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Feminist Economics
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rfec20

Gender Differences in Time Use over the Life Course in France, Italy, Sweden, and the US

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Available online: 12 Jul 2011

To cite this article: Dominique Anxo, Letizia Mencarini, Ariane Pailhé, Anne Solaz, Maria Letizia Tanturri & Lennart Flood (2011): Gender Differences in Time Use over the Life Course in France, Italy, Sweden, and the US, Feminist Economics, 17:3, 159-195

To link to this article: http://dx.doi.org/10.1080/13545701.2011.582822

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Feminist Economics **17(3)**, July 2011, 159–195

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ABSTRACT

This contribution analyzes how men and women in France, Italy, Sweden, and the United States use their time over the life cycle and the extent to which societal and institutional contexts influence the gender division of labor. In order to test the hypothesis that contextual factors play a crucial role in shaping time allocation, this study considers countries that diverge considerably in terms of welfare state regime, employment and paid working time systems, family policies, and social norms. Using national time-use surveys for the late 1990s and early 2000s and regression techniques, the study not only finds large gender discrepancies in time use in each country at all stages of life but also determines that institutional contexts, in particular the design of family policies and employment regimes, do shape gender roles in different ways, and that Sweden displays the lowest gender gap in time allocation across the life course.

KEYWORDS

Gender division of labor, life course, paid work, time budget surveys, time use, unpaid household work

JEL Codes: J12, J16, J22

INTRODUCTION

In many Western countries, the burden of housework and care remains mainly on women's shoulders, in spite of their increasing participation in the labor market. Arlie Russell Hochschild (1989) used the term ''stalled revolution'' to describe this situation, in which a higher women's employment rate is not followed by men's increasing responsibility for domestic chores and care. Although this situation is practically universal in the developed West, the extent of gender differences in the division of labor varies across countries according to the welfare regime, family and employment policies, the tax and benefit system, and social norms.

Feminist Economics ISSN 1354-5701 print/ISSN 1466-4372 online © 2011 IAFFE
http://www.tandf.co.uk/journals
DOI: 10.1080/13545701.2011.582822

The aim of this contribution is to analyze how men and women in Italy, France, Sweden, and the United States use their time over the life cycle and the extent to which the differing societal and institutional contexts influence the gender division of labor. In particular, we focus on gender differences in the allocation of time between market work, domestic work, and leisure, simulating various stages across the life course. We selected these countries to represent different institutional contexts that diverge considerably in terms of welfare state regime, employment and paid working time systems, family policy, and social norms that play an important role in the time management of men and women during their lives.

Gender disparities in paid work vary remarkably along the life course. Several cross-country comparative studies have shown that men and women's employment profiles over the life course exhibit pronounced national differences (Patricia Apps and Ray Rees 2005; Dominique Anxo, Christine Erhel, and Joop Schippers 2007; Dominique Anxo, Colette Fagan, Inmaculada Cebrian, and Gloria Moreno 2007a).[1] Strong differences in time use across countries are also related to the timing of key events over the life cycle. For example, the timing of leaving the parental home, which occurs later in Southern European countries, affects not only union formation and childrearing by young adults but also the living arrangements of parents as they age. In Northern European countries, relatively young parents are more often left behind in the so-called empty nest than in Southern ones.

Longer residence in the parental home often delays one of the most important transitions in the life course: the entry into parenthood. The experience of parenthood often implies a crystallization of gender roles, with an increase in the time women devote to housework and childcare as well as a decrease in leisure time, as Shelly Lundberg and Elaina Rose (1999) show using longitudinal data from the American Panel Study of Income Dynamics. Employed mothers' active presence both at home and in the labor market produces the so-called double burden. As is well known, combining paid employment and parenthood is more difficult for mothers than for fathers, and often the strategies adopted are completely different. Men typically increase the time they devote to paid work, while women decrease their paid working time or even exit the labor market (Hans-Peter Blossfeld and Sonja Drobnic 2001; Anxo et al 2007a).[2] Indeed, having children can seriously jeopardize women's job opportunities and careers. There is much evidence from the US (Jacob Mincer and Solomon Polachek [1974] on the 1967 National Longitudinal Survey of Work; Kathryn Shaw [1994] using the Panel Study of Income Dynamics data from 1967 to 1987; Diane J. Macunovich [1996] reviewing different US results; Jacob Alex Klerman and Arleen Leibowitz [1999] using the National Longitudinal Survey of Youth and the Current Population Survey) and also in Europe (Siv Gustafsson [2001] on several European countries; Cécile

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Wetzels [2001] compared Germany, Great Britain, Sweden, and the Netherlands; Heather Joshi [2002] on British data). This situation can in itself drive some women to reduce the number of children they have or even induce them to forego parenthood altogether (Beverly J. Matthews 1999; Anna Scisci and Marta Vinci 2002). It is not difficult to observe that the Western countries with very low fertility rates are those with a gender regime less equal than in countries where fertility rates are relatively higher, with a strong divide between Southern and Northern Europe (Peter McDonald 2000).

The gender gap in time allocation may be dependent upon the institutional and societal context; in particular, on the characteristics of parental leave systems, the availability and cost of childcare services, the provision of care when older people become partially or fully dependent, and, more globally, on employment regimes and the design of tax and family policies (Jane Lewis 1992; Diane Sainsbury 1998, 1999). For instance, policies aimed at reducing the costs of balancing paid work and family commitments can narrow gender differences in time use. Tax and benefit systems can also reinforce gender differences in time use and discourage female labor force participation.

Likewise, prevalent social norms may affect gender differences across countries. For instance, in environments where the traditional male-breadwinner model is still predominant, women and men, according to the hypothesis of ''incompatibility of roles,'' may perceive the problem of balancing paid work and family differently (Evelyn Lehrer and Marc Nerlove 1986; Jonathan Gershuny 2000; Rosemary Crompton, Michaela Brockmann, and Clare Lyonette 2005; Rosemary Crompton and Clare Lyonette 2005). According to these prevalent social norms, work activity can be seen for men as an instrument to exercise their role as *providers* and for women as a means to fulfill their role as family *caregivers*. Thus, for women, time spent in paid work outside the family can conflict with unpaid time spent in the home for the family.

This study – with respect to previous ones within the life-course perspective – uniquely considers all the components of daily time use, while most previous studies focus on only one component: paid work (see for example Anxo et al. [2007a]). To the best of our knowledge, Apps and Rees (2005) – which includes three other countries: Germany, the United Kingdom, and Australia – is the only comparative study to use time-budget data to analyze the gender division of labor in a life-course perspective. Among the countries Apps and Rees analyze, two belong to the same welfare state regime, according to Gösta Esping-Andersen's classification system (1999), discussed below. Our approach extends this analysis to countries that belong to four distinct welfare state regimes.

In our study, we distinguish nine key life-cycle stages according to age and household structure, reflecting major life events and life phases for a large

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majority of individuals, such as the transition out of the parental home, union formation, parenthood,[3] and transitions to retirement and old age. This approach makes it possible to identify and map the cross-country variations in the gender time allocation across the life cycle in the late 1990s and early 2000s and to relate these variations to the prevalent welfare state regime, employment system, and social norms.

DIFFERENT INSTITUTIONAL CONTEXTS

The four countries selected have different welfare state regimes, labor market regulations, and family and employment reconciliation policies.[4]

France occupies an often contradictory position in the classification of Western welfare systems, partly because of the variegated nature of its family policy. As stressed by John C. Caldwell and Thomas Schindlmayr, ''France remains a problem for the model builders'' (2003: 255). Under the Esping-Andersen (1999) classification, France is a conservative welfare state, characterized by policies geared toward preserving existing statuses and traditional family forms, where the provision of welfare is still mainly a family responsibility. In contrast, feminist researchers, focusing on the impact of social policies on female employment, classify France and Sweden in the same category, as countries where social policies help women remain in the labor force (Janet C. Gornick, Marcia K. Meyers, and Katherin E. Ross 1997; Gerda Neyer 2003). The employment rate of French adult women started to rise in the mid-1950s, but there is still a pronounced ''cohort effect'' whereby younger generations of mothers have more continuous employment profiles across their paid working lives than their predecessors. This life-course employment pattern for French mothers is supported by the high coverage rate and lower cost of public childcare, but, in contrast to Sweden, provisions are less extensive, in particular for preschool age children. However, unemployment has been high in France since the 1980s, and unemployment rates for women consistently exceed those of men (even among the younger cohorts). Thus, while the gender gap in employment rates continues to decline, it remains more difficult for women to establish and pursue a continuous employment profile over the life course; motherhood is still associated with withdrawal from the labor market for some groups of women, especially low-skilled women (Ariane Pailhé and Anne Solaz 2006; Anxo et al. 2007a). The French leave policy is quite generous: the maternity leave regulation is 16 weeks for a first- or second-born child and 26 weeks for higher birth order; parental leave allows one of the parents to devote themselves entirely to bringing up the newborn child until its third birthday. There is also an allowance for parents who partially or totally stop working in the market to look after their children, but it is conditional to past employment and very low – half of the minimum wage; so less-educated women, who have insecure jobs,

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poor employment conditions, or unfavorable employment schedules are more likely to leave the labor force after the birth of a child. Only 2 percent of fathers use parental leave. In order to favor more gender equality within the family, a statutory paternal childcare leave was created in 2002. This measure is rather timid (its maximum duration is 11 days), but it has been a success: right from the beginning, 60 percent of all fathers took this leave.

Italy shares common elements with the conservative welfare states but with a stronger family bias, with limited public support, and a greater reliance on family relations to provide social support. A high level of rigidity characterizes the Italian labor market, with strong protection for those in permanent employment and very little protection for those in temporary employment. These rules severely restrict opportunities for labor market entrants, a feature that has been claimed as the main reason for the high unemployment rates among women and young people (Daniela Del Boca, Rolf Aaberge, Ugo Colombino, John Ermisch, Marco Francesconi, Silvia Pasqua, and Steinar Strøm 2005).

Young people leave the parental home late (with a median age at first leaving of almost 30 for Italian men and 27 for Italian women, and more than 70 percent of men and more than 53 percent of women still living in their parental home in the 25–29 age group),[5] owing to both cultural factors and structural constraints, such as high unemployment, low entry salaries, lack of state support, and barriers to entering the housing market (Marzio Barbagli, Maria Castiglioni, and Gianpiero Dalla Zuanna 2003). Women play a crucial role as caregivers for both young and old members of the household, barely supported by their partners or public services. The employment rate among mothers with children under three is only 54 percent, one of the lowest in Europe (see Table 1). Due to paid working time rigidity, married women are often forced to choose between not working or working full time in the market (Daniela Del Boca et al. 2005). In fact, flexible paid working hours and part-time paid work are rare: less than 30 percent of mothers with children under 6 work part time in the market (see Table 1).

Balancing childrearing and market work is also made more difficult by the limited supply of public childcare for children younger than 3, both in terms of availability (29 percent of children attend formal childcare)[6] and of the number of hours supplied on a day-to-day basis (see Table 2). Conversely, maternity-leave duration (21 weeks) is quite long compared with that of the other countries and paid at 80 percent of previous earnings, but it is not compulsory for self-employed workers. As gender roles are still shaped in a traditional way, paternity leave has never been enacted; but since 2000, both fathers and mothers can take parental leave for a total period of 36 weeks at only 30 percent of previous earnings (Law of 8 March 2000 [Gazzetta Ufficiale 2000]). A further month is given if the father takes

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Table 1 Employment indicators (average 1999–2004)

		France	*Italy*	*Sweden*	*US*
Male employment rate	Age 25–54	87.3	85.6	85.5	87.5
Female employment rate	Age 25–54	71.2	53.3	81.6	73.0
Male employment rate	Age 55–64	40.9	41.5	69.6	65.9
Female employment rate	Age 55–64	32.3	17.0	64.7	52.4
Employment rate[a]	Women with child <3	66.2	54.4	72.9	56.6
Part-time employment rate[a]	Women with child <6	23.0	29.0	41.0	29.0
Men's average effective age of exit from the labor force		58.7	60.4	63.8	64.6
Women's average effective age of exit from the labor force		58.8	59.8	62.1	63.3
Official age of retirement[b]		60[c]	57[d]	65	65.8

Notes: [a]Data available for 2005 only. [b]The official age corresponds to the age at which a pension can be received irrespective of whether an employee has a long insurance record of years of contributions. [c]Individuals can retire at age 60 with 40 years of contributions. [d]Individuals can retire at age 57 (56 for manual workers) with 35 years of contributions.

Sources: OECD, Employment database (as of 2010), estimates derived from the European and national labor force surveys.

Table 2 Family policy indicators

	France	*Italy*	*Sweden*	*US*
Spending as a percentage of GDP, average 1999–2005				
Childcare	0.37	0.15	0.70	0.09
Pre-primary education	0.74	0.52	0.40	0.37
Public expenditure on preschool per child (US$, PPP converted), 2005[a]				
Childcare support	2,858	1,558	6,409	794
Pre-primary education	4,679	4,626	3,627	4,660
Enrollment rates of children in formal care or early education services (percent), 2006 (1)				
0–2 years[b]	43	29	44	31
3–5 years	100	99	86	58

Notes: [a]Data covering the period of our study are not available. The most recent figures are published. However, those figures are very stable under the period of study. [b]Data for children ages 0–2 years are for 2005 in the US.

Source: OECD Family database (as of 2009).

at least 3 months of paternal leave. In 2004, the take-up rate of eligible mothers was 75 percent and 7 percent for eligible fathers (Dominique Anxo, Colette Fagan, Marie-Thérèse Letablier, Corinne Peraudin, and Marc Smith 2007b).

Often presented as the ideal type of the so-called Nordic social democratic regime, the Swedish welfare state emphasizes the principle

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of egalitarianism, decommodification, and individualization (Esping-Anderson 1999).[7] The Swedish model is based on a strong political commitment to the goal of full employment and to egalitarian ideals (Dominique Anxo and Harald Niklasson 2006). Swedish society has a high incidence of dual-earner households, egalitarian wage structures, an extensive and generous family policy, and strong welfare support systems for both childcare and parental leave (see Tables 1 and 2).[8] Individualized taxation systems in a context of high average and marginal tax rates reinforce the dual breadwinner model. As far as paid working time is concerned, some gender differences persist, with a relatively high share of women working in the public sector and working part time. But in contrast to other European countries with high part-time employment rates, like the UK or the Netherlands, many women in Sweden engage in paid work for more than 24 hours per week. In Sweden, part-time paid work among women began in the early 1970s. The percentage of Swedish women working part time in the market has declined since then: in 1981, 47 percent of Swedish women worked part time in the labor market, compared with 33 percent in 2005 (Statistics Sweden 2011). This decline demonstrates that part-time paid work in Sweden must be considered more as a historical transition from married women's low participation in the labor market than a strategy largely initiated by labor market and political institutions to strengthen women's labor market commitments.

The Swedish parental leave program has obviously sustained the increased participation of women in the labor force. The length of parental leave is 16 months, with full job security on return. The parental leave system is therefore associated with a full employment guarantee, and the employment contract is not suspended during the absence. The level of compensation is 80 percent of gross earnings for the first 390 days. For the remaining 90 days, parents receive a flat rate. Parental leave offers considerable scope for flexibility in that part of the leave can, for example, be taken over a longer period by working a shorter week with wage compensation. Parents may use their right to parental leave from the child's birth or adoption until age 8. In order to favor a more equal gender distribution of absence, there are two earmarked nontransferable months for each parent.

The parental leave system allows for income-compensated temporary reduction of paid working time, thereby reinforcing women's status as valuable breadwinners even when they are temporarily not participating on a full-time basis in the labor market. The overall political context characterized by gender mainstreaming and high female involvement in the political process and in institutions (government bodies, parliament, and labor market organizations) creates a favorable institutional setup conducive to a more balanced gender division of labor and responsibilities over the life course.

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The US is often classified as the archetype of the so-called liberal or residual welfare state regime. This regime is characterized by a low degree of social protection with an emphasis on poverty alleviation mainly based on means-tested benefits, as well as limited involvement of the state in the provision of services. The minimal safety net against poverty also favors the existence of a low-wage, low-skill labor market. The US has a strong institutionalized paid working culture, and the market and the family play a dominant role in providing welfare. The low level of public social protection is offset by market-based means of risk diversification through private insurance. The US does not, however, have a unified welfare system. The federal government has had a limited role in social welfare provision; many important functions are administered at state level, including public assistance, social care, and various health schemes.

The high flexibility of the US labor market, in particular low employment protection and external flexibility,[9] diminishes long-term unemployment risks and creates greater opportunities for the young to enter the labor market (Thomas A. DiPrete 2002). In contrast to Sweden and France, US family policy is weak and policies favoring a work–life balance are limited (only 0.35 percent of GDP is devoted to either childcare or pre-primary education, around one-third of the amount devoted in France and Sweden). Family policy predominantly favors the provision of private services through tax deductions for childcare (Ann Shola Orloff 2009). The enrollment rate of children aged 0–2 in formal childcare is about one-third, which is above the Italian level.[10] A national parental leave entitlement was introduced in 1993, but it is unpaid and the take-up rate among mothers is only 36 percent (Wen-Jui Han and Jane Waldfogel 2003). The Family Medical Leave Act (FMLA) provides some unpaid leave for childbirth. The duration is limited to 12 weeks within a 12-month period for employees who work for at least 1 year for a private employer with more than fifty employees. Because of the qualifying restrictions (only 58 percent of employees in private firms are eligible for the unpaid leave FMLA provides) and the lack of paid leave, the utilization of the leave is very low. However, some special legislation exists at the state level, such as paid family leave.

The US ranks fifteenth in the Gender Empowerment Measure (GEM) index according to indicators such as the number of seats held by women in parliament, and the estimated ratio of female to male earned income (Sweden ranks second, France eighteenth, and Italy twenty-first; see United Nations 2009). The US average female–male earnings ratio has shown considerable progress since the 1970s, and the wage gap is close to the level of Nordic countries (Nabanita Datta Gupta, Ronald L. Oaxaca, and Nina Smith 2001).

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TIME-USE SURVEYS

Time-use surveys represent a unique and precious source of information on daily activities. They use the time diary technique, where individuals report their time use during the previous 24 hours, providing extremely detailed information on the activities performed during that day. The diary days are randomly distributed across days of the week for both men and women. The diary data are based on a grid of 10-minute intervals of time with a description of the main activity carried out by the respondent, the second (or concurrent) activity, their location, and the presence of other people. Besides the diary, all the data sets contain rich information on the background and socioeconomic status of individuals and households.

The French data are a representative sample of the French population, and the National Institute of Statistics and Economic Studies (INSEE 2000) conducted the survey from February 1998 to February 1999. The sample includes over 12,000 individuals, ages 18–80 years. In Italy, the National Institute of Statistics (ISTAT 2005a) carried out the time-use survey in 2002–3 on a sample of over 55,000 individuals (more than 41,000 ages 18–80). The daily diary includes information for all members of the household age 3 or over.

Statistics Sweden (2002) conducted the Swedish time-use survey between October 2000 and October 2001 on a sample of more than 7,000 individuals. Compared to the other data sets, three main exceptions are worth noting: the survey draws a sample of individuals from a national register and includes only a subsample of spouses; time-use information is gathered for a weekday and a weekend day; and only people age 20 and over were asked to complete the questionnaire.

The Bureau of Labor Statistics (BLS 2006a) conducted the US time-use survey in 2003 and 2004. Additional variables from the Current Population Survey (BLS 2006b) are available. Only one person age 15–80 was interviewed in each household, with a sample of more than 33,000 individuals age 18–80. Contrary to the other countries studied here, the interviews were conducted by phone.

In the present study, we concentrate on three groups of activities:

1) *Time devoted to market work*. This includes all activities related to paid work: time spent in primary and secondary jobs, as well as in other paid work activities in a broader sense such as rest periods, coffee and lunch breaks, or transport during labor market activities. However, we do not include commuting, which cannot be considered as paid working time in a proper sense.[11]
2) *Time devoted to unpaid work*, including the full range of domestic chores and care activities. The domestic tasks include: cooking,

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dishwashing, laundry, cleanup and maintenance within the house; cleanup, repair, and other maintenance outside the house, including yard work, shopping, and bookkeeping; and household management. Care encompasses childcare, care of other household members, and pet care.[12]

3) *Leisure time*. This includes socializing, relaxing, sports and exercise, walks, cultural activities, religious and spiritual activities, volunteer activities, conversations, and meals outside the house. Leisure time is not the complement of paid and unpaid work, since physiological needs (sleeping, personal care, etc.) are not included.[13]

METHODOLOGICAL APPROACH AND SAMPLE CHARACTERISTICS

To map the time allocation profile of men and women at different points in the life course we restrict the sample populations to adults age 18–80,[14] and use a variant of the *family cycle approach* developed by Paul C. Glick in the late 1940s (Glick 1947). Our methodological choice consisted of selecting a range of household categories coinciding with widely experienced transitions and phases in the life course. These typologies can be depicted as results of some steps in an individual biography: the transition out of the parental home (by a young single previously living in the parental home) and the constitution of an independent household (by young singles without children), union formation (cohabiting couples without children), parenthood (differentiating couples according to the mean age of children),[15] midlife empty nest period (middle-aged couples without cohabiting children), and lastly the older phase and exit from the labor market (couples and singles above 59 years old). See Box 1 for the details of the nine typologies of household life phases that we focus on in our analysis.

Box 1 Stylized household life-course typologies

Single and childless young people

1. Single persons (under 36 years), without children, living with their parents
2. Single persons (under 36 years), without children, living on their own

Childless couples

3. Younger couples (woman under age 46), without children

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Couple households with resident children
The mean age of the children is used to indicate the nature of parental responsibilities across the life course, from the intense nature of preschool childcare through to the different needs and demands of children as they grow up and become more independent.

4. Couple with youngest children (mean age of children, under 6 years)
5. Couple with young children (mean age of children, 6–15 years)
6. Couple with teenage children (mean age of children, 16–25 years)

Older couples or singles without children living at home

7. Midlife ''empty nest'' couples without resident children, (woman age 45–59)
8. Older retired couples without resident children (both spouses age 60 years or older)
9. Older retired singles without resident children age 60 years or older

Notes: Due to data limitation, the age interval for children in Sweden departs from that of the other countries. For couples with resident children, the age intervals for Sweden are: <5, 5–12, and 13–18 years.

Although our approach is not longitudinal and is based on cross-sectional time-use surveys, it can serve as a heuristic device to identify cross-country differences in the patterns of labor market integration and gender division of unpaid work and leisure over the life course, and to assess the influence of the societal context on the prevailing gender division of labor. However, one needs to be cautious with the interpretation of the results and bear in mind the usual drawbacks associated with cross-section analysis, in particular the difficulties of disentangling age, cohort, and period effects. In other words, some differences in time use across our household typologies can be ascribed to selection processes. In spite of a positive correlation at the country level between lowest fertility rates and low employment rates, the microrelation may appear differently: at the micro level, more labor market-oriented women and men can be less likely to have children, causing different effects according to different institutional contexts. In fact, the selection effect should play a minor role where it is easier to reconcile paid work and family commitments.

Furthermore, the family cycle suffers from some limitations that should be stressed. This approach implies a ''natural sequence'' of predetermined stages from marriage/cohabitation to widowhood, yet this sequencing of

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Table 3 Country samples by household types in the life cycle (weighted proportion)

Individual 18–80 years old	*France*	*Italy*	*Sweden*[a]	*US*
Single <36 with parents	9.0	16.8	1.7	8.8
Single <36 on their own	4.3	2.2	9.4	5.4
Couple <46 no children	6.9	4.7	9.3	8.3
Couple children 0–5	7.6	8.1	15.2	9.5
Couple children 6–15	15.8	12.2	8.9	14.3
Couple children 16–25	11.1	13.1	5.2	7.7
Empty nest 45–59	7.4	3.7	15.5	9.2
Couple 60+	13.8	12.0	15.1	11.9
Single 60+	6.1	6.9	7.8	7.2
Total excluded	18.2	20.3	11.7	17.8
Single-parent families	5.8	5.3	4.4	5.9
Single 36–59	4.6	3.8	7.3	8.1
Other excluded	7.8	11.2	–	3.9
Sample size	12,442	41,440	7,272	33,077

Notes: [a]The data from Sweden are for people from 20 to 80 years old. Due to data limitation, the age interval for children in Sweden departs from that of the other countries. For couples with resident children, the age intervals for Sweden are: <5 , 5–12, and 13–18 years.

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life stages is becoming more diversified in contemporary societies. We make no assumptions about sequencing or duration on the different life stage situations we have selected for analysis; rather, in our typology we have sought to include some of the most prevalent transitions and life phases for comparative analysis. This typology does not include all the possible household categories and it leaves out important and growing categories such as lone parents, same-sex couples, and prime age and midlife singles. However, our typology covers between 80 (Italy) and 88 percent (Sweden) of all household categories found in each society at a given point in time (see Table 3).

We are therefore aware that the life-cycle stages we consider are not (and cannot be) exhaustive, and they do not necessarily occur in the expected order. As the individual life trajectories become more and more heterogeneous, the predictive value of average time-use profiles weakens. Moreover, families with children are not differentiated according to the number of children but only with respect to the children's mean age. Nevertheless, the description of these simple time-use profiles can be a very useful basis for comparative studies, both across time and across countries.

In a comparative perspective it is also interesting to assess whether being in a specific life-cycle stage has the same effect on time use for men and women, all other things being equal. We therefore estimate three different equations with, as dependent variables, time in paid work, time in unpaid work, and time in leisure. The variables of interest are our household typologies, and control variables include educational attainment, income or economic situation, regional and urban areas, characteristics of the home

(ownership, number of rooms, and presence of a yard), access to domestic services (housekeepers, baby sitter, or a caregiver for older people), other specific characteristics by country (such as ethnicity for the US or citizenship for France), and the day of the week of the interview.

We use a generalized Tobit for market work in order to correct for potential selection bias and to discriminate between the impact of covariates on participation in market work that day and paid working hours given participation (see James Heckman 1978).[16] For housework, we use a standard Tobit to take account of the fact that some individuals do not report housework. Since in both the generalized and standard Tobit the estimated coefficients have no natural interpretation, we report marginal effects evaluated at sample means. For leisure, we use a usual ordinary least squares (OLS) since all individuals in our four samples report that they spent time on leisure.

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EMPLOYMENT PROFILES ACROSS THE LIFE CYCLE

First, we examine the pattern of employment over the life cycle. We adopt a relatively broad definition of employment, since we count both people currently working in the labor market and those temporarily absent from paid work as employed.[17] For men, employment profiles over the life cycle are quite similar across countries (see Figure 1) and follow an inverse U-curve. Men progressively enter employment in their youth and reach a very high employment level when they are fathers. Young men living with their parents have a lower employment rate compared with those living on their own, reflecting the transition from the educational system to the labor market. Leaving the parental home often coincides with entry into the labor market and financial independence. This effect is particularly strong in France and Sweden and lower in Italy and the US since, respectively, 60 and 70 percent of men living with their parents are already working in the labor market. Fathers spend more time in market work than childless cohabitating or married men especially in France but also in Sweden and the US. Family responsibilities may exert a push effect to find a job, and/or couples may wait until the man has a job before having a child. This is not the case in Italy, where the highest male employment rate is already reached when they form a childless couple. This effect could also be ascribed to an age effect since, as mentioned previously, the transition out of the parental home in Italy occurs later than in the other countries. Middle-aged and older men withdraw earlier from the labor market in Italy due to early retirement schemes. Note also that the employment rate of older men is comparatively higher in Sweden and the US, while extremely low in France. Despite quite comparable minimum legal retirement ages (60 in France, 61 in Sweden, 62 in the US at the time of this study), the conditions for entitlement to a full retirement pension and the nature of both employment policies and human

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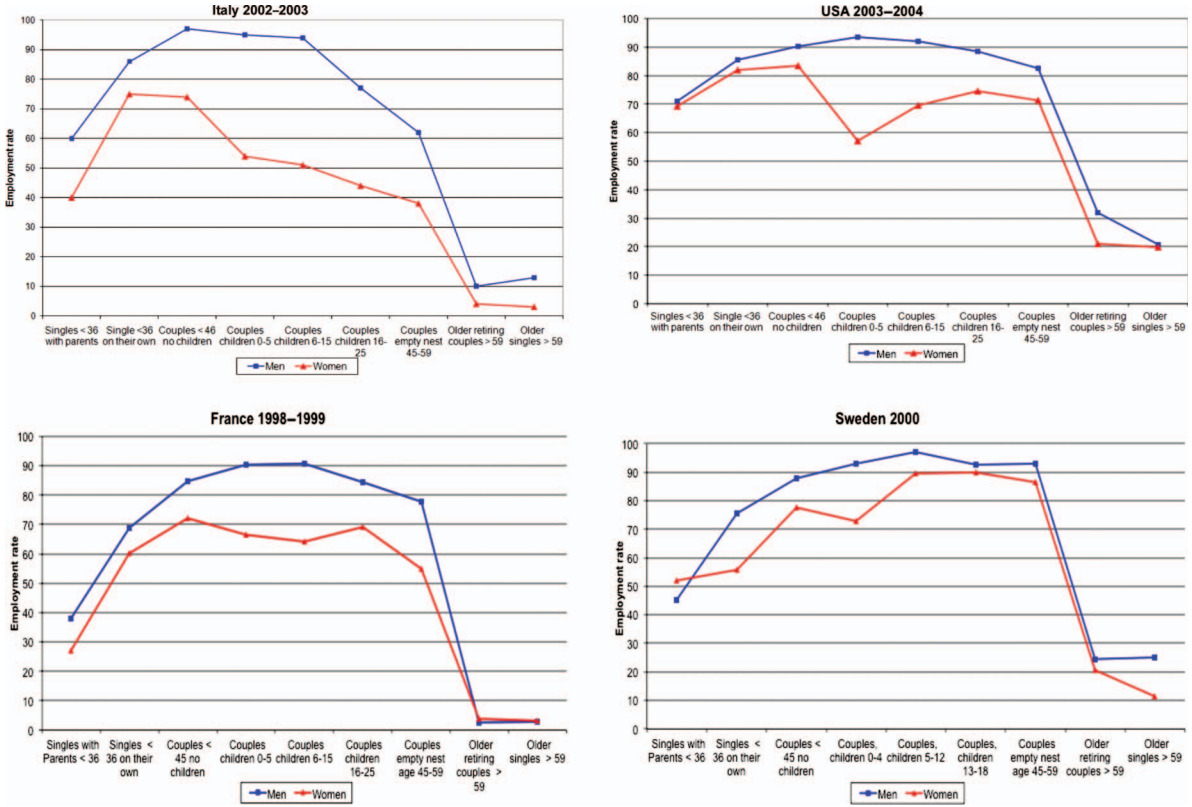

Figure 1 Profile of employment rates over the life course
Source: Own calculations, based on national time-use surveys.

resources strategies differ and explain the main disparities in the mean age of withdrawal from the labor market across countries (see Table 1 for statistics on the mean age of men's withdrawal from the labor market). Furthermore, the French low senior employment rate may be explained by a relatively low retirement age, extensive use of early retirement schemes,[18] a high rate of senior unemployment, and the existence of specific retirement regimes (with earlier retirement age) in certain sectors. Indeed, encouraging older people to leave the labor market was common practice in the 1980s and 1990s in France as a tool to reduce unemployment. On the contrary, Sweden has set up a very active employment policy targeted at older employees. Also in the US, laws against age discrimination, introduced in the early 1960s, have helped to maintain senior employment rates (David Neumark and Wendy A. Stock 1999).

Not surprisingly, female employment patterns across the life cycle differ from their male counterparts in all countries, with some notable discrepancies across countries.[19] In France and Sweden, union formation is associated with an increasing employment rate (see Figure 1), while in Italy the employment rate of women living in a couple without children is slightly lower than for their childless single counterparts. This suggests that union formation in Italy is still associated with a decline in women's employment levels. Interestingly, the arrival of children has a negative impact on female employment rates in all countries. The decrease is particularly pronounced in the US (the employment rate falls from 82 to 58 percent) and Italy (from 74 to 54 percent). The gender employment gap is particularly high in those two countries at this stage of the life course, amounting to around 40 percentage points compared to around 20 percentage points in France and Sweden. While in the US, France, and Sweden, the female employment rate increases again when children become older, in Italy it continues to decline with the age of children. However, rather than a life-course change it may be ascribed to a cohort effect, with older cohorts having a lower attachment to the labor market.

If we look at the volume of hours spent on market work per week given employment (based on the time-use surveys; see Figure 2), the decrease in paid working hours for employed women with preschool children is larger, due to the increasing proportion of women working part time in the labor market taking maternity leave when they have young children. The reduction in paid working time is more concentrated around the children's early years, particularly in France, Italy, and Sweden. In Italy, there is a real specialization between men and women with an increase in men's paid working hours that is not perceptible in the other countries, where the volume of hours spent on the labor market seems to be independent of the family situation.

Even though the identified patterns of labor market integration over the life course reveal some interesting features, the observed cross-country

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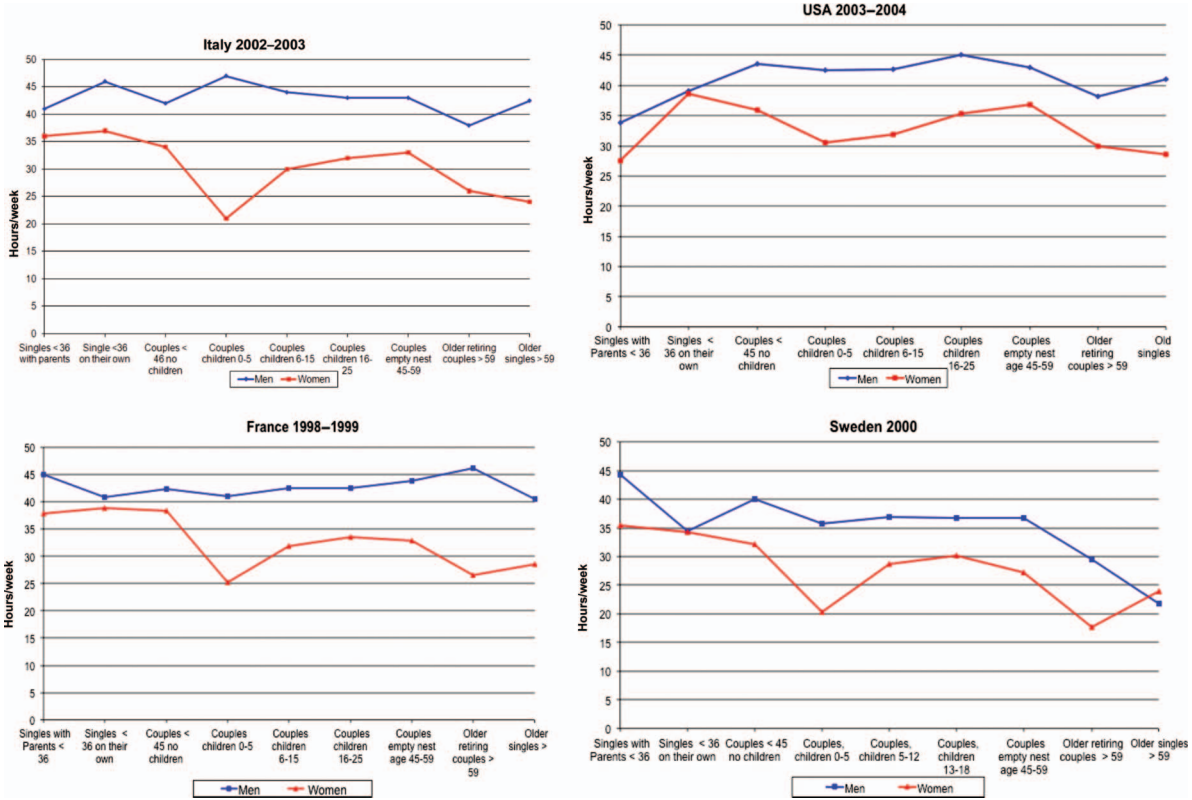

Figure 2 Time spent on market work, employed, hours per week
Source: Own calculations, based on national time-use surveys.

discrepancies may conceal important structural differences in household socioeconomic characteristics. In order to control for these structural differences, we estimate a set of labor supply equations by gender and countries using a generalized Tobit model to take account of potential selection bias.

The results of the pure effects of family types on the estimations are consistent with the employment and working time profiles described above. We choose to include in our models some crucial control variables available in each country: educational attainment that is a determinant of the cost of time, especially for women; the day of week and the town size, which reflect the social rhythms of the country that may differ according to employment regulation (legislation regarding Sunday work, for instance); and some country-specific covariates such as indicators of income (predicted wage or wage dispersion indicators) and wealth in each country (nonlabor income, paid domestic services and/or home property according to the availability in each survey), and some indicators of ethnic origin (citizenship in France, ethnicity in the US) as well as geographical indicators such as region of residence in Italy and the US, which are particularly relevant in noncentralized states.

After controlling for these covariates, the nine household categories of our typology (our variables of interest) remain still statistically significant at the 10 percent level or lower.[20] In the following discussion, we discriminate between the impact of our life stage categories on employment rates (see the second part of Table 4) and paid working time given participation in market work (see the third part of Table 4).

The effect of children on men's employment rates differs across countries. We observe no impact of young children for French fathers but a positive impact on labor supply in Italy and the US and a negative impact in Sweden. On the other hand, we find no impact of young children on fathers' paid working time, given participation in market work.

As their children grow older, the employment rate of American fathers continues to increase (without impact on paid working time, given participation), but the effect on Italian or Swedish fathers' labor supply vanishes. US fathers of children age 16–25 have a higher labor supply, both in terms of participation and paid working time, given participation. By contrast, French fathers reduce both their participation and their paid working hours when children are teenagers or young adults. We find a negative effect on participation for the empty nest category in Italy and France, and the earlier retirement and pre-retirement schemes in France could explain this decline. In addition, unemployment also affects older individuals in France whereas in Sweden and the US, antidiscrimination laws and employment policies protect these categories. Men in an empty nest also spend less time on market work given participation in paid work in France and Italy. Part-time, early retirement programs could explain this

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Table 4 Generalized Tobit regression on market work weekly hours (marginal effects evaluated at sample mean) by country and gender

	Men								*Women*							
	France		*Italy*		*Sweden*		*US*		*France*		*Italy*		*Sweden*		*US*	
Household life-course typologies (reference: couple < 46 no children)	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD
Total marginal effect																
Single <36 with parents	-4.75**	1.859	-9.37***	0.867	-10.82***	2.637	-6.77***	1.024	-1.73	1.012	-2.55***	0.378	3.61	3.548	-3.38***	0.786
Single <36 on their own	1.09	2.498	-1.37	1.477	-7.21***	1.829	1.32	1.203	-1.16	1.288	1.42	0.904	-1.08	1.787	3.87***	1.091
Couple children 0–5	-1.85	2.022	2.94**	1.247	-4.16**	1.864	4.99***	0.952	-4.68***	0.711	-3.74***	0.299	-6.21***	1.136	-6.49***	0.454
Couple children 6–15	-4.40**	1.823	0.78	1.091	-0.92	2.201	5.12***	0.842	-2.62***	0.857	-2.21***	0.381	0.28	1.517	3.25***	0.463
Couple children 16–25	-7.15***	1.853	-4.18***	0.982	-2.70	2.405	4.70***	1.264	-2.85***	0.894	-2.35***	0.383	0.56	1.827	-0.64	0.783
Empty nest 46–59	-8.70***	1.797	-7.95***	1.025	-2.03	1.957	0.48	1.019	-3.99***	0.794	-3.25***	0.351	-0.57	1.365	-1.75***	0.604
Couple 60+	-26.50***	0.950	-21.53***	0.405	-18.79***	1.029	-17.57***	0.579	-9.87***	0.527	-7.58***	0.210	-12.71***	0.758	-12.14***	0.306
Single 60+	-19.13***	1.097	-17.31***	0.361	-18.81***	0.767	-18.05***	0.639	-9.18***	0.449	-7.31***	0.200	-12.32***	0.687	-12.41***	0.314
Expected value	20.0	1.859	17.1	0.867	17.6	2.637	21.8	1.024	7.4	1.012	5.3	0.378	12.2	3.548	12.7	0.786
Impact on employment																
Selection effect																
Single <36 with parents	-0.03	0.039	-0.17***	0.016	-0.22***	0.050	-0.10***	0.019	-0.02	0.030	-0.06***	0.008	0.10	0.073	-0.05***	0.017
Single <36 on their own	0.08	0.050	-0.03	0.027	-0.14***	0.035	0.02	0.020	-0.02	0.035	0.03	0.020	-0.03	0.036	0.08***	0.021
Couple children 0–5	-0.03	0.038	0.05**	0.022	-0.07**	0.035	0.10***	0.016	-0.12***	0.020	-0.08***	0.007	-0.10***	0.025	-0.12***	0.010
Couple children 6–15	-0.08**	0.035	0.03	0.020	0.01	0.042	0.10***	0.014	-0.04	0.025	-0.04***	0.009	0.04	0.033	-0.04***	0.010
Couple children 16–25	-0.13*	0.037	-0.07***	0.018	-0.03	0.047	0.07***	0.020	-0.04	0.027	-0.04***	0.009	0.02	0.038	0.00	0.016
Empty nest 46–59	-0.15***	0.037	-0.14***	0.020	-0.02	0.036	0.01	0.017	-0.08***	0.025	-0.07***	0.008	0.02	0.030	-0.02	0.013
Couple 60+	-0.50***	0.020	-0.41***	0.007	-0.35***	0.022	-0.31***	0.011	-0.26***	0.015	-0.17***	0.004	-0.27***	0.017	-0.25***	0.007
Single 60+	-0.39***	0.024	-0.33***	0.007	-0.36***	0.017	-0.35***	0.012	-0.23***	0.014	-0.17***	0.004	-0.26***	0.016	-0.26***	0.007
Expected value	0.42	0.039	0.34	0.016	0.36	0.050	0.43	0.019	0.22	0.030	0.12	0.008	0.27	0.073	0.28	0.017
Conditional marginal effect																
Single <36 with parents	-8.17***	1.794	-1.80*	1.024	0.07	5.892	-5.43***	1.409	-5.70***	1.933	0.95	1.122	-2.02	4.351	-4.30***	1.482
Single <36 on their own	-5.23**	2.054	0.37	1.456	-1.97	2.565	0.55	1.278	-1.85	2.157	-0.08	1.663	0.95	2.661	1.41	1.333
Couple children 0–5	-1.40	1.612	1.10	1.089	-1.46	2.243	0.32	0.947	-4.86***	1.794	-7.71***	1.320	-8.18***	2.044	-6.58***	1.010
Couple children 6–15	-1.84	1.504	-1.60	1.021	-3.97	2.483	0.54	0.845	-6.69***	1.531	-6.61***	1.134	-4.48**	2.085	-5.42***	0.789
Couple children 16–25	-3.37**	1.702	-2.19**	1.037	-4.00	2.909	2.03*	1.226	-8.54***	1.729	-4.63***	1.149	-1.31	2.447	-1.53	1.193
Empty nest 46–59	-5.28***	1.797	-3.48**	1.448	-2.51	2.245	-0.47	1.089	-8.58***	1.794	-3.91**	1.552	-5.55***	1.941	-2.43**	0.980
Couple 60+	-20.12***	3.115	-6.48***	1.639	-15.01***	3.187	-9.21***	1.236	-16.30***	3.330	-9.30***	2.674	-10.75***	3.491	-10.92***	1.480
Single 60+	-10.25*	6.204	-6.16**	2.502	-22.64***	5.332	-2.73	1.984	-23.16***	4.056	-6.18**	3.150	-10.89**	5.141	-8.14***	1.314
Expected value	47.5	1.794	51.1	1.024	48.6	5.892	50.2	1.409	33.9	1.933	43.3	1.122	44.4	4.351	44.1	1.482

Notes: Other covariates: educational attainment, urban areas, weekday in all countries, plus predicted wage, nonlabor income, citizenship (France), ethnicity (US), regional area (Italy and the US). ***, **, and * indicate statistical significance at the 1, 5, and 10 percent levels, respectively.

effect in France. As expected, after age 60, participation in market work decreases dramatically in our four countries independently of household composition (single/widow or couple).

Like men, young Italian and American women living with their parents participate less frequently in the labor market. French and American young women living at home also work fewer paid hours when they participate in the labor market compared with childless women cohabiting with male partners. In contrast, childless young singles have a higher employment rate in Italy and the US, reflecting the penalty of union formation on female labor supply in these two countries, which is absent in France and Sweden. Not surprisingly, having very young children has a strong and universal negative effect on female labor supply, reducing both the extent of participation in paid work and the time devoted to market work.

The employment rate of mothers of older children (even for 16- to 25-year-olds) remains weaker in Italy and the US. Italian mothers have both weaker participation in market work and shorter paid working time when they participate, while for American mothers the impact of children essentially takes the form of reduced participation. In France and Sweden, mothers of children age 6–15 or older have the same level of participation as young childless cohabiting women, but they work fewer paid hours (except Swedish mothers of 16–25 year-olds). In the US, one strategy available to parents is to stagger their paid working hours so that only one parent is working in the market at any given time. For instance in 1997, in 31 percent of dual-earner couples with children under 14, at least one partner worked a schedule other than standard office hours (Harriet Presser 1999).

The empty nest phase is associated with a decline in women's employment rate in France, Italy, and the US, which could be explained by the less inclusive labor market for older women. It could also be ascribed to a cohort effect that we are not able to control for with our cross-sectional data. When older women participate in the labor market, their paid working time is also shorter than that of childless, cohabiting women. As expected, we observe an overall decrease in both participation and paid working time for older women living in couples and for single women over 60.

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TIME SPENT IN UNPAID WORK OVER THE LIFE CYCLE

The time devoted to unpaid work (housework and care activities) varies considerably across countries (Figure 3). On average, Italian women spend more hours in unpaid household activities at all stages of the life cycle (12–51 hours per week), followed by French women. Conversely, Swedish women devote remarkably fewer hours to these activities (8–29 hours per week). American women are usually in between, but they work more hours at home than French women when they have preschool

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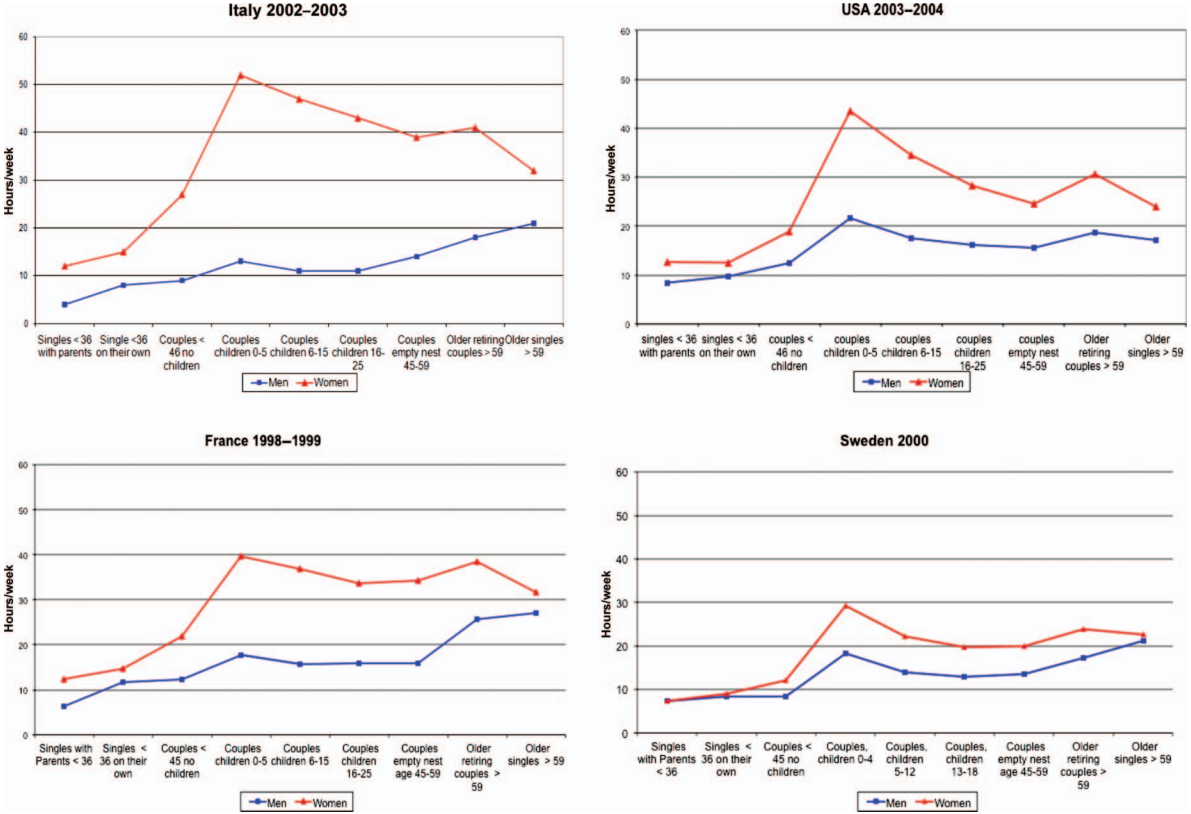

Figure 3 Time spent on total unpaid work, hours per week
Source: Own calculations, based on national time-use surveys.

children. These variations reflect different norms regarding housework, cleanliness, appearance, and sociability. For instance, in France and Italy meals are a ritual social time for meeting, exchange, and conversation – home-cooked food is at the center of this ritual; while in Sweden and the US, different expectations make quick family meals and fast or convenience food more acceptable. These cross-country variations also mean that state or market substitutes for housework differ in acceptability and availability.

Especially for women, time devoted to housework strongly varies over the life cycle. Women's time spent in unpaid work increases with union formation in all of these countries but particularly in Italy and France. Not surprisingly, independent of the country, women's profiles show a peak when they have preschool children. In general, our data show that women reduce their involvement in domestic activities only when they live alone in the final phase of their life cycle.[21] Men, however, in France, Italy, Sweden, and the US usually spend less time on housework and care activities than their female counterparts. With very few exceptions (men over 59 years old), their involvement is always less than 20 hours a week (Figure 3). Moreover, the profile of their participation is quite flat over the life cycle and more similar across countries. The number of hours they spend on housework and care increases meaningfully only after retiring and for those living alone at older ages. It increases slightly when they have young children, but in Italy and France the time fathers of young children spend on unpaid work remains lower than the time childless women devote to housework. In three countries out of four (the US is the exception), men over 60 devote more hours to unpaid work than younger men, even when the latter are fathers of preschool children.

The gender gap in time devoted to domestic chores and care activities exists in all countries in this study at all stages of the life course (Figure 3). It is usually less remarkable at the extreme phases of the life cycle: among very young singles, and those over 59 years old, again especially among singles. In France and Italy, the gender gap increases with union formation. Gender differences are extremely wide for the Italians at all points of the life cycle, but particularly when they live in a couple with children. Italian women with children under age 3 spend on average 40 hours a week more in unpaid domestic work than their male counterparts, while in Sweden women in the same category spend only 11 hours more than their male counterparts. In Italy the gender gap is also noteworthy (about 10 hours a week) among young singles living both in the parental home and alone, as well as among the widowed. The opposite case is represented by Sweden, where the gender differences are never remarkable and in no case do they count for more than 11 hours. French and American women are somewhere in between: the gender differences are similarly small in the early stage of the life cycle, and they grow with the presence of children under age 3. In the US, mothers of preschool children devote around 20

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hours more in unpaid household activities than men. In France, the gender gap remains large until the empty nest phase, while in the US it decreases quickly as the children grow up.

The time spent in unpaid work varies considerably across our simulated life cycle, even after controlling for educational attainment that could shape attitudes and gender roles, the day of the week, place of residence for all four countries, and for some additional specific covariates not available in all countries such as predicted wage, nonlabor income and citizenship in France, ethnicity in the US geographical area in Italy and the US, housing characteristics, and the presence of paid domestic services in Italy and France (see the results of the Tobit estimations summarized in Table 5).

Our estimations confirm that women's time in unpaid work is more influenced by the various phases of our stylized life course (almost all the marginal effect are statistically significant at the 1 percent level and larger in magnitude) than their male counterparts (see Table 5). With respect to the reference category (young couple without children), we find that young singles living with their parents do the least domestic work at home and that the reduction is particularly strong for women in France and Italy. In all countries in this study, the transition out of the parental home entails an increase in the time devoted to domestic activities. Note also that both single and cohabitating young men spend the same amount of time on domestic activities in Sweden and France (the parameter is not statistically significant at a conventional level) and in Italy (small marginal effect), whereas for women of all ages cohabitation means a heavier burden in terms of unpaid work. Childless, young, female singles spend less time in domestic activities than their childless, cohabiting counterparts, but in this case the differences are statistically significant everywhere at a conventional level, and the marginal effect is not negligible, especially in Italy and the US (see Table 5).

The greatest ''change'' in the time that individuals spend in unpaid work is related to the presence of children, especially the youngest (under 6 years old). All other things being equal, when they become mothers, Italian women's domestic time increases (in absolute terms) the most (more than 22 hours on average per week) followed by American women (more than 18 hours on average per week; see Table 5). French and Swedish women increased domestic time by about 16 hours. As children grow up, women reduce the time devoted to unpaid work, but when children are teenagers or young adults (age 16–25) they still spend from 5 (in Sweden) to 13 (in Italy) hours more per week in unpaid work than cohabiting women without children. Young fathers' involvement in the domestic sphere is more heterogeneous across countries. Swedish fathers exhibit a statistically significant (at the 1 percent level) increase in the amount of time spent in domestic tasks and care activities when they have preschool children (more than 10 hours a week), and they also maintain their involvement as children

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Table 5 Marginal effects from Tobit model for total housework time (evaluated at sample mean, bootstrap) by country and gender

	France				*Italy*				*Sweden*				*US*			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD
Household life-course typologies (reference: couple < 46 no children)																
Single < 36 with parents	*-10.63***	0.795	*-17.63***	1.024	*-7.71***	0.304	*-16.39***	0.549	-2.77	1.738	*-5.79***	1.489	*-6.70***	0.424	*-11.18***	0.640
Single < 36 on their own	-0.03	1.328	*-5.36***	1.161	*-2.73***	0.523	*-10.10***	0.863	-1.27	0.785	*-3.04***	0.647	*-4.19***	0.611	*-9.50***	0.649
Couple children 0–5	*5.53***	1.075	*16.04***	1.079	*6.15***	0.535	*22.67***	0.786	*10.42***	1.028	*15.93***	0.875	*7.43***	0.506	*18.19***	0.759
Couple children 6–15	*3.14***	0.810	*11.78***	0.999	*2.63***	0.415	*16.19***	0.615	*6.04***	1.106	*9.38***	0.886	*3.77***	0.411	*10.17***	0.498
Couple children 16–25	*1.71**	0.876	*9.59***	1.290	*1.31***	0.399	*13.17***	0.686	*5.46***	1.252	*7.59***	1.068	1.03	0.720	*4.74***	0.863
Empty nest 46–59	*2.85**	1.168	*8.72***	1.154	*2.69***	0.742	*10.27***	0.834	*5.12***	1.031	*7.47***	0.851	0.40	0.589	*1.44**	0.587
Couple 60+	*6.65***	1.082	*7.26***	1.139	*4.36***	0.471	*10.45***	0.626	*6.88***	1.162	*9.94***	0.850	*1.41**	0.552	*4.04***	0.638
Single 60+	*7.91***	1.436	*2.20**	1.003	*9.30***	0.714	*1.38**	0.671	*9.41***	1.648	*7.55***	1.406	*1.75***	0.598	*-1.55***	0.533
Other characteristics																
Predicted wage	*0.00**	0.000	*0.00**	0.000												
Nonlabor income	*0.00**	0.000	*0.00**	0.000												
Income (elasticity)									-0.04***	0.003	0.01	0.000				
Low income (reference: medium)					*-3.40***	0.558	-1.45	1.105					*-1.53***	0.447	*0.97**	0.403
High income (reference: medium)					*0.50**	0.228	*1.94***	0.334					-0.04	0.326	*-0.74**	0.413
Low education (reference: medium)	-0.38	0.509	0.66	0.620	*-0.70***	0.237	*3.31***	0.331	-0.30	0.716	0.23	0.720	*-1.93***	0.645	-0.02	0.745
High education (reference: medium)	0.77	0.523	0.31	0.670	0.33	0.311	*-1.67***	0.456	0.19	0.412	*0.96**	0.574	*0.77**	0.329	-0.43	0.368
French citizenship	*1.63**	0.976	-1.38	1.112												
Hispanic (reference: white non-Hispanic)													*-1.88***	0.577	0.16	0.548
Black (reference: white non-Hispanic)													*-3.53***	0.454	*-5.04***	0.454
Others (reference: white non-Hispanic)													*-1.51**	0.592	0.60	0.830
Living in big city	-0.02	0.46	-0.74	0.559	0.11	0.221	*-0.65**	0.311	*-3.17***	0.612	*-2.04***	0.537	-0.40	0.306	0.04	0.295
Paid domestic services	-0.04	0.767	*-4.36***	0.977	*-0.09***	0.030	-0.33***	0.042								
Home owner					*1.02***	0.213	*-0.33*	0.377								
House dweller	*2.47***	0.633	0.35	0.793												
Number of rooms in house or apartment	-0.04	0.206	*0.87***	0.200	0.12	0.081	0.08	0.100								
Yard	*1.95***	0.614	*2.28***	0.675	*1.37***	0.238	*0.66**	0.296								

(*continued*)

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Table 5 (*Continued*)

	France				*Italy*				*Sweden*				*US*			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD	dy/dx	SD
Center (reference: North)					*-0.67****	0.257	*1.89****	0.395								
South (reference: North)					*-2.69****	0.189	*4.22****	0.323								
Midwest (reference: North East)													-0.04	0.439	*-0.92***	0.442
South (reference: North East)													-0.38	0.402	*-1.79****	0.408
West (reference: North East)													0.45	0.483	*-1.07***	0.492
Saturday (reference: Mon–Fri)	*6.88****	0.659	*4.08****	0.779	*3.77****	0.247	*2.34****	0.345	*4.22****	0.579	*3.14****	0.747	*6.71****	0.401	*4.80****	0.426
Sunday (reference: Mon–Fri)	0.26	0.637	*-2.48****	0.614	0.03	0.260	*-5.40****	0.290	*3.70****	0.627	*1.54***	0.664	*5.17****	0.391	0.31	0.383
Expected value	16.7		31.9		11.5		34.4		15.2		21.3		18.4		28.3	
Number of observations	4,768		5,069		16,187		17,096		2,893		3,329		12,555		16,268	
Censored observations	887		150		4,814		914		363		112		1,978		887	
Log likelihood	-17444		-20755		-52224		-70361		-10749		-13237		-49209		-69937	
Probability > chi^2	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	
Pseudo R^2	0.029		0.047		0.028		0.057		0.017		0.022		0.010		0.017	

Note: ***, **, and * indicate statistical significance at the 1, 5, and 10 percent levels, respectively.

grow up (around 6 hours). Their Italian or French counterparts show a smaller change when children are younger (around 6 hours), and only a very small one when children grow up. US fathers are in an intermediate position. For the fathers with resident children age 16–25 years old, things are also different across countries (see Table 5). Italian, French, and American men increase their involvement by less than 2 hours a week with respect to childless cohabiting men, whereas Swedish fathers spend more time on domestic chores than cohabiting men without children (more than 5 hours per week).

Overall, both men and women in an empty nest family spend, *ceteris paribus,* more time in domestic activities than the reference category (see Table 5). In Italy, France, and Sweden, compared with mothers of 16- to 25-year-olds, the quantity of unpaid work decreases for women when children leave the parental home, and the US shows an even larger reduction. Among men, in Italy and France the time increases, whereas in the US, we do not find any statistically significant effect at the conventional level. Only in Sweden, do men in empty nest families slightly reduce the time devoted to unpaid work compared to fathers of 16- to 25-year-olds. Retirement is associated with an intensification of men's participation in unpaid work. In Italy, the male contribution increases only slightly, while in Sweden and the US the intensification is more notable. Retired women only decrease their unpaid work in France (see Table 5).

Lastly, widowhood/singlehood has opposite effects on the time devoted to domestic activities for men and women (see Table 5): it is much higher for men and lower for women compared with the same age categories still living with partners. Of course, being single reduces the total amount of housework, and this result is beneficial for widows/singles. Conversely, whether separated, widowed, or divorced, previously partnered, single men, and women older than 59 years are obliged to do the domestic tasks previously performed by their spouses. The effect seems to be particularly strong in Italy and France. In the US, the involvement of older widows and singles in unpaid work is also lower with respect to the reference category.

TIME SPENT ON LEISURE OVER THE LIFE CYCLE

The pattern of time spent on leisure over the life cycle is very similar across countries, following a U-curve with a high level of leisure at the two ends of the age distribution (Figure 4). The gender gap in leisure time is much smaller than for paid and unpaid work, and this gap varies less according to the stages of the life course.[22] However, we observe some gender discrepancies across countries: leisure time is higher for men than for women, except in Sweden. The gender gap is larger in Italy and almost negligible in Sweden, consistent with what we have seen for market and unpaid work.

Not surprisingly, retired people and young men and women still living with their parents have higher levels of leisure. When they move out of their

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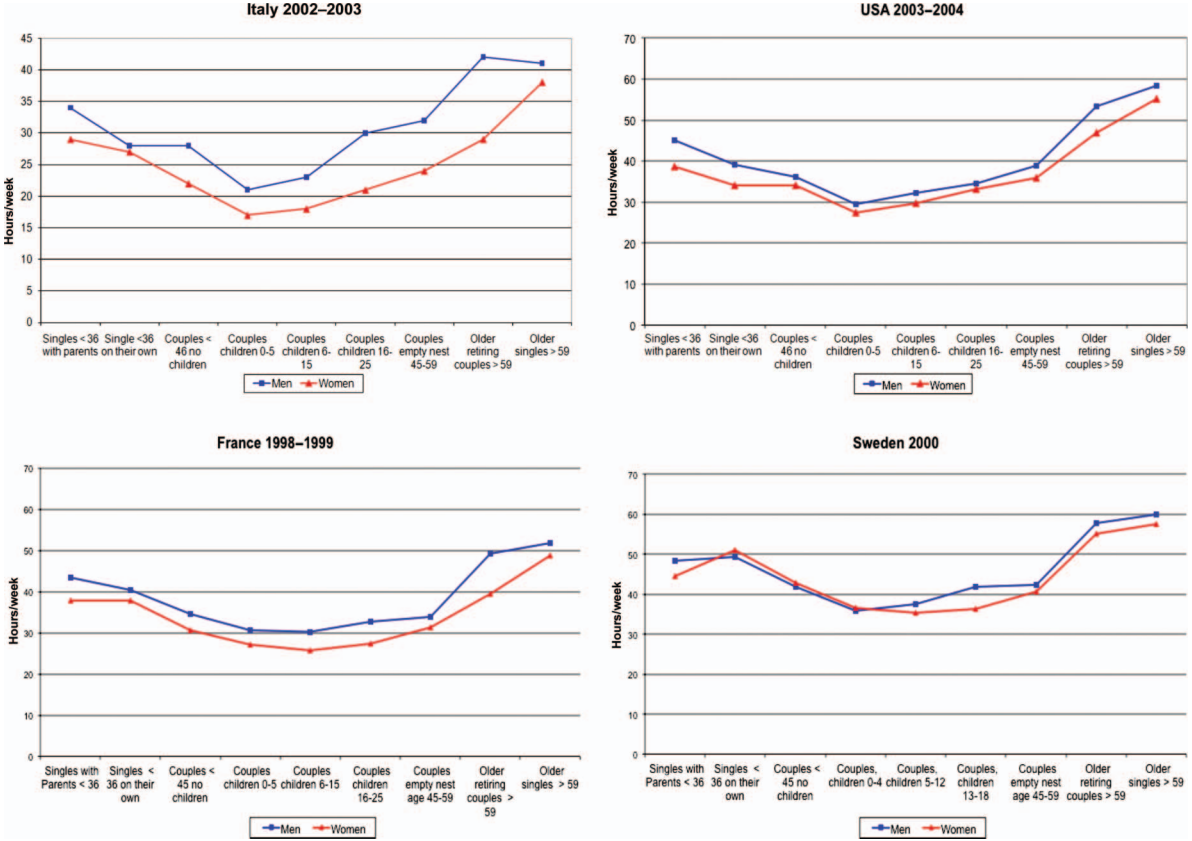

Figure 4: Time spent on leisure, hours per week
Source: Own calculations, based on national time-use surveys.

parents home, on average much earlier than their counterparts in the other countries, young Swedish men and women are the only ones who increase their leisure time, whereas the transition out of the parental home entails a reduction of leisure time in the other countries. As shown by the estimation results in Table 6, French, Italian, and Swedish childless, single women have more leisure time than cohabiting, childless women, though this is not the case in the US. Except for Sweden, there are no differences for men: living in a childless couple allows French, US, and Italian men to maintain their previous leisure level.

The negative impact on leisure of having preschool children is universal (statistically significant at the 1 percent level) in the four countries and for both genders. It is stronger at a statistically significant level for women, except in the US. For children age 6–15 years old, the penalty on their mothers' leisure is still high in the four countries. It disappears for French and Italian fathers, but not for Swedish and US fathers, reflecting their stronger involvement in parental tasks. Later, with 16- to 25-year-olds, the penalty is still large for Swedish mothers, whereas we observe a noticeable leisure gain for Italian fathers (see Table 6). The negative impact of children on fathers' leisure, more persistent in Sweden (not only visible for preschool children), disappears for older teenagers and young adults still living at the parental home (16–25 years old). In the US, the relative impact of children is stronger for men, whatever their age, due to their larger investment in market work when they have children.

When the children leave the parental home and among older singles, the gender gap remains: men's leisure time is always higher than women's, but again the gender gap is notably lower in Sweden. For couples over 60, the gender differences remain large: *ceteris paribus*, the increase in leisure time for cohabiting men is twice that of their female counterparts in France, Italy, and Sweden. Women have to wait until widowhood or singlehood in older age to overtake male leisure time in France and Italy. In the US, leisure seems to be more equally shared between genders, the time spent on leisure activities becoming similar between spouses over 59 years old or between widows and widowers over 59 years old.

Finally, the pattern of leisure by gender is obviously the counterpart of paid work and housework history. The life stages where time is the most constrained, such as preschool childrearing, are those where leisure is the most reduced. At those crucial stages, the gender gap is particularly low, as if inequalities in leisure time between parents would be considered unfair. One explanation of this comparable level of leisure time between mothers and fathers would be that they spend their scarce leisure time together. The data we use do not allow us to check this explanation, as individuals and not couples are interviewed, except in France. But Daniel S. Hamermesh (2002), using British data, and Christine Barnet-Verzat, Ariane Pailhé, and Anne Solaz (2010) using French data, found that the leisure time spent

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Table 6 Marginal effects from OLS regression model for leisure time, by country and gender

	France				*Italy*				*Sweden*				*US*			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD
Constant	***35.13***	1.753	***33.31***	1.631	***26.49***	0.845	***22.86***	0.664	***36.53***	1.649	***40.59***	1.322	***35.81***	1.641	***32.95***	1.409
Household life-course typologies (reference: couple < 46 no children)																
Single < 36 with parents	*5.93***	1.554	*4.18***	1.435	*7.43***	0.675	*8.26***	0.561	*6.91***	3.320	1.64	2.973	*4.68***	1.081	*3.44***	1.005
Single < 36 on their own	1.70	1.635	*3.92***	1.658	1.60	1.024	*2.71***	0.944	*8.33***	1.731	*6.97***	1.712	-0.69	1.036	0.35	0.970
Couple children 0–5	*-3.51***	1.229	*-5.13***	1.140	*-4.43***	0.705	*-5.83***	0.554	*-5.19***	1.476	*-7.12***	1.209	*-11.20***	0.700	*-7.20***	0.541
Couple children 6–15	-1.77	1.200	*-5.00***	1.080	-0.43	0.676	*-3.83***	0.529	*-4.16***	1.679	*-7.48***	1.347	*-7.40***	0.653	*-4.23***	0.508
Couple children 16–25	1.97	1.332	-1.93	1.201	*4.26***	0.691	-0.40	0.540	0.90	2.031	*-5.83***	1.565	*-3.52***	0.945	-0.81	0.790
Empty nest 46–59	*2.59**	1.382	0.51	1.205	*5.84***	0.928	*1.68**	0.668	1.71	1.612	*-2.11**	1.266	0.24	0.872	*2.51***	0.694
Couple 60+	*10.02***	1.395	*5.07***	1.171	*15.11***	0.720	*6.47***	0.577	*14.17***	1.629	*8.5***8	1.399	*12.25***	0.770	*11.37***	0.690
Single 60+	*10.77***	1.938	*12.87***	1.271	*11.37***	0.965	*11.89***	0.611	*18.04***	2.024	*11.86***	1.783	*15.04***	1.085	*16.10***	0.634
Other characteristics																
Predicted wage	***0.00***		***0.00***													
Nonlabor income	*0.00*		*0.00*													
Income (elasticity)									*-0.54*		*-0.032*					
Low income/ec. sit. (reference: med.)					0.47	0.977	0.65	0.769					*3.56***	0.692	*2.79***	0.482
High income/ec. sit. (reference: med.)					*0.65**	0.358	-0.32	0.273					*-2.12***	0.479	*-1.58***	0.406
Low education (reference: medium)	-0.19	0.717	-0.88	0.588	*-1.97***	0.343	*-1.06***	0.285	1.62	1.024	1.14	0.948	1.67***	0.471	0.90	0.893
High education (reference: medium)	*3.14***	0.741	*1.50**	0.642	-0.64	0.567	0.72	0.455	0.65	0.951	*-1.35**	0.755	*-2.16***	0.641	*-1.95***	0.398
French citizenship	-0.15	1.266	0.62	1.147												
Hispanic (reference: White non-Hispanic)													*-2.42*	0.782	*-4.34**	0.616
Black (reference: White non-Hispanic)													*7.01***	0.848	*1.54**	0.628
Others (reference: White non-Hispanic)													0.90	1.009	*-2.45***	0.846
Living in big city	-0.79	0.616	-0.33	0.519	*1.18***	0.320	*1.48***	0.249	*3.82***	0.894	*1.51**	0.754	0.33	0.471	0.57	0.471
Domestic paid services	-0.28	1.075	*2.18**	0.924	-0.05	0.041	*0.09***	0.033								
House dweller	*-4.37***	0.971	*-2.0***8*	0.804												
Number of rooms in house or flat	*0.43**	0.248	-0.22	0.214	*-0.22**	0.100	-0.10	0.076								

(*continued*)

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Table 6 (*Continued*)

	France				*Italy*				*Sweden*				*US*			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD	Coeff.	SD
Yard	-0.21	0.943	-0.78	0.765	*-1.85***	0.345	*-0.68***	0.263								
Home owner					0.13	0.361	*-0.57***	0.276								
Center (reference: North)					*-2.13***	0.410	*-2.64***	0.320								
South (reference: North)					*-1.68***	0.329	*-1.56***	0.257								
Midwest (reference: North East)													0.10	0.641	-0.28	0.522
South (reference: North East)													0.24	0.609	-0.06	0.498
West (reference: North East)													0.01	0.665	*-1.03*	0.546
Saturday (reference: Mon–Fri)	*14.74***	0.928	*7.64***	0.747	*7.96***	0.348	*3.03***	0.269	*17.60***	0.980	*13.17***	0.843	*15.30***	0.536	*9.62***	0.423
Sunday (reference: Mon–Fri)	*22.87***	0.998	*15.10***	0.819	*15.79***	0.348	*8.87***	0.275	*13.38***	0.922	*10.31***	0.778	*17.79***	0.521	*13.37***	0.422
Model																
Number of observations	4,768		5,069		16,187		17,096		2,893		3,329		16,268		12,555	
R-squared	0.306		0.281		0.187		0.185		0.223		0.188		0.175		0.206	

Note: ***, **, and * indicate statistical significance at the 1, 5, and 10 percent levels, respectively.

together by partners is also reduced for young parents. So, this level of leisure seems to be an individual minimum that cannot be cut down. However, this minimum level differs according to countries; it is especially low in Italy (about 20 minutes per day, 50 percent more in the other countries).

CONCLUSION

This study has examined time allocation over the life cycle in a gender and comparative perspective. We hypothesized that disparities in the institutional and societal context do influence the extent of men's and women's involvement in various activities and shape differences in gender roles across countries to varying degrees according to life-cycle stages. We have compared Italy, France, Sweden, and the US, which represent different institutional contexts and diverge considerably in terms of welfare regimes, employment systems, family policy, and social norms. We have distinguished nine key life-cycle stages according to age and family structure, reflecting major life events and life stages for a majority of individuals, such as the transition out of the parental home, union formation, and parenthood and retirement phases. Time-use data are comparable across countries and thus give a unique instrument to assess the effect of institutional contexts on time use.

In a gender and comparative perspective, this life-course approach gives a new and innovative way of analyzing time allocation. Indeed, our results show large discrepancies in the gender division of labor at the different life stages. This gender gap, which exists in all countries at all stages of the life course, is usually smaller at the two ends of the age distribution but larger with parenthood. Preschool children especially reinforce the gender gap in time allocation, particularly for participation in domestic chores and care activities. Despite these similarities we find large cross-country period differences, and it is clear that different institutional contexts shape gender roles in different ways. If social norms play an important role in explaining the large and persistent gender differences in time allocation, the design of family policies and employment regimes play a crucial role in the cross-country differences along the life cycle.

Sweden presents the lowest gender gap in time allocation thanks to its active policies that promote gender equality and balance paid work and family, in particular a generous and flexible parental leave system, the provision of high-quality public childcare facilities as well as reversible paid working time options over the life course. A more equal gender distribution of educational attainment and limited earning loss related to childbirth are also important factors explaining the relatively lower gains to specialization in home and market work in Sweden compared with the other countries. The specificity of the institutional setup alongside the societal environment in Sweden contributes to strengthen the bargaining power of Swedish women and

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hence explain why we observe a relatively more equal gender division of labor in this country. Furthermore, the overall political context characterized by gender mainstreaming, high female involvement in the political process and institutions (government bodies, parliament, and labor market organizations), creates a favorable institutional setup conducive to a more balanced gender division of labor and responsibilities over the life course.

Italy presents the largest gender gap in time use along all stages of the life course. The gender roles are still shaped in a traditional way, especially when the children are very young. There is a strong specialization between men and women – with a sharp decrease of women's paid working hours when children are born, whereas men's paid working hours increase. However, this is not perceptible in the other countries, where the volume of hours spent in the labor market seems to be independent of household composition. These results confirm that in Italy, balancing motherhood and market work is particularly difficult because of cultural factors such as traditional gender roles and scarce support from male partners, as well as structural constraints such as limited supply of public childcare, the rigidity of the labor market, and, in particular, strict employment protection and relatively inflexible paid working time. Italy is the only country where the female employment rate does not start rising again as children become older. This can be attributed partly to a cohort effect, since women with grown-up children are older. While young women have increased their labor force participation, the overall pattern is still that of gender inequity, as reflected by Italy's poor score on the GEM index for instance (United Nations 2009).

Despite their very different welfare state regimes, the gender gap in time use along the life course is of a comparable level in France and the US. This intermediate level between Sweden and Italy is due to the provision of subsidized childcare facilities in France and less traditional gender roles in the US. Thus, France and the US have comparable time allocation, through different channels: an active family policy in the case of the conservative welfare state in France, and the large development of market substitutes in the case of the liberal welfare state in the US.

Moreover, the influence of phases in the life course on the gender gap varies between countries: Italian leisure is more sensitive to life-course phases than Sweden. The widening of the gender gap in time allocation also starts at different life stages across countries, reflecting different organizations within couples across countries. The decline of female labor supply starts at the time of union formation in Italy and the US; but in France and Sweden, the fall in market work coincides with the presence of preschool children. Likewise for unpaid work, the gender gap starts increasing with union formation in France and in Italy – characterized by more traditional gender roles – while in the other countries it widens only with the presence of children.

The duration of the impact of parenthood on time allocation also varies according to countries. In those countries where policies that

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promote gender equality and balance paid work and family are more effective and traditionally well established, such as Sweden and France, the major effect of having young children is a temporary reduction of paid working time. Conversely, in countries where family policies are almost absent (the US) or where the provision of public childcare services is limited (Italy and the US), a large share of women still withdraw from the labor market.

Lastly, to finish on a positive note: women's long experience in doing more housework may benefit them at the end of their lives: widows spend less time on housework than their male counterparts. This is the only life-course phase in which gender roles are reversed.

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ACKNOWLEDGMENTS

The financial supports received by the French Ministry of Research and Galileo project (Italian-French University) are gratefully acknowledged. We thank all the members of the ACI ''Temps de vie'' for their helpful comments and Olivier Thévenon for giving us access to the more recent comparative contextual data.

NOTES

[1] Anxo et al. (2007a), as well as Anxo, Erhel, and Schippers (2007), include the following European countries: France, Germany, Italy, the Netherlands, Spain, and the UK; while Apps and Rees (2005) analyzed only three countries: Australia, Germany, and the UK.

[2] The countries Blossfeld and Drobnic study (2001) are Germany, the Netherlands, the Flemish part of Belgium, Italy, Spain, Great Britain, the US, Sweden, Denmark, Poland, Hungary, and China.

[3] In the present study, parenthood is limited to heterosexual cohabiting or married couples.

[4] Peter Moss and Karin Wall (2007) compare leave policies from twenty-three, mostly European, countries.

[5] Own calculation based on data from Romina Fraboni (2006).

[6] The rates vary according to different sources, as highlighted by Chiara Saraceno (2010).

[7] Strategies of decommodification are aimed at making people more independent of markets by insulating the satisfaction of wants and needs from the nexus of market transactions. Individualization has been a key part of the Swedish universal welfare state: the individual, and not the family, has for many years been the unit not only of taxation but also of social benefits and social rights.

[8] Sweden is one of the countries with the lowest general gender gap worldwide and has the second highest Gender Empowerment Measure (GEM) (United Nations 2009).

[9] External flexibility refers to the adjustment of labor intake achieved by employing workers on temporary paid work or fixed-term contracts or through relaxed hiring and firing regulations.

[10] This figure refers to formal childcare (daycare, professional nannies, and so on) and thus does not reflect all childcare options such as babysitting by grandparents or other family members.

[11] We do not include time spent on commuting in the two other activities: housework and leisure. However, we do include it in the time devoted to childcare.

[12] Childcare includes various activities devoted to children such as playing with them, homework, daily care, and also transportation for the children's activities.

[13] There is endless debate on the definition of leisure; some consider that physiological time may be a leisure time. Physiological time is not included in leisure time because introducing sleeping masks a lot of minor differences. Moreover, we considered that including physiological time such as washing oneself is incompressible.

[14] Except for Sweden, where it is between 20 and 80 years of age.

[15] Here we use the mean age of children because taking into account both age and the number of children in our classification would have resulted in too many categories. Furthermore, we believe that using the mean age is more informative of the life-cycle stage than, for instance, the youngest-child criterion (in an early stage of parenthood, when infants are very young, the mean age is low; when a family has a baby and an

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older child, mean age increases, and parents thus belong to a later life stage that better reflects the timing of their fertility). Since the birth intervals are quite narrow – for instance, in France the average number of years between the first and the last birth is 5 – the choice does not affect most categories. In fact, only 6 percent of families belong to different categories according to the two different definitions (mean age versus age of youngest child).

[16] A technical appendix with details on modeling is available upon request from the authors.

[17] People absent from employment due to illness, a holiday or vacation, vocational training, a temporary layoff, a labor dispute, a sick child or family member, and maternity/paternity or parental leave are counted as employed.

[18] Because of declining demand and rising unemployment, early retirement has been increasingly considered by firms as a way to deal with their excess capacities and rejuvenate their workforce.

[19] As already mentioned in the methodological section, our data are not longitudinal but ''pseudo'' longitudinal family typologies based on cross-sectional, time-use data.

[20] The reference category is couples without children.

[21] A large majority of single women over 59 years of age are either widows (67 percent in Italy and the US and 75 percent in France), or divorced/separated (11 percent in France and 25 percent in Italy and the US). The rest are single.

[22] Leisure time is not exactly the complement of paid and unpaid work, since physiological needs (sleeping, personal care, and so on) are not included.

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