsourcing of child care. Remarkably, the results show no significant differences in time spent on child care between women in rural and urban areas. So, although men in rural areas seem more traditional than men in urban areas, women in rural areas may be as emancipated as they are in urban areas with respect to work-and-care balancing.

Two-stage least squares

To deal with the interdependence between paid work and child care time in particular, I also applied two-stage least squares regression. In the 2SLS regression both variables are treated as endogenous. The results are presented in table 4.

<<table 4 about here>>

The results in table 4 show that when both paid work and child care are considered endogenous, the effect of paid work on time spent on child care is even smaller for women, and almost equal for men and women. 100 minutes of paid work lead to a reduction of time spent on child care of about 10 minutes for both men and women.

Discussion and conclusions

This paper aims to add to the literature on the relation between time spent on paid work and time spent on child care by analyzing the relation between time spent on paid work and time spent on child care in the perspective of the welfare state. The analyses indicate that child care time is negatively influenced by paid work in all countries. So, hypothesis 1 "time spent on child care is negatively influenced by time availability in all countries" should be accepted. Furthermore, the analyses show that over the 1971-2003 period women with at least one child younger than age 5 in the Netherlands spend on average about more than half an hour per day less on child care than American women. Women in Norway spend on average most time on child care as well as their male counterparts. With respect to the development of time spend on child care the estimates show that contrary to the idea that nowadays parents devote less time to children than in the past, the time parents spend on their children has increased during last decades. This upward trend is observed for both men and women, in each of the selected countries. The largest increase is found for men in the United States; over the selected thirty years an increase of more than an hour and a half per day. The data show the smallest increase for Norwegian men; less than half an hour per day on average. These findings assent to hypothesis 2 "patterns of time spent on child care differ between welfare regimes independent of individual characteristics" to some extent. More remarkable are the differences in impact of the individual characteristics between the welfare state types. The third hypothesis "the impact of time spent on paid work on time spent on child care systematically differs between welfare regimes" is confirmed to a certain extent by the analyses; although an increase of time spent on paid work with 100 minutes per day implies an equal decrease of time spent on child care of 20 minutes for women in Norway and the United States, this decrease is only 11 minutes for women in the Netherlands. Furthermore, full time employment and especially part time employment leads to a decrease in time spent on child care that is –compared to the United States and Norway- considerably smaller in the Netherlands. Hence, these estimations show in line with Fuwa's (2004) findings that women who live in a less gender-egalitarian country - as the Netherlands- seem to benefit less from their individual-level assets in the negotiation over unpaid work in the household.

Male dominated ideologies at the macro-level and male control over the political economy may act as "discount factors" against the power of individual women's resources (Fuwa, 2004, p. 753, Blumberg and Coleman, 1989). Fuwa's empirical results show that ironically, women who live in a less gender-egalitarian country – who are more likely to be burdened with a traditional division of housework – benefit less from their individual-level assets in the negotiation over housework (Fuwa, 2004, p. 765). Building on

Blumberg (1984) and Fuwa's (2004) analysis of the impact of gender inequality on the division of household labour we investigate the impact of the hours a women works outside the home on the time she spends on unpaid work at home (child care and household work) in the context of the welfare state. Does it increase with less gender inequality in society?

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Table 1 Descriptive statistics dependent and independent variables, women and men with at least one child under age

		Women (N=5142)		Men (N=5100)	
		Mean	St. Dev.	Mean	St. Dev.
Year	Year diary kept	1988.47	9.21	1986.93	9.39
Age	Age	32.55	7.33	33.08	9.16
NChildren < 18	Number of children in household younger than 18	2.10	1.00	2.11	1.01
Educ = low	Dummy variable; 1 = Less than high school, 0 = otherwise	0.35	0.48	0.28	0.45
Educ = medium	Dummy variable; 1 = High school, 0 = otherwise	0.37	0.48	0.35	0.48
Educ = high	Dummy variable; 1 = Higher education, 0 = otherwise	0.25	0.43	0.29	0.45
Income25	Dummy variable; 1 = Total householdincome lowest 25%, 0 = otherwise	0.12	0.32	0.08	0.27
Income50	Dummy variable; 1 = Total householdincome middle 50%, 0 = otherwise	0.46	0.50	0.51	0.50
Income75	Dummy variable; 1 = Total householdincome highest 25%, 0 = otherwise	0.20	0.40	0.25	0.43
Partner work	Dummy variable; 1 = Living with an employed partner; 0 = otherwise	0.77	0.42	0.47	0.50
Partner no work	Dummy variable; 1 = Living with a nonemployed partner; 0 = otherwise	0.05	0.22	0.45	0.50
No partner	Dummy variable; 1 = Not living with a partner; 0 = otherwise	0.17	0.38	0.08	0.27
Rural	Dummy variable; 1 = Living in a rural area; 0 = otherwise	0.15	0.35	0.15	0.36
No weekendday	Dummy variable; 1 = no weekendday; 0 = weekendday	0.84	0.36	0.85	0.36
United States	Dummy variable; 1 = Living in the United States, 0 = otherwise	0.29	0.45	0.26	0.43
Norway	Dummy variable; 1 = Living in Norway, 0 = otherwise	0.28	0.45	0.32	0.47
The Netherlands	Dummy variable; 1 = Living in the Netherlands, 0 = otherwise	0.44	0.50	0.42	0.49
Time spent on paid work	Time spent on paid work in minutes per day	104.16	179.55	354.08	244.85
Time spent on household work	Time spent on household work in minutes per day	235.78	125.69	79.42	88.70
Time spent on child care	Time spent on child care in minutes per day	105.24	102.91	41.73	62.51
Full time (>32 hours/week)	Dummy variable; 1 = Working more than 32 hours per week, 0 = otherwise	0.20	0.40	0.79	0.41
Part time (1-32 hours/week)	Dummy variable; 1 = Working less than 32 hours per week	0.25	0.43	0.03	0.18
Not employed	Dummy variable; 1 = not employed, 0 = otherwise	0.52	0.50	0.12	0.32

Table 2 Tobit regression results for time spent on childcare^a (in minutes per day) for women and men with at least one child under age five in the household in the United States, Norway and the Netherlands, 1971-2003

	Model A: Time spent on paid work and household work included				Model B: Participation rate (full-time, part-time and nonemployed) included				
	Women		Men		Women		Men		
	b	t	b	t	b	t	b	t	
Year		2.08	110.82	1.60	77.06	2.29	111.22	1.84	77.41
Age		-0.55	-4.91	-0.11	-1.55	-1.04	-8.33	0.01	0.08
NChildren younger than 18		-0.81	-0.76	1.93	2.22	-1.27	-1.14	2.32	2.57
Educ = medium ^b		29.60	10.17	17.98	6.70	31.08	10.26	17.88	6.47
Educ = high ^b		51.28	15.29	33.11	11.38	53.83	15.29	34.48	11.43
Income50 ^c		-7.06	-2.59	0.27	0.10	-7.84	-2.78	0.52	0.21
Income75 ^c		-12.50	-3.57	1.03	0.33	-13.32	-3.65	-2.06	-0.63
Partner work ^d		70.80	19.62	107.38	33.49	70.90	19.17	98.45	30.30
Partner no work ^d		59.67	9.80	107.11	33.80	58.48	9.33	96.45	29.87
Rural ^e		-3.77	-1.01	-21.52	-6.24	-5.49	-1.42	-23.34	-6.55
No weekendday ^f		37.48	11.92	9.11	3.75	13.83	4.41	-22.24	-9.20
Norway ^g		15.11	4.62	26.70	9.47	21.65	6.29	26.70	9.22
The Netherlands ^g		-42.78	-12.51	1.53	0.51	-27.69	-7.74	12.66	4.14
Time spent on paid work ^h		-0.18	-23.42	-0.08	-19.35				
Time spent on household work ^h		-0.03	-2.49	0.07	5.20				
Full time (>32 hours/week) ⁱ						-35.60	-9.88	-8.99	-3.61
Part time (1-32 hours/week) ⁱ						-22.34	-4.42	-7.92	-1.11
Constant		-4089.86	-108.82	-3260.02	-76.42	-4490.78	-108.96	-3714.00	-76.34
N-cases		6944		5071		6944		5071	
Standard error of u		97.25	110.81	80.83	77.12	100.13	110.71	83.62	77.03
Log likelihood		-38,189.00		-20,5169,19		-38,372.72		-20,647,65	
AIC		11.00		8.10		11.06		8.15	

^a Refers to the MTUS category: av11.

^b Education is low (less than high school education) as reference category.

^c Household income belongs to the lowest 25 percent as reference category.

^d Not having a partner as reference category.

^e Living in an urban region as reference category. No data available for the Netherlands.

^f Weekendday as reference category. For the Netherlands the data have been averaged over the week, so this variable is not included for that country.

^g United States as reference category.

^h Paid work consists of the MTUS categories: av1, av2, av3, and av5 and household work of the categories: av6, av7, av9, av10, and av12.

ⁱ Nonemployed as reference category.

Source: Author's computation from Multinational Time Use Study data.

Table 3 Tobit regression results for time spent on childcare (in minutes per day) for women and men with at least one child under age five in the household by country, 1971-2003

Part a: United States

	Model A: Time spent on paid work and household work included				Model B: Participation rate (full-time, part-time or nonemployed) included				
	Women		Men		Women		Men		
	b	t	b	t	b	t	b	t	
Year		3.03	52.59	3.40	32.44	2.95	52.44	3.31	32.16
Age		1.11	4.46	2.46	11.44	0.84	3.31	2.36	10.65
NChildren younger than 18		4.88	2.12	4.73	1.91	3.16	1.37	5.41	2.13
Educ = medium ^a		43.25	5.32	28.88	3.14	42.55	5.08	27.57	2.91
Educ = high ^a		58.38	7.03	56.94	6.68	59.99	6.97	59.76	6.84
Income50 ^b		0.94	0.12	14.61	1.85	0.25	0.032	9.74	1.19
Income75 ^b		12.84	1.38	20.46	2.10	12.54	1.31	12.88	1.27
Partner work ^c		63.02	7.70	85.84	10.14	63.00	7.57	76.16	8.82
Partner no work ^c		25.61	1.31	77.70	8.03	25.98	1.29	67.74	6.76
Rural ^d		1.51	0.22	-10.56	-1.18	-0.93	-0.13	-12.72	-1.38
No weekendday ^e		53.43	8.68	28.69	3.81	29.50	4.88	-20.61	-2.81
Time spent on paid work		-0.20	-12.23	-0.13	-10.17				
Time spent on household work		-0.07	-3.29	0.01	0.41				
Full time (>32 hours/week) ^f						-51.16	-7.31	-11.01	-1.49
Part time (1-32 hours/week) ^f						-30.56	-3.40	-29.99	-1.18
constant		-6047.11	-52.07	-6955.74	-32.31	-5884.41	-51.93	-6769.58	-32.01
N-cases		1675		1288		1675		1288	
Standard error of u		122.28	52.60	133.58	32.45	125.64	52.52	139.21	32.18
Log likelihood		-9,109.07		-4,315.15		-9,148.28		-4,343.93	
AIC		10.89		6.78		10.94		6.83	

Part b: Norway

	Model A: Time spent on paid work and household work included				Model B: Participation rate (full-time, part-time and nonemployed) included			
	Women		Men		Women		Men	
	b	t	b	t	b	t	b	t
Year	0.41	47.75	0.39	45.21	1.34	58.14	0.82	45.83
Age	0.44	1.43	0.03	0.27	-0.13	-0.42	-0.17	-1.26
NChildren younger than 18	0.20	0.08	3.15	1.98	1.71	0.67	3.47	2.09
Educ = medium ^a	58.16	8.10	42.77	9.43	61.33	8.03	42.33	8.96
Educ = high ^a	77.35	9.70	47.96	8.67	81.44	9.60	49.20	8.55
Income50 ^b	-28.91	-4.86	4.60	1.11	-37.20	-5.85	1.18	0.27
Income75 ^b	-34.91	-4.58	9.65	1.80	-42.19	-5.18	2.03	0.36
Partner work ^c	52.11	6.19	103.67	18.97	57.89	6.52	87.58	15.64
Partner no work ^c	54.90	4.13	97.24	18.26	62.09	4.43	78.41	14.31
Rural ^d	-2.34	-0.40	-25.02	-5.29	-1.18	-0.19	-29.35	-5.93
No weekendday ^e	25.49	4.49	5.87	1.54	-1.42	-0.25	-29.60	-7.76
Time spent on paid work	-0.20	-15.63	-0.11	-16.48				
Time spent on household work	-0.05	-2.48	0.00	0.21				
Full time (>32 hours/week) ^f					-33.63	-4.94	-1.55	-0.34
Part time (1-32 hours/week) ^f					-29.07	-4.23	-7.40	-0.61
constant	-715.52	-41.53	-829.67	-43.74	-2587.64	-56.08	-1683.15	-44.98
N-cases	1911		1738		1911		1738	
Standard error of u	106.61	59.28	82.17	46.46	112.58	59.42	85.92	46.21
Log likelihood	-11,044.05		-7,391.64		-11,145.80		-7,452.25	
AIC	11.58		8.57		11.68		8.59	

Part c: The Netherlands

	Model A: Time spent on paid work and household work included				Model B: Participation rate (full-time, part-time and nonemployed) included				
	Women		Men		Women		Men		
	b	t	b	t	b	t	b	t	
Year	1.97		78.64	1.02	54.25	1.97	78.42	1.28	53.49
Age	-2.88		-23.39	-1.73	-24.16	-2.64	-21.13	-1.42	-19.54
NChildren younger than 18	-4.24		-3.47	1.84	2.25	-3.68	-2.95	2.23	2.55
Educ = medium ^a	19.47		6.51	9.51	4.00	17.85	5.86	9.34	3.62
Educ = high ^a	52.74		13.08	24.79	9.61	47.86	11.74	24.73	8.47
Income50 ^b	6.36		2.30	1.29	0.62	6.14	2.19	2.45	1.02
Income75 ^b	-6.88		-1.86	-0.73	-0.26	-11.07	-2.93	-1.59	-0.51
Partner work ^c	82.22		20.52	103.93	29.33	90.57	23.17	106.76	28.62
Partner no work ^c	71.07		11.84	104.26	31.59	74.22	12.32	105.08	30.74
Time spent on paid work	-0.11		-8.18	-0.02	-4.28				
Time spent on household work	0.07		5.03	0.23	15.29				
Full time (>32 hours/week) ^f						-21.32	-3.15	-5.70	-2.30
Part time (1-32 hours/week) ^f						-14.42	-4.77	9.39	1.48
constant	-3838.57		-77.28	-2065.43	-53.81	-3820.67	-76.85	-2577.11	-53.54
N-cases	3358			2054		3358		2045	
Standard error of u	70.98		78.46	42.87	54.28	71.85	77.85	46.40	53.54
Log likelihood	-17,548.79			-8,165.34		-17,595.72		-8,297.57	
AIC	10.46			8.00		10.49		8.13	

Table 4 2SLS regression results for time spent on childcare (in minutes per day) for women and men with at least one child under age five in the household, 1971-2003

	Women		Men		
	b	t	b	t	
Year		1.62	12.07	1.22	12.54
Age		-1.03	-6.52	-0.04	-0.35
NChildren younger than 18		1.33	1.11	1.81	2.09
Educ = medium		25.76	8.97	9.94	4.62
Educ = high		46.08	13.43	18.46	7.68
Income50		-7.22	-2.68	2.03	0.95
Income75		-12.81	-3.72	4.37	1.67
Partner work		52.92	14.81	58.17	13.16
Partner no work		45.52	7.86	57.74	12.92
Rural		-7.22	-2.04	-12.80	-5.19
No weekendday		22.33	5.73	15.46	3.85
Time spent on paid work ⁴		-0.09	-5.26	-0.10	-9.94
Norway		15.23	4.60	10.50	4.60
The Netherlands		-33.33	-8.46	-20.43	-6.84
constant		-3146.45	-11.79	-2427.80	-12.53
N-cases		6944		5071	
Standard error of residuals		90.68		58.44	
R-square		0.19		0.18	

⁴ To meet requirements with respect to the maximum number of explaining variables in the equations distinguished, the time spent on household work is excluded from the analyses.