

Cross-national Variation in the Influence of Employment Hours on Child Care Time[†]

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Abstract: Parental time investments in children are essential inputs in children's present and future well-being. The ability of parents to make choices about child care time that are free from money and time constraints varies considerably, however, by employment status and country. We use nationally representative time diary data from nine countries with different gendered working time regimes to investigate how employment hours influence child care time, and whether parents in countries with high maternal employment rates, long work hours among mothers and fathers, and limited family policies have a deficit in child care time. We instead find that child care hours are lowest among French and Swedish mothers, and among French fathers, countries with relatively high parental employment rates but also short work hour cultures. We document a range of employment penalties on child care time among employed mothers and fathers in English-speaking countries and Slovenia, and smaller or no penalties among parents in the Netherlands and Nordic countries. Findings suggest employment associations with child care are not only mediated by gendered work hour cultures, but also culturally distinct parenting ideologies.

Introduction

Time is a limited resource that reflects and regulates social life. Mothers' and fathers' work and care time patterns carry implications about the meaning of activities and the constraints under which parents fashion their days. Parental time investments in children are valued, rhetorically and behaviourally, because they are an essential input in children's well-being. Yet, some contemporary cultures also give priority to employment, fostering a climate where long work hours are normative. Because time is a finite resource, employment hours necessarily reduce time available for other activities, such as care of children. There is some evidence that long work hours may lower children's cognitive and emotional development (Brooks-Gunn, Han and Waldfogel, 2002; Hill *et al.*, 2005). Many parents feel they spend too little time with their children and these perceptions are particularly strong among mothers and fathers with long work hours (Milkie *et al.*, 2004). The time squeeze that results from long work days has detrimental effects on

health and increases marital strife; both may decrease the quality of child care time (Rogers and Amato, 2000; Jacobs and Gerson, 2004; McCann, 2007).

Many researchers have called for reducing the number of hours parents spend in paid employment, arguing this would increase time for care giving activities (Williams, 2000; Jacobs and Gerson, 2004). At the individual level, this is plausible as studies show parents with full-time jobs spend less time in child care compared with other parents (Craig, 2005; Bianchi, Robinson and Milkie, 2006). Yet, whether across countries shorter employment hours necessarily translate into more child care time is an open question. Bianchi, Robinson and Milkie (2006) offer evidence that the employment/child care tradeoff varies across five industrialized countries, suggesting the relationship is not deterministic. Additionally, levels of parental child care appear to vary across societies with similar rates of parental employment (Gauthier, Smeeding and Furstenberg, 2004; Bianchi *et al.*, 2006).

We expect that child care levels and associations with employment hours are linked with national

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configurations of employment regulation, family policies, including early childhood education and care (ECEC), and gender relations. Although limits on work hours can make more time available for child care,¹ whether they do so may depend on the correspondence between formal regulations and cultural norms of work time, as well as cultural mores about the appropriate relationships of the state, families, and individuals (Gornick and Meyers, 2003). The latter are the scaffolding on which working time regulations and work/family systems are constructed, establishing and reflecting cultural histories and contemporary values regarding appropriate roles of mothers and fathers and conceptions of children as private or public goods.

We hypothesize that negative associations of employment hours with child care time will be moderated by complex interrelationships of the regulatory framework, policy packages, and cultural norms. European Union (EU) directives mandate work hour limits, in part because they are perceived as a mechanism of work/family reconciliation (Fagan, 2007). Yet, in market-oriented countries, such as Australia and the United Kingdom, long work hours are thought to be necessary evils in an era of global competition and heightened employer need for a flexible, on-demand workforce. Consequently, actual hours worked are higher than statutory limits (Lee, 2007). Market-oriented countries typically also have limited family policies and widespread attitudes that children are private goods, which discourages the development of non-parental ECEC services. The similarity of market-oriented countries does not extend, however, to gender norms, labour market structures, or the ability to outsource non-care-related housework, all of which should lead to dissimilar employment/child care tradeoffs. Nordic and continental European countries, such as Sweden and France, prize short work hours because of their potential to reduce conflict between employment and care, and/or reduce unemployment through job sharing (Fagan, 2007). Parents in countries with short work hour cultures and extensive family policies will have more time available for care, but they may not devote it to child care if societal norms position state-supported ECEC programmes as an equally acceptable (if not preferable) alternative to full-time maternal care. For example, French labour market structure and gender norms favour full-time employment among mothers and France has a long history of state-provided child care in crèches and ECEC (Fagnani, 2002). Consequently, among French parents, short work hours may not translate into more child care time because children are 'less central to couples' daily lives' and adult-only leisure is valued (see text in Appendix C by Lesnard and Chenu, Bianchi *et al.*,

2006, p. 201). In contrast, parents in countries where children are considered private goods will be strongly motivated to devote most time not spent doing paid work and necessary self-care to child care because of pervasive norms that children's development is stunted without intensive parental interaction and involvement in all activities (Daly, 2001; Lareau, 2003).

In sum, we anticipate that parents in countries where the combination of high maternal employment rates and long employment hours among parents are common will devote less time to child care activities compared with countries where shorter hours dominate. We also expect the negative association of employment with child care to be strongest in long work hour countries that also have limited family policies (including state-supported child care), few desirable part-time jobs, and a sparse or costly outsourcing market. We expect that parents in countries with extensive regulation of work hours as a means to achieving work/family reconciliation, generous family policies, including universal ECEC systems, and accessible, affordable public or private substitutes for housework, will be most able to optimize time budgets and thus reduce employment/child care tradeoffs. We also anticipate that levels of child care will be higher in countries with histories of home-based maternal care of children and contemporary time intensive parenting norms, but employment associations with child care will be weaker in countries with short work hours compared with countries with long work hour cultures.

We use nationally representative time diary data from Australia, Canada, the United Kingdom, the United States, France, the Netherlands, Norway, Sweden, and Slovenia to address two specific questions. First, is the amount of parental child care lower in countries that place heavy emphasis on maternal and paternal employment and have long employment hours? Second, does the employment/child care tradeoff operate in similar ways across Western industrialized countries? The answers cannot be inferred from examining work and care within a single country, but instead require comparison of employment and child care time across countries with varying levels of parental employment and employment hours, dissimilar work time regulations and cultural and institutional contexts. Investigating associations of specific measures of working time regulation, family policy, and cultural norms is not our focus. Parents decide how to allocate time among paid work, child care, and other activities (housework, leisure, and sleep) vis-à-vis the complex and often ambiguous interrelationship of work time regulations, work/family policy configurations, and gender relations. Gershuny and Sullivan (2003) find more robust evidence for links between state policy and women's labour force participation than for housework

and care work. Lewis, Campbell and Huerta (2008) argue that empirical studies showing associations between policies and parental work and care behaviours are abundant but careful reading points to heterogeneity in associations between similar policies and parental behaviour at the country level. Policies that are similar across countries may have different associations with child care time because of variation in other policies that exert countervailing influences or produce distinct interactions with gender and parenting norms and work hours cultures. Hence, we develop expectations and interpret our results in reference to the literature on cross-national variation in working time regulations, work/family policy, gender norms, and attitudes about children but do not test direct effects of distinct policies or norms.

Our article is organized as follows: we first briefly overview theory and literature on individual determinants of child care time. Next, we discuss known and expected patterns of country and gender differences in employment hour associations with child care time. Last, we present and discuss results.

Theoretical Perspectives on Parents' Time with Children

Parents are motivated to spend time with their children for a variety of reasons. These range from an innate drive to invest time in offspring to ensure their survival and thus one's familial genetic line, to socializing children to prepare them to take their place in adult non-familial institutions, to maximizing family utility through sufficient child time inputs to produce 'high quality' offspring (Becker, 1965; Fawcett, 1983; Coleman, 1988). Time use research on parents' child care typically adopts the latter economic perspective. This framework posits that partnered households rationally allocate time and money resources to optimize outputs. The basic argument is that specialization in market or non-market activities is the most efficient way to maximize family utility because it harnesses each partner's comparative advantage and preferences. Biological reproductive differences and socialization patterns have historically meant women have a comparative advantage in unpaid household work and men in paid work (Becker, 1991). The economic perspective thus not only predicts that mothers will invest more time in children than do fathers, but it also implies that specialization should vary across households by levels of each partner's comparative advantage. However, findings that mothers and fathers in Western industrialized nations, on average, are spending more

time in child care activities, despite widespread increases in maternal employment rates and educational attainment, and declining family size suggest factors other than efficiency also motivate care time (Bittman, 1999; Gauthier *et al.*, 2004; Sayer, Bianchi and Robinson, 2004a). Gender is one obvious factor, with mothers devoting about twice as much time to child care as fathers in Western nations. Cultural norms that mothers are 'natural' caregivers and fathers are primary breadwinners remain deeply entrenched, despite increased involvement of fathers in the day-to-day care of children.

The 'time availability' perspective, a variant of the economic model, suggests employment demands are more influential than specialization *per se*. Because time resources are delimited by the 24-h day, paid work hours define how much time is 'left over' for child care (Coverman, 1985). Empirical findings generally support the time availability perspective and indicate the association between employment hours and reduced child care is stronger for women than for men, although these studies have been critiqued because of the possible endogeneity of employment and child care time (Bittman, 2004; Sayer *et al.*, 2004a; Craig, 2006a). Employment *per se* also appears to more strongly decrease child care time in some countries. For example, Bianchi *et al.* (2006) analyse time diary data from the Netherlands, France, Canada, the United Kingdom, and the United States, and find full-time versus non-employment depresses mothers' child care time by 50 per cent in the UK (6.5 h for employed mothers versus 12.5 for non-employed) but only 34 per cent in the Netherlands (7 versus 11 h, respectively). Additionally, although child care time has increased since the 1960s in Western countries, perhaps because cultural values have shifted towards intensive parenting practices, contemporary levels of care time vary markedly. Average hours of child care appear to be higher in three English-speaking countries² and the Netherlands compared with the United Kingdom and France (Bianchi *et al.*, 2006). Norwegian and Swedish fathers also do more child care compared with British fathers and the researchers point to variations in cultural parenting models as a potential explanation (Sullivan *et al.*, 2009). More work is needed, however, on how systematic differences in the interplay of cultural parenting models with working time regulations and family policy across a wider range of countries affect associations of work hours, not just employment status *per se*, with child care.

In addition to employment, time devoted to child care is influenced by the demand for care, specifically whether infants or toddlers are present, the total number of children, and parental education and age. Young

children require more hands-on daily care and monitoring than older children. More children also require more time, despite some economies of scale in activities like preparing meals. Across countries, having a young child is the strongest predictor of child care time for mothers and fathers, whereas number of children has a weaker (or no) positive association (Gauthier *et al.*, 2004; Bianchi *et al.*, 2006). More educated parents are both more likely to have long employment hours and to spend time in child care activities, perhaps because they are keenly aware of the positive developmental outcomes associated with higher time investments. Education associations are larger in countries such as France and the United States, and smaller in Norway and Canada, although the mechanism accounting for the variation is not clear (Sayer, Gauthier and Furstenberg, 2004b; Bianchi *et al.*, 2006). Older parents also spend more time in child care compared with younger parents, but in general age is more weakly associated with child care time compared with employment status, education, and presence of young children (Gauthier *et al.*, 2004; Bianchi *et al.*, 2006). Older parents may have delayed parenting and be less likely to have become a parent from an unintended birth, and this may signal increased propensity to spend time with children. However, older parents may also have more competing time demands from employment because they are mid-career and thus have less time available for child care. They may also have older children, who require less care.

In sum, country variation in parents' characteristics, particularly the presence of young children and parental education and age, are associated with cross-national variation in child care levels (Gauthier *et al.*, 2004). Variation in aggregate levels and timing of fertility may also be linked with country variation in levels and associations of employment with child care. For example, in the early 2000s, the number and timing of children vary from a period fertility rate among the 'lowest-low' in Slovenia (at 1.26), to relatively high rates in Norway, the Netherlands, France, and the United States. In Canada and Norway, about 45 per cent of women from the 1960 birth cohort, and in Slovenia close to 70 per cent of women, had a child by age 25 years, whereas women in other countries typically delay motherhood longer, and longer delays in the transition to motherhood strengthen labour force attachment (Billari, 2004; Gauthier *et al.*, 2004). At the macro-level, higher fertility levels have been historically correlated with lower levels of women's employment, although strong evidence suggests that among recent cohorts high fertility levels are now associated with high employment levels (Kohler, Billari and Ortega, 2002).

Cross-national Variation in Work Time Regulation and Family Policy

In this analysis, we use nationally representative time diary data from nine industrialized countries to analyse how variations in working time regulation and family policy, within and across countries, influence time spent in paid work and the employment/child care association. We selected Australia, Canada, the United Kingdom, the United States, France, the Netherlands, Norway, Sweden, and Slovenia because they have diverse work hour and child care levels, varied policy environments, and publicly available, high quality, time use data. Institutional frameworks and policies, such as working time regulations, family leave, state subsidies for child care and education, and gender equity policies, are embedded in country-specific cultural, historical contexts. We expect variation in the constraints and options experienced by parents to be reflected in child care levels and employment influences on child care time.

Examining the direct effects of specific policies on employment hours, or on the association of employment hours with child care is beyond the scope of the analysis. Further, although the literature is not conclusive, two recent studies suggest correspondence between a country's family policy environment and household work (housework and child care) is ambiguous because of offsetting influences from the combined policy package levels (Hook, 2006; Cooke, 2010). Our comparison of countries with contrasts and similarities in employment regulations, family policy, and differing normative orientations on the employment/family care nexus provide a rich interpretive frame for our assessment of cross-national differences in the association of employment and child care time.

Work time regulations that limit normal weekly employment hours should increase the pool of hours available for child care. Although actual hours worked vary across industrialized countries because of dissimilar labour markets, gender relations, and distinct institutional and regulatory environments, analyses of working time regulations indicate countries can be grouped into two categories: those with short work hour cultures and those with long work hour cultures (Lee, 2007). Anxo (2007) characterizes work regulation as occurring at four levels: (i) a national level through universal statutory legislation; (ii) an industry level through collective bargaining agreements that typically cover multiple economic sectors or firms; (iii) a plant or company level that establishes localized collective agreements; and (iv) a market-based approach, characterized

by weak regulations and individualized working time negotiations between employers and workers. Work hours in countries where regulation takes place primarily at levels one and two cluster in a narrow band around the legislatively or negotiated working time standard, typically below the EU limit of 48 h/week (McCann, 2007). These countries also have longer histories of collective bargaining on work time regulations and very few workers report long work hours (Lee, 2007). In contrast, work hours in countries where regulation takes place at levels three and four have a broader distribution because statutory standards cover fewer workers and/or allow numerous individually negotiated deviations from the standard (Lee, 2007). Additionally, larger proportions of workers report long work hours in these countries, because of historically weaker trade unions and higher levels of income inequality (Anxo, 2007).

In reference to countries included in our analysis, Sweden, Norway, the Netherlands, and France can be considered short work hour cultures. The proportion of employees with long work hours is less than 2 per cent in the Netherlands and Sweden and less than 6 per cent in France (Lee, 2007). Historically, relatively long work hours were more common for Norwegian men, but in the early 2000s only 7 per cent of fathers reported working long hours because of efforts to further institutionalize standard work hours (Kitterød and Kjeldstad, 2003). Reduced full-time hours among Dutch fathers are becoming more common in response to similar state initiatives (Fagan, 2007).

Motivations for work time regulations vary according to the structure of labour markets and gender gaps in employment. In Sweden, work-time legislation simply codified the existing 40-h full-time work week reached through collective bargaining agreements. Sweden's high union density and high employment rates mean deviations from work hour limits are unusual. Sweden also has a relatively small gender employment gap, with three-quarters of all couples consisting of dual earners. Although more women than men are employed in part-time jobs, most of these are 'long' part-time hour positions filled by mothers of young children temporarily working reduced hours (Anxo, 2007). In the Netherlands, concerns about job creation and employment security motivated negotiated reductions in working hours, resulting in the introduction of a 36-h standard work week in the mid-1990s. However, large gender gaps in employment rates and common deviations from the 36-h standard have resulted in no normative standard of work hours for women and a bimodal standard for men at 36 and 40 h per week (Lee, 2007). France adopted legislation limiting the work week to 35 h because of high unemployment (the assumption

being limiting hours creates jobs by spreading work around to more workers) and by a desire to increase work/family reconciliation. French dual earner couples typically consist of two full-time workers, a pattern more comparable to Sweden than the Dutch pattern of 1.5 jobs consisting of a reduced hour full-time male worker and a part-time female worker (Fagnani and Letablier, 2004).

In the non-EU Norwegian context, the Work Environment Act limits weekly work hours to 40 and collective agreements have further reduced standard work hours to 37.5 (Kitterød and Kjeldstad, 2003). Full-time work is normative among fathers, with approximately 80 per cent working 32–40 h/week. Part-time work is more common among Norwegian mothers, although the proportion working full-time increased in the 1990s. About 41 per cent of mothers with children aged 2 years or younger work part-time or reduced hours, and an additional 33 per cent are on leave from a full-time job (Kitterød and Kjeldstad, 2003).

Much larger proportions of workers report long work hours in English-speaking and the former socialist Eastern European countries. English-speaking countries have weak working time regulations and cultures that link long work hours with job commitment and economic growth. In the United States, the primary legislation pertaining to work hours is the 1938 Fair Labor Standards Act (FLSA) that established overtime pay for work hours above 40 (Gornick and Meyers, 2003). The FLSA does not, however, cap work hours at a maximum level nor does it prohibit employers from requiring overtime. Additionally, the FLSA exempts supervisory and temporary employees, or about one-quarter of workers (Gornick and Meyers, 2003). An expansive literature documents American parents spend long hours on the job (Gornick and Meyers, 2003; Jacobs and Gerson, 2004). About 16 per cent of Americans work 50 or more hours per week (Lee, 2007) and 13 per cent of dual earner couples work 100 or more hours a week (Jacobs and Gerson, 2004; Bianchi *et al.*, 2006). The United States is not exceptional among other market-oriented countries, however, as 16 per cent of British and 20 per cent of Australian workers report working 50 or more hours per week (Lee, 2007). Australia's image as a 'worker's paradise', from a history of relatively low employment and relatively high leisure hours is today at odds with its recent history of ratcheting up actual work hours, despite collective agreements setting the standard work week at 38 hours (Campbell and Brosnan, 1999). The United Kingdom adopted limits on working time in 1998 to meet the EU Working Time Directive, with work hours capped at 48 hours per week, but about 81 per cent of British

companies have ‘individual opt-outs’, that allow deviations from standard working time (Lee, 2007).

Comparable estimates for Canadian workers are not available, but OECD data indicate that 70 per cent of employed Canadian men and 36 per cent of Canadian women work 40 or more hours per week (Fagan, 2007). Canada has stronger work hour limits compared with the United States, because larger proportions of employees are covered by collective bargaining agreements. Further, unlike the other three English-speaking states where long work hours increased in the 1990s, the Canadian government was more proactive in limiting long work hours because of concerns about workers’ health and couples’ needs to reconcile work and family (Jacobs and Gerson, 2004).

Slovenia, one of the former socialist bloc Eastern European countries, attained EU membership in 2004 but shares a long work hours culture with the English-speaking countries, although with distinct features carried over from socialist and transition periods (Saxonberg and Sirovátka, 2006; Scharle, 2007). Prior to the transition, Slovenia enjoyed a relatively robust economy and greater integration with Western economic markets than other former Eastern bloc countries, but like them has introduced flexible employment policies, such as more limited job protection and non-standard hours. Still, Slovenia’s employment protection policies are more similar to French and Dutch policies than they are to the English-speaking countries’ weaker regulatory frameworks (Drobnic, 2004; Buchen, 2010). Slovenia also mandates collective bargaining agreements, with ensuing coverage rates of close to 100 per cent of all workers, whereas far fewer workers are covered in the English-speaking countries. Nonetheless, as in their sister EU country the United Kingdom, as well as the United States and Australia, long work hours among Slovenian fathers are common. In fact, 23 per cent of Slovenian fathers report working 48 or more hours per week, higher than levels in the English-speaking countries.

In Slovenia and the four English-speaking countries, long full-time work hours are more common among men and short hour jobs (either part-time or standard full-time employment) more common among women. Labour market structures limit the availability of part-time employment in Slovenia and the United States making full-time employment the dominant pattern among employed mothers. Canadian mothers are more evenly distributed between full-time and part-time employment, and marginal part-time hours (15 or less) or standard part-time jobs (16–34) are the dominant maternal employment pattern in Australia and the United Kingdom (Anxo, 2007; Fagan, 2007).

To recap, countries with long work hour cultures differ from those with short work hour cultures in the strength of and motivation for working time regulations. Parents in countries where standard or reduced hour jobs are promoted as work/family reconciliation strategies have greater flexibility in reducing time incompatibilities between child care and employment. In contrast, parents in countries where long full-time hour jobs are common and workplace flexibility is an employer-initiated strategy to exploit fluctuating labour demands, may experience more intractable obstacles in distributing time between child care and employment.

However, disentangling the long work hours association with child care time requires comparisons across countries not just by working time regimes but how these cross distinct gender regimes (Figart and Mutari, 2000; Anxo, 2007). A ‘gender regime’ refers to national patterns of employment and care that encapsulate collective influences of individual revealed preferences, attitudes about gender relations, structural labour market factors (such as wage rates, the availability of part-time jobs, and the size of the service sector), employment and social insurance regulations, and family policies (Lewis, Campbell and Huerta, 2008; Ray, Gornick and Schmitt, 2010). Salient dimensions of family policy environments correlated with the gender regime include the duration and benefit level of parental leave, and whether some leave is set aside exclusively for fathers, and the nature of ECEC systems (Ray *et al.*, 2010). Publicly supported ECEC increases mothers’ employment (and increases in mothers’ employment may lead to expansions of ECEC), and may promote gender equality in work and care. However, growing evidence suggests long parental leaves (e.g. more than 12 months), which are typically taken by mothers, not fathers, depress mothers’ long-term labour force attachment and increase gender inequality in child care. In contrast, shorter leaves with wage replacement and job guarantees reduce maternal withdrawals from employment and, when some leave is earmarked exclusively for fathers, increase gender equality in work and care time (Misra, Moller and Budig, 2007; Ray *et al.*, 2010).

Gender regime variation in family policy corresponds with cultural conceptualizations of motherhood and normative attitudes about the gendered division of employment and care, although influences are likely bidirectional. Gender regimes do not parallel Esping-Andersen’s welfare regime categories as the organization of employment and care work varies within welfare regimes as much as across regime types (Esping-Andersen, 1999; Lewis *et al.*, 2008). Based on this literature, we group countries into three gender regime models. Australia, the United Kingdom, and the

Netherlands represent the *one-and-a-half earner* model where mothers' have a primary care role, sometimes with a secondary earner role, and men have only an earner role. Canada, the United States, Slovenia, and France represent a *dual earner/woman carer* model characterized by combined earner and carer roles among mothers and an earner role for fathers with more limited incentives to adopt a carer role. Norway and Sweden represent a *dual earner/dual carer* model, characterized by combined earner and carer roles for mothers and fathers. In general, we not only expect employment hours to decrease mothers' child care time more strongly than they do fathers' child care time, but also expect differences between parents to be smaller in dual earner/dual carer countries.

Sweden, Norway, France, the United States, and Slovenia have high rates of maternal full-time employment but only the United States and Slovenia combine high rates and long work hours among mothers within a dual earner/woman carer model. Both the United States and Slovenia have limited availability of part-time jobs and pervasive expectations that professionals will put in long hours on the job. Family policy generosity is meager in the United States, even in comparison to other English-speaking countries, with the United States providing only 12 weeks of unpaid leave for individuals who have been employed for at least 1 year and 1,250 hours in a firm with at least 50 employees. ECEC programs are need-based and residual, with families and the market providing the majority of child care services. Slovenia differs from the United States (as well as the United Kingdom and Australia) in that levels of ECEC programs are relatively high, but levels are still below those offered in dual earner/dual carer countries like Sweden (Drobnic, 2004; Haas *et al.*, 2006). Slovenia experienced lesser economic dislocations compared with other Eastern European transition economies, but nonetheless state support for families eroded during the transition to free-market economies (Drobnic, 2004). Family and child programs and services are now means-tested, and more limited maternity and parental leave programs offered, particularly compared with EU member countries. Employment/child care tradeoffs in the United States and Slovenia should reflect constraints on parents' time that will be intensified for those working long hours. Hence, we expect child care levels to be lower and employment associations stronger for American and Slovenian parents compared with parents in other countries. Additionally, because the Eastern European model typically expects men to be freed up to meet the demands of employment, but also provides stronger job protection for all workers, we expect employment associations among American fathers to be stronger compared with those of Slovenian fathers.

Both countries have strong regulations over employment hours, partly motivated by a societal obligation to reduce tensions between workplace and family obligations for mothers and fathers (Fagan, 2007; Duvander, Lappegård and Andersson, 2010). Norway and Sweden provide universal and comprehensive state-supported family programs, including generous employment benefits that allow parents to work reduced hours or take long paid leaves (about 1 year) when children are young. However, Swedish family policy has incentives that push mothers to return to employment more quickly than Norway, where mothers who limit or stop employment to care for children under age 2 years receive cash transfers. Fathers' care work is promoted by offering specific benefits to men with 'use or lose' aspects. These initiatives have increased the proportion of fathers taking leave, particularly in Norway, although the total days of leave taken by fathers remains far below that of mothers (Duvander Lappegård and Andersson, 2010). Subsidized high-quality ECEC programs are widely available and accessible, but Norway lags behind Sweden in access. Hence, gender differences and employment associations may be smaller in Sweden compared with Norway.

France, the Netherlands, Canada, the United Kingdom, and Australia have ambiguous mixtures of working time regulations, family policy, and commitment to gender equality that likely have offsetting influences on child care levels and employment associations with care. French policy shares with Norway and Sweden the focus on reducing standard work hours and a commitment to maternal full-time employment, but spurred as much by labour shortages and growing demand for labour in female-dominated service sectors as ideological commitment to gender equality (Figart and Mutari, 2000). France provides gender neutral universal family allowances and long parental leave programs that allow parents of two or more children to withdraw from employment for up to 2 years (Fagnani, 2002). However, mothers, not fathers, take parental leave because wage replacement rates are relatively low and France has not initiated policies that set aside specific leave benefits for fathers. France does provide a universal ECEC system for children ages three and older, but programs are much more limited for children aged 2 years and younger (Gornick and Meyers, 2003; Morgan, 2003). Hence, although norms favouring maternal employment are institutionalized, French family policy has been designed to reduce employment among mothers of young children in order to reinforce, not undermine, maternal care (White, 2009). This combination suggests that employment per se, more than employment hours, should reduce French mothers' child care time. Additionally, norms of intensive

parenting appear to be weaker in France than other industrialized countries and this should reduce child levels and weaken employment associations with child care time among French mothers and fathers.

The Netherlands, the United Kingdom, and Australia share a pattern of part-time employment among mothers. Canadian mothers are more evenly split between part-time and full-time employment, but part-time employment is more common among mothers of young children. Policy mixes favouring the one-and-a-half model can decrease employment/child care time tradeoffs, but only when combined with employment cultures that facilitate reduced full-time work hours and flexibility as a means of minimizing tension between employment and care time. Flexibility without an egalitarian gender ideology generally means mothers but not fathers adopt flexible practices, leading to the development of 'mommy track' jobs, which are often part-time, with little autonomy, security, or advancement potential (Ellingsæter, 1998; Fagan, 2007). Dutch policies are motivated more by work/family reconciliation, whereas concerns about economic competition and growth dominate in the English-speaking countries. Additionally, Dutch fathers are more likely to work reduced full-time hours, compared with Dutch fathers historically and compared with fathers in English-speaking countries.

The Netherlands also offers more generous parental leave and ECEC systems compared with the English-speaking countries, although it is more limited compared with Sweden, Norway, and France. Thirteen weeks of leave is available to Dutch fathers, but none is paid leave meaning few fathers take advantage of the full amount. Still, the combination of short work hour culture, relatively generous family policy, and mid-range support for father care suggest employment associations with child care time should be weaker in the Netherlands compared with Canada, the United Kingdom, and Australia, because of their long work hours cultures and relatively less generous family policy environment. Canada and the United Kingdom provide long maternal leaves (up to 1 year), with paid leave over twice as long in Canada than the United Kingdom. The United Kingdom also provides 2 weeks of paid leave out of 15 weeks total earmarked for fathers, whereas Canada and Australia do not set aside leave exclusively for fathers. Further, Australia provides no paid leave for mothers or fathers and labour market and tax policies more strongly discourage maternal employment. All three of the English-speaking countries rely on heavily privatized ECEC systems for children, but public subsidies for older children's care are higher in the United Kingdom compared with Canada and Australia. In Australia, governments since 1970 have increased the supply of

market-based ECEC, first through public subsidies for care providers and more recently through tax credits to families but concerns about low-quality programmes and profit motives driving practices in for-profit care centres, and continued limited availability, mean many mothers are not able to find adequate child care (Brennan, 2007). Differences among the English-speaking countries in family policy, and the stronger entrenchment of a male-breadwinner ethos in Australia, suggest that gender gaps in child care will be larger and employment associations stronger in Australia compared with Canada and the United Kingdom.

These configurations of working time policy and gender regimes generate the following hypotheses.

H1: Parents in countries where the combination of high maternal employment rates and long employment hours are common will devote less time to child care activities compared with parents in countries where shorter hours dominate. We expect the negative association of employment with child care to be strongest in long work hour countries that are also dual earner/woman carer gender regime models because of their more limited family policy and ECEC systems.

H2: Child care levels will be highest and negative associations of employment hours with child care weakest in Norway and Sweden because they combine a short work hour culture with a dual earner/dual carer gender regime model characterized by comprehensive family policy and ideological commitment to gender equality in employment and care.

H3: Mothers' child care time and employment hour influences on child care will be relatively lower in France, the Netherlands, Canada, the United Kingdom, and Australia compared with Norway and Sweden, but relatively higher compared with the United States and Slovenia, because of their ambiguous mixtures of working time regulations, family policy, and commitment to gender equality that should produce offsetting influences on child care levels and employment associations with care.

Data and Methods

Data are from the 2003 American Time Use Study (ATUS) and surveys collected in the late 1990s and early 2000s archived in the Multinational Time Use Study (MTUS). The ATUS is the first federally administered time diary survey in the United States and was designed to collect nationally representative data on how adults allocate time to paid work, unpaid work, self-care, and

leisure (Bureau of Labor Statistics and U.S. Census Bureau, 2004). The ATUS sample consists of all non-institutionalized United States residents aged 15 years and over and is drawn from outgoing rotations of the current population survey. In 2003, the response rate was 57 per cent yielding a sample size of 20,720. The MTUS provides harmonized data files on time spent in child care, as well as paid work, housework, self-care, and leisure. We use the following MTUS surveys in this analysis: Australia 1997, Canada 1998, United Kingdom 2000, France 1998, the Netherlands 2000, Norway 2000, Sweden 2001, and Slovenia 2000. Response rates and sample sizes, respectively, are 78 per cent and 10,749 in Canada, 45 per cent and 11,667 in the United Kingdom, 72 per cent and 7,246 in Australia; 88 per cent and 15,441 in France; 25 per cent and 1,813 in the Netherlands, 50 per cent and 3,211 in Norway; 50 per cent and 3,976 in Sweden; and 53 per cent and 4,500 in Slovenia. We report only weighted analyses, to adjust for sample design and non-response, as well as ensure equal representation of days of the week and seasons of the year. Analytic sample sizes are shown in Appendix Tables A1 and A2.

The time diaries were administered using different methods across countries. Australia, France, the Netherlands, Norway, Slovenia, Sweden, and the United Kingdom use time diaries with fixed-time intervals collected on the day of the interview whereas Canada and the United States use recall time diaries with unfixed intervals. Respondents who fill out fixed-time interval diaries account for activities during specific blocks of time, whereas those responding to diaries with unfixed intervals provide specific start and end times of all activities. The Netherlands collects data over a 1-month period, and Australia over an 8-month period, whereas the other countries collect data over 12 months. Methodological differences raise the possibility that data are not entirely comparable across countries but scholars differ in their interpretation of whether these differences compromise conclusions about country-level differences in time use (Gershuny, 2000; Folbre *et al.*, 2005). In general, studies indicate that recall diaries (such as those used in Canada and the United States) underreport activities of short duration and hence brief periods of child care may be missed. However, estimates of activities that occur on a routine basis, such as most child care activities, have been found to have high validity across different types of survey instruments and methodologies (Juster, 1999). Further, there is no indication that methodological differences vary systematically by parental employment hours. Hence, we are reasonably confident that methodological differences are not a source of significant bias. Additional technical

details on sample populations and survey administration across the various countries are available online at the MTUS data archives <http://www.timeuse.org>.

We limit our sample to married mothers and married fathers of children aged 4 years and under (married includes cohabitators), because the majority of child care activities coded in time diaries are done for younger children and younger children typically require more intensive time investments at specific times. The under 5 years threshold does not match the age at which children in all countries enter school but is the only indicator of young children available in the data. Limiting the sample to married parents diminishes potential bias from selectivity into partnerships. We also restrict the age range of parents to 25–54 years, the prime working ages, because of our focus on the association between employment hours and child care time. This limit also has the advantage of removing potential spurious influences on parental child care time from cross-national variation in the ages that people complete their educations and/or retire.

Data are from individual mothers and fathers, not from married couples. Ideally, we would like to have data on couples' allocations of time to model the joint decision-making that takes place regarding the division of time between employment and child care, as well as other household labour, personal care, and leisure. Economic theory suggests that couples negotiate over market and non-market tradeoffs. Only two countries of those used in this analysis have publicly available data that would allow us to link persons to their own spouses. Consequently, our strategy is to assess the strength of the association between own employment hours and own time spent in child care. Research on American married couples' time allocations suggests this limitation may be minor because, at least in the United States there appear to be limited tradeoffs (if any) of parental child care time: the more time mothers spend with children the more time fathers spend with children (Aldous, Mulligan and Bjarnason, 1998; Yeung and Stafford, 2003).

Conceptual and Methodological Issues in Measuring Child Care Time

Time diary surveys are 'activity-based' instruments, meaning individuals report what they were doing across a 24-h period. Most studies using time diary data to examine parents' time with children assess time in 'primary' activities. We do likewise, using a constructed measure in the MTUS data of summed minutes per day in child care activities, which we convert into hours per week by multiplying by seven (ATUS child care activities are coded to correspond with the available

MTUS measure). Activities coded as child care include feeding, bathing, dressing, putting to sleep and waking up infants and young children, reading to and playing with children, helping children with their homework, teaching them how to do an activity, providing medical care to children, and general supervision. The MTUS harmonized primary child care time variable does not include time spent driving children places, unlike most published estimates of primary child care time.

Although time diaries are a valid and reliable approach to measuring time in specific activities, the method is limited in assessing the full extent of parents' time investments in children in three ways (Budig and Folbre, 2004; Folbre and Yoon, 2005; Folbre *et al.*, 2005). First, parental time monitoring and being available to children is not assessed. (The 2003–2005 ATUS surveys collect time children are 'in parents' care' but we do not include that measure here because it is not available in other countries.) 'On-call' time is extensive, because many parents feel that good parenting requires round-the-clock attention. Thus parents' time available for other activities is more constrained than measures of primary time alone would indicate. Second, parents' time in activities that are done for children, but not necessarily with children, are not always distinguishable in time diary surveys. For example, making a phone call to a child's teacher to check on grades, or researching quality differences across child care providers, may not be coded as 'child care'. Last, parental time combining a primary non-child care activity with a child care activity (e.g. a secondary activity) is measured inconsistently across countries. Some surveys do not ask respondents to report secondary activities and, among countries that do collect this information, specific instructions and examples differ in ways that appear to affect parents' reporting. All three limitations on primary child care time result in underestimates of parents' total time investments in children and do not allow assessments of differences in the quality of time.

Despite its limitations, we use a measure of primary child care time because it is the only harmonized measure available cross-nationally. We refer to this measure as 'child care time' for simplicity, but are well aware that it does not reflect the totality of parental time investments in children. Although preferable in terms of reducing measurement error (Folbre and Yoon, 2005), we are not able to disaggregate primary child care time into developmental activities and routine care activities, because these measures are not included in the publicly available MTUS data. We are confident, however, that assessing cross-national differences in how employment hours influence parents' time in primary child care is useful because this time reflects parental investments in

activities that are tied directly to children's cognitive and psychological development (Hofferth and Sandberg, 2001; Budig and Folbre, 2004).

Measures

The central independent variable for this analysis is parental employment hours. Employment hours are based on a recall question included in the demographic survey about hours of paid employment in the week prior to the survey. We distinguish work hours into five categories that differentiate short and long hour part-time and full-time employment. For mothers, the categories are zero, 1–14; 15–30; 31–40; and 41 and higher; for fathers, the categories are zero, 1–30, 31–40, 41–50, and 51 and higher. There are not enough mothers in all countries who work 51 h or more to include this as a separate category, nor are there enough fathers in all countries who work part-time hours to differentiate between short and long part-time hours. Additionally, work hour data from the 1997 Australian time diary survey are top coded at 49, which prevents us from distinguishing Australian fathers who work 41–50 hours from those who work 51 or more hours per week. We also control for number of children, educational attainment and age because the literature indicates these influence child care time. Number of children is a continuous measure, ranging from 1 to 10, of the total number of children under 18 years in the household. Children may or may not be the biological children of the respondent. Educational level is harmonized across countries into three categories based on the International Classification of Education: low education, which corresponds with uncompleted or less than secondary education and/or not completing ISCED level 3; medium education, which corresponds with completed secondary and/or completing ISCED level 3, or attendance at ISCED level 4; and high education (the omitted group in regressions), which corresponds with above secondary education, or ISCED level 5 and above. The small amount of missing data is recoded into the medium education category (there are 147 missing responses in the Canadian data, 16 in the Norwegian, and 23 in the Swedish data). Including flags for missing education or deleting respondents with missing education data produced similar results. Respondent's age is coded into six variables based on 5 year grouped age ranges from 25 to 54 years. A continuous measure of age is not available in all surveys. Sample characteristic distributions are shown for mothers and fathers in Appendix Tables A1 and A2.

Our analysis strategy consists of assessing within- and across-country differences in the direction and

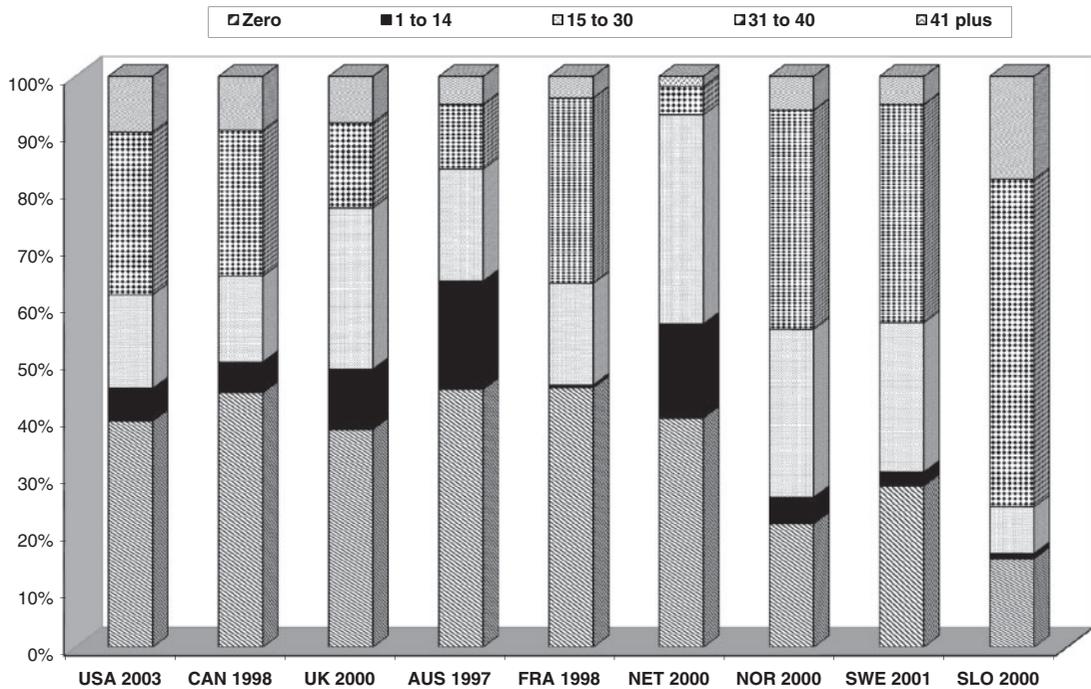


Figure 1 Weekly employment hours of married mothers with children aged ≤ 4 years

magnitude of the association between employment hours and mothers' and fathers' primary child care time. We estimate separate regressions by gender and country because mothers and fathers have dissimilar patterns of child care and employment and because we are interested in comparing the employment hour gradient across countries. We first discuss the distribution of employment hours of parents in our analytic sample. Published studies of work hours (discussed above) focus more on EU country comparisons, sometimes include the United States and Australia, but typically do not present comparable estimates for Norway and Canada. Hence, assessing cross-national variation in usual work hours, using harmonized measures from data collected using similar methods and from studies of similar scope is necessary. We then discuss multivariate results on overall differences in child care hours across countries and variation in the association of employment with child care time. We show predicted means estimated from a series of OLS regressions that model the influence of employment hour levels on child care time, net of demographic characteristics. We use OLS models because tobit regressions may not be appropriate for the analysis of time use data (Stewart, 2006). Our analyses do not correct for potential endogeneity between employment hours and child care time. Although common in

econometric analyses, the use of instruments to correct for potential endogeneity is rare in time use studies (Craig, 2006b), in part because of the limited covariates available in harmonized surveys such as the MTUS. Because our data are cross-sectional, we are not able to make definitive claims about causal relationships between employment and child care time. Although economic theory assumes decisions about time allocated to employment and household labour are determined simultaneously, sociological work suggests instead societal values constrain individual choices about hours of employment because they influence expectations about how one should spend time and, in some countries, give priority to employment over other types of time use (Nock and Kingston, 1989). Although some women and a small number of men may have the option to determine whether they will be employed or not, they do not typically have the ability to determine hours of employment (Folbre, 2004).

Results

Figures 1 and 2 show employment hour distributions of mothers (Figure 1) and fathers (Figure 2) across our nine countries (distributions are also shown in Appendix Tables A1 and A2).

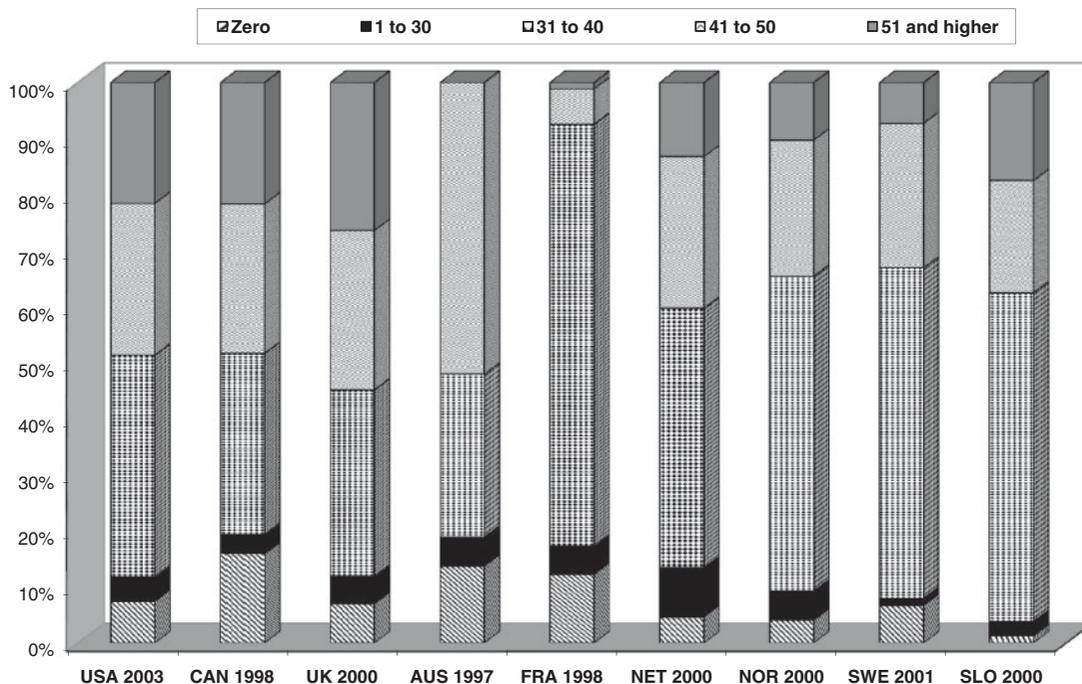


Figure 2 Weekly employment hours of married fathers with children aged ≤ 4 years

Estimates shown in Figure 1 correspond well with comparative research on mothers' employment rates and hours: non-employment is highest among Canadian, Australian and British mothers; short and long part-time employment (1–30 hours) is highest among Dutch, Australian, and British mothers. Short and long hour full-time employment is highest for Slovenian mothers at 75 per cent, about 30 percentage points higher than Norwegian and Swedish mothers, and over 60 percentage points higher than Dutch and Australian mothers, who have the lowest rates of full-time employment. Mothers in Slovenia typically have higher employment rates compared with other European mothers because of the legacy of socialist ideology and the contours of transition economies (Folbre, 2004; Fagan *et al.*, 2005). Figure 1 also indicates that the distribution of full-time hours varies among mothers across countries with similar rates of maternal full-time employment. Relatively high proportions of Slovenian, American, Canadian, and British mothers work 41 or more hours per week. For example, 10 per cent of American mothers work long full-time hours compared with only 4 per cent of French mothers, but 38 per cent of American mothers and 36 per cent of French mothers are employed full-time.

Figure 2 indicates long work hours are also more common among fathers in the United States, Canada,

the United Kingdom, and Slovenia, compared with other fathers. For example, 22 per cent of American and 26 per cent of British fathers work 51 hours or more hours per week, compared with only 1 per cent of French and 7 per cent of Swedish fathers. Further, the distribution of fathers between short full-time hours (31–40 per week) and long full-time hours (41–50) differs. Significantly larger proportions of French, Norwegian, Swedish, and Slovenian fathers work short full-time hours compared with other fathers. Rates of non-employment also differ substantially (and significantly) among fathers, ranging from lows of 4 per cent in Slovenia and 7 per cent in Sweden, to highs of 14 per cent in Australia and 16 per cent in Canada.

Next, we examine how child care time varies and whether the employment hour gradient differs across countries. Tables 1 and 2 show predicted weekly child care hours for all mothers (Table 1) and fathers (Table 2) by employment hour category and country. Estimates were calculated based on pooled country OLS regressions for all mothers and fathers, and on pooled country OLS regressions with interactions of country indicators and all covariates for estimates by employment hours. Predicted means were generated using the margin command in Stata 11 (StataCorp, 2009). Significant differences across countries within each employment

Table 1 Predicted weekly child care hours of married mothers with children aged ≤ 4 years by employment hours

Employment hours	Predicted means (se), adjusted for factors																													
	USA	C	W	CAN	C	W	UK	C	W	AUS	C	W	FRA	C	W	NET	C	W	NOR	C	W	SWE	C	W	SLO	C	W			
Zero	25.5	1	a	25.5	1	a	21.6	2	a	19.5	2,4	a	15.2	3	a	17.6	4	a	20.9	2	a	16.7	3,4	a	21.2	1,2,4	a			
1-14	1.3	1	a,b	1.5	1,2	ab	0.9	1,2	a	0.9	2	ab	0.7	NA	NA	1.0	NA	NA	1.0	1,0	1	1.0	NA	NA	2.9	NA	NA			
15-30	19.6	1,4,6	b,d	16.6	1,2,4,6	b,c	16.0	2,5	b	16.3	2,4,5	b	12.8	3	b	16.4	1,5	a	16.5	1,5	b,c	11.9	3	b,c	11.6	2,4,6	b			
31-40	1.3	1	c,e	1.9	1,3	c	1.0	1	b	1.0	1,4,6	b	0.9	1,1	5	b	1.2	NA	NA	0.9	2,4,6	b,c	0.9	6	b,c	18.4	2,4	a		
≥41	0.7	1,4	c,d,e	1.1	1,3,4	b	1.6	1	b	1.6	2	c	0.7	NA	NA	1.4	NA	NA	0.8	1,4	1	0.8	1,4	1	1.4	1	a			
All mothers of children ≤4	16.9	1		20.7	1		14.2	1	b	9.2	2	c	NA	NA	NA	21.5	4	a,c	11.9	2,3	a,c	11.9	2,3	a,c	20.2	1	a			
N	1213			441			748			653			694			124			755			671			305					

Author's calculations, ATUS 2003 and MTUS world 5.52. NA indicates a cell size of 30 or less. Standard errors are italicized. Superscripted numbers indicate if country differences across rows are significantly different at P ≥ 0.05. Superscripted letters indicate if within-country differences by work hours are significantly different at P ≤ 0.05. Comparing across countries for mothers, or comparing within countries for mothers across employment hour categories, means across columns (rows) with different superscripts differ significantly; means across columns (rows) with the same superscripts do not differ significantly.

Table 2 Predicted weekly child care hours of married fathers with children aged ≤ 4 years by employment hours

Employment hours	Predicted means (se), adjusted for factors																												
	USA	C	W	CAN	C	W	UK	C	W	AUS	C	W	FRA	C	W	NET	C	W	NOR	C	W	SWE	C	W	SLO	C	W		
Zero	13.1	1,2	a	14.1	1,2	a	13.5	1,3	a	9.2	3	ab	5.2	4	a	NA	NA	NA	10.5	1,3	a	5.1	4	a	NA	1.0	a		
1-30	2.2	1	a,b,c	1.9	1	ab	2.4	1	a	1.4	1	a	1.0	2	a	NA	NA	NA	2.4	NA	NA	1.2	NA	NA	NA	NA	NA		
31-40	8.3	1,2	b,c	9.7	1	b	7.4	2,3,6	ab	7.7	1,3,5	ab	3.3	4	a	7.2	2	a	8.9	5,6	a	6.6	2,4	a	8.6	2,5	a		
41-50	0.6	1	ab	0.9	1,2	b	0.6	2,4	ab	0.6	2	b	0.3	3	a	1.1	2,5,6	a	0.6	1,4,6,7	a	0.5	2,7	a	1.0	3,5	b,c		
≥51	0.6	1,3	c	1.0	1	ab	0.6	2,3	b	0.5	NA	NA	0.7	NA	NA	1.4	NA	NA	0.8	1,3	a	0.7	2,3	a	0.9	3	a,c		
All fathers of children ≤4	7.4	1		10.9	1		6.4	1	b	NA	3,6	3,6	3.5	4	a	7.0	3,5,6	a	1.1	1,2	a	4.6	3	a	6.2	1,4	a		
N	1,111			461			750			621			683			74			475			558			281				

Author's calculations, ATUS 2003 and MTUS world 5.52. NA indicates a cell size of 30 or less. Standard errors are italicized. Superscripted numbers indicate if country differences across rows are significantly different at P ≤ 0.05. Superscripted letters indicate if within-country differences by work hours are significantly different at P ≤ 0.05. Comparing across countries for fathers, or comparing within countries for fathers across employment hour categories, means across columns (rows) with different superscripts differ significantly; means across columns (rows) with the same superscripts do not differ significantly.

hour category are indicated by comparing superscripted numbers (see column labeled 'C'); significant differences within country across employment hour categories are indicated by comparing superscripted letters (see column labeled 'W'). For example, looking at the row that shows estimates for non-employed mothers, the child care time of British and Australian mothers is not significantly different (both have ² superscripts), nor is the child care time of British and Norwegian mothers significantly different (both have ² superscripts), but the child care time of Canadian and British mothers is significantly different, as indicated by the different superscripted letter in their respective columns (e.g. a¹ for Canada and a² for the United Kingdom).

Mothers in long work hour countries do not spend less time in child care compared with mothers in short work hour countries, as reported in Table 1 (see row for all mothers). In fact, French and Swedish mothers have the lowest child care time (13 and 14 hours, respectively). Both countries have high maternal employment rates, along with short work hour cultures and generous work/family reconciliation policies, specifically comprehensive ECEC, but French policy is targeted only at mothers, whereas Swedish policy explicitly seeks to involve fathers in care. Mothers in Slovenia, where high employment rates and long work hours are normative and family policy and ECEC systems weaker than France or Sweden, have the highest child care estimate—21 h/week, 59 per cent higher than French mothers' child care time. Adjusted child care estimates cluster around 19 h/week for American, Canadian, British, and Norwegian mothers, two to three hours higher than Australian and Dutch adjusted child care time. English-speaking countries differ in family policy and gender regimes, with Australia historically emphasizing male breadwinner models more than the United States and Canada, and, recently, more than the United Kingdom. Norway and the Netherlands are short work hour cultures with more generous family policy compared with English-speaking countries, but Norway's family leave is designed to increase fathers' care time more so than policies in the Netherlands.

Turning to variation in fathers' weekly child care hours, again, what stands out most is the low time devoted to child care activities among French fathers relative to much higher hours (2–3 times as much) among fathers in other countries, as shown in Table 2. French fathers report about 4 h in child care, compared with 7 h of Australian, Dutch, and Swedish fathers, and 9–10 h of Norwegian, Slovenian, American, British, and Canadian fathers. Among fathers who report relatively more child care time, only Norwegian fathers experience a short work hour culture. However, lower child care

time among fathers in the other short work hour countries (the Netherlands, Sweden, and France) suggest influences are more complex than grouping countries into long and short work hour categories.

Country rankings of child care levels are quite similar for mothers and fathers; they are lowest in France for both and relatively higher in Slovenia and Canada (Slovenian mothers report the highest and Slovenian fathers the second highest child care; Canadian fathers report the highest and Canadian mothers the second highest child care, tied with the United States and Norway). This suggests fathers and mothers are responding to similar compositional and contextual influences. Nonetheless, gender dynamics influence child care levels across countries with Swedish fathers reporting 7.7 h less child care than mothers, and Slovenian fathers reporting 12.3 h less. The gender gap in child care time is highest in France, with the lowest reported child care time for both mothers and fathers (the ratio of mothers' to fathers' time is 3.8), and the gender gap is lowest in Canada (1.9) and Norway and Sweden (2.2). France shares similarities with Norway and Sweden in its short work hour culture, generous maternal leave, and universal, high quality ECEC system. Canada differs from France, as well as Norway and Sweden, with its long work hour culture and less generous family policy. The substantial variation in child care time across countries with similar work hour cultures (e.g. France and Norway) and close similarity across countries with dissimilar work hour cultures (e.g. Norway and Canada) suggest child care levels are shaped by combinations of working time regulations, family policy, and gender norms. Moreover, country residuals and low model r^2 both indicate substantial unobserved country contextual effects, such as a combination of constraints and national models of parenthood, on child care levels.

At first blush, then, we do not see the expected pattern of lower child care time for mothers and fathers in countries that combine high levels of employment and long work hours. Differences between adjusted and unadjusted predicted child care hours (data not shown) suggest mothers' and fathers' compositional characteristics are affecting child care, decreasing it in some countries (e.g. Australia) and increasing it in others (Slovenia). Employment hour distributions, as shown in Figures 1 and 2 appear to be part of the story (as are educational differences to a lesser extent, as shown in Appendix Tables A1 and A2).

We now turn to an assessment of cross-national variation in the child care time of mothers and fathers with similar levels of employment. We discuss patterns among mothers first and, to highlight different

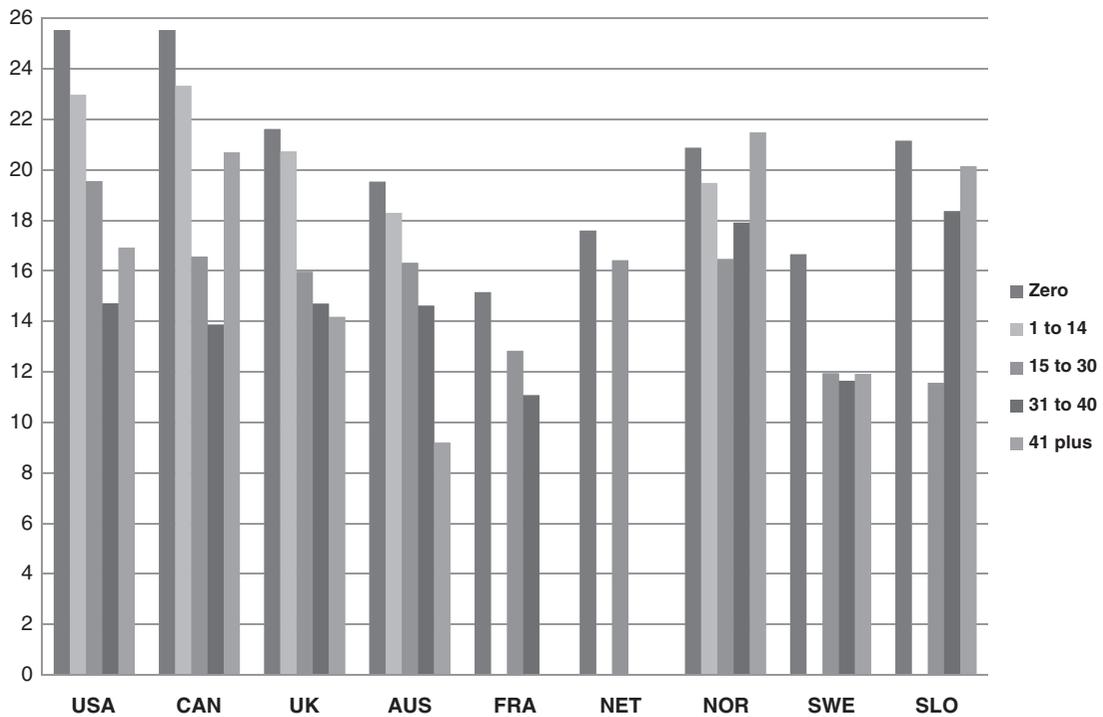


Figure 3 Employment and country differences in married mothers' predicted weekly child care hours

employment gradients across countries, graph data from Table 1 in Figure 3.

In all countries, mothers with higher employment hours spend less time in child care activities, as shown in Table 1 and Figure 3. Employment-related declines in child care are largest among mothers in English-speaking countries, and relatively modest in remaining countries. Additionally, the association between employment hours and child care time is not significant in the Netherlands; mothers employed short part-time hours (15–30) do 16.4 h of child care, only slightly less than the 17.6 h of non-employed Dutch mothers.

The pattern of employment associations across countries points to different time and money constraints affecting employment/child care tradeoffs. Mothers in English-speaking countries who are not employed spend more time in child care compared with mothers in most other countries (comparisons between the United Kingdom, Australia, Norway, and Slovenia are not significantly different). For example, non-employed American and Canadian mothers devote 25.5 h/week to child care, compared with 15.2 and 16.7 h among non-employed French and Swedish mothers. The difference shrinks, however, when the comparison group is mothers who work short or long full-time hours,

suggestive that, regardless of mothers' employment hours, French and Swedish children are more likely to be in state-regulated ECEC programs than are children in the United States and Canada. Cultural models of time intensive mothering may also be more pervasive in English-speaking countries, and mothers who are non-employed may be more individually inclined and socially pressured to devote large amounts of time to children. Still, among mothers who work short and long part-time hours, child care is highest in the English-speaking countries, as well as Norway and the Netherlands, and lowest in France and Sweden (albeit most comparisons are not significantly different). Slovenian, Canadian, and Norwegian mothers working long full-time hours devote the highest amount of time to child care activities: around 21 h per week, compared with 9.2 h of Australian mothers and 11.9 of Swedish mothers.

Thresholds at which employment hours influence child care differ across countries, suggesting that employment status per se is more influential in some countries, whereas levels of employment hours matter more in others. In France and Sweden, where full-time employment is normative and the ECEC system comprehensive, mothers working short part-time hours do

less child care compared to non-employed mothers, but mothers working full-time hours do not do less child care compared with those with short work hours. In contrast, in the United Kingdom, the United States, and Australia, where maternal leaves and ECEC are less developed, mothers who work short part-time hours do not spend significantly less time in child care compared with non-employed mothers, but mothers who work longer employment hours have significantly shorter child care hours. In Slovenia, the employment association is non-linear, with child care time about 10 h lower comparing mothers who are non-employed with those working short part-time hour jobs, but among mothers working longer hours, child care hours are comparable to those of non-employed mothers. The curvilinear association of employment with Slovenian mothers' child care time is unexpected. Part-time hours are relatively rare in Slovenia; in our analysis sample only 8 per cent and 1 per cent of Slovenian mothers report long and short part-time work hours, respectively. The small sample size and thus less stable estimates suggests lower child care observed for mothers working part-time hours may simply be an artefact of the data. However, employment associations are also curvilinear in Norway and Canada, where cell sample sizes are much larger. This suggests the non-linear association may be related to features shared across the three countries, such as a comparable ethos of involved mothering that is more pronounced among the types of mothers working long full-time hours (e.g. well-educated, middle and upper class professionals) and more achievable because of the relatively more developed family policy environment, vis-à-vis the United Kingdom, the United States, and Australia. Our data do not include measures of occupation or occupational prestige so we are not able to test this directly but the interpretation accords with studies on involved parenting (Daly, 2001; Sayer *et al.*, 2004b)

Australian, British, and American mothers experience the largest employment penalties on child care time, as highlighted in Figure 3. Australian mothers who work long full-time hours report over 100 per cent less child care, relative to non-employed mothers (9.2 h compared with 19.5 h); whereas comparable estimates for the United States and the United Kingdom are 51 per cent and 52 per cent, respectively. Penalties are more modest in Canada (23 per cent), not only relative to the other English-speaking countries but also relative to France (37 per cent) and Sweden (40 per cent). However, France and Sweden's paid maternal leaves are designed to allow mothers of young children to temporarily withdraw from full-time employment, thus easing some time constraints without introducing concomitant income drops. Some of the care penalty of employed French and Swedish

mothers, vis-à-vis their non-employed counterparts, may be picking up the greater demand for child care and supply of maternal time, because of an infant in the household and some 'non-employed' mothers actually on maternal leave from employment. Both may be more likely in France and Sweden, compared with other countries, because of their relatively higher fertility and relatively longer maternal leaves. Unfortunately, our data do not allow us to break down children's age more finely or have measures of being on leave from employment.³ Among English-speaking countries, work hour penalties may be weakest in Canada and strongest in Australia because of the combined influences of family policy environment, labour market structure, and cultural models of motherhood. Employment hour distributions, gender norms, and cultural models of intensive parenting are similar in Canada and the United States, but Canada provides a relatively more generous mix of family policies and social support that may ease time constraints among Canadian mothers employed long full-time hours. The pattern of weaker effects of long employment hours in Canada compared with the United States indicates state support for parental leave and ECEC may be essential in reducing employment and care tradeoffs when working standard or reduced hours is a more limited option. Across countries, mothers who work long full-time hours are more likely to be in 'high-status' professional or managerial jobs, where part-time or reduced work hours are uncommon (Jacobs and Gerson, 2004; Stone, 2007). The pattern of lower child care among mothers working long full-time hours may also be due to the selection of more 'career' oriented and less 'care' oriented mothers into long hour jobs. However, time intensive models of mothering are practiced more intently by highly educated mothers employed in professional or managerial jobs compared with mothers with less education in non-professional jobs, suggesting results are not spurious (Hays, 1996; Bianchi *et al.*, 2006)

Care penalties from full-time hours may be highest in Australia because of the less normative status of maternal full-time employment of mothers, combined with a less well-developed outsourcing market compared with Canada and the United States, and a weaker ECEC system (Morgan, 2005; Brennan, 2007; Cooke, 2010). Until 2009, Australian mothers were not provided any paid maternal leaves and the tax and family transfer structure, combined with the privatized and limited ECEC system, produced incentives for mothers to leave employment and/or work only reduced hour part-time jobs. Hence, Australian mothers who work more than marginal part-time hours likely experience greater time and money constraints compared with other Australian

mothers, and with mothers employed full-time hours in other countries.

In sum, Table 1 and Figure 3 offer mixed support for our expectation that the employment/child care tradeoff operates differently in countries with dissimilar work hour regimes and family policy environments. Employment hour penalties on child care time are greatest in Australia, the United Kingdom, and the United States, all countries with relatively long work hour cultures and meager work-family policies. However, we also find evidence that short work hours do not translate into higher levels of child care, as observed in France and Sweden.

Table 2 shows estimates of fathers' weekly child care hours by employment hour category and country. Differences across countries are similar to those discussed earlier for all fathers, reflecting overall lower variation in child care time and associations with employment hours among fathers. Employment hours have no significant association with child care time for French, Dutch, Norwegian, and Swedish fathers, all short work hour cultures. At all levels of work hours, Norwegian fathers' child care time is higher compared with Swedish fathers, despite the institutionalization of paternal leave and father promotion initiatives in each country. Employment hours reduce fathers' child care time in Australia, the United Kingdom, and United States, although contrasts between work hour categories are not always significant. Australian and British fathers working full-time hours do less child care compared with those working fewer hours or the non-employed, but long full-time hours do not lead to additional declines. However, American fathers who work long full-time hours experience an additional 2 hour decline compared with fathers working standard full-time hours (7.4 compared with 9.3). Similar to the pattern for mothers, employment has a curvilinear association on child care time for Canadian and Slovenia fathers, with child care declining from non-employment to short or standard full-time hours and then increasing among fathers working long full-time hours. This suggests fathers in long work hour jobs in Canada and Slovenia are responding to norms of involved fathering that may be more pronounced among the types of fathers in long work hour jobs.

What stands out most from Table 2 is the lower investment in child care time within each work hour category among French fathers of young children, in comparison with other fathers. For example, among fathers who work part-time hours, French fathers devote 4.6 h/week to child care, 5–6 h less than fathers in the English-speaking countries. Among fathers who work short full-time hours, French fathers spend 3.3 h in child

care, relative to 7 or more hours among fathers in the English-speaking and Nordic countries. Further, fathers in English-speaking countries and Norway who are employed full-time spend more time in child care compared with non-employed French fathers.

In sum, the bottom line for fathers is that employment hours influence child care time only in long work hour cultures, but have no significant association in short work hour cultures. Nevertheless, the results do not indicate that short employment hours are a sufficient cause of increased child care time. The low child care hours of French fathers, with their strong regulatory protection against long employment hours, suggest otherwise and point to the salience of gendered cultural models of parenthood as major determinants of child care time.

Conclusions

Our results offer mixed support for our expectation that child care levels and associations with employment hours are linked with national configurations of work hour cultures and work/family policy. However, the unexpected patterns of child care variation points to strong influences from distinct cultural models of parenting. We find no support for our hypothesis that parents in countries with high maternal employment rates and long work hour cultures will do relatively less child care compared with parents in other countries. Child care time is highest among Canadian, Norwegian, American, and Slovenian mothers and fathers—countries with relatively high maternal full-time employment and, excepting Norway, long work hour cultures—and lowest among mothers and fathers in France and Sweden, countries that combine relatively high full-time employment among mothers with short work hour cultures and generous work/family reconciliation policies. As expected, the negative association of employment hours with child care time is sharpest in the English-speaking countries, with Australian, British, and American mothers (and fathers) experiencing the largest 'care penalty' from long employment hours. Employment hour-related decreases in child care are weaker among Norwegian, Swedish, and French mothers, and not significant for Dutch parents, and Norwegian, Swedish, and French fathers. Although we do not consider direct policy effects, this pattern suggests that a combination of strong regulations on work hours and policies that facilitate parents' ability to combine employment and child care buffer the downward pressure of employment hours on child care time. Nonetheless, Canadian, American, Norwegian, and Slovenian mothers and fathers employed long full-time hours do

more child care compared with non-employed French mothers and fathers, indicating variation in work hour regimes and work/family policy are insufficient explanations.

We find substantial variation in child care time across countries with similar work hour cultures and work/family policies (e.g. France and Norway) and close similarity across countries with dissimilar work hour cultures and family policies (e.g. Norway and Canada). The weak explanatory power of regression models offers additional evidence of substantial unobserved contextual effects on child care levels.

Variations in child care levels do not appear to be strongly associated with different gender regime models. Differences in mothers' and fathers' child care time are greatest in France, a dual earner/woman carer model country and the country with the lowest reported child care time for mothers and fathers. They are smallest in Canada, also a dual earner/woman carer model country, but the country with the second highest level of child care for mothers and the highest for fathers. The child care gender gap is also relatively low in Norway and Sweden, both dual earner/dual carer countries, but with relatively higher levels of child care in Norway and lower levels in Sweden. Still, the gender gap is largest in France, where work/family reconciliation policies have been implemented as much to achieve state goals of modernization and economic growth as to increase gender equality in employment and care work (Fagnani, 2002; Fagnani and Letablier, 2004).

In sum, just as countries can be classified into long or short work hour regimes and more or less gendered, it appears they can be divided into high and low child care regimes—or perhaps high and 'French' child care time regimes. Child care time is remarkably similar in high child care countries (Canada, the United States, Norway, and Slovenia): 19–21 hours for mothers and about 9 hours for fathers. The non-linear relationship between employment hours and child care time is also similar across this group of countries. Abundant qualitative evidence suggests time intensive parenting models shape child care time in Canada and the United States; our results suggest this may also be the dominant model in Norway and Slovenia, particularly given the uptick in child care time observed among parents working long hours. Future explanations that explore determinants of child care in 'high' child care time countries are warranted.

In contrast to the high child care time countries, hours are significantly lower in France: 13.1h for mothers and 3.5h for fathers. One reason child care estimates may be lower is the comprehensive ECEC system in France, because the more time children spend

away from home the less child care time they require (Bianchi, 2000). Close to 100 per cent of children aged 3 years and older are cared for in 'écoles maternelles' run by the Ministry of National Education and about 30 per cent of French children under 3 years of age are in publicly run or subsidized ECEC (Morgan 2003; O'Reilly, 2006). However, although Norway's ECEC system is less well-developed than the French system because the former country has a more recent movement of mothers into full-time employment, Norway and France both have short work hour cultures and generous parental leave policies that should reduce constraints on parents' ability to devote time to child care. France shares a history of high maternal employment rates with the United States, Canada, and Slovenia, but the lower constraints on work/family reconciliation from more generous family policies do not translate into more child care time.

Hence, what differentiates France from countries with higher child care time are distinct attitudes about children's entitlement to parental time. French parents appear not to prioritize child care time over other uses of time, such as adult-oriented leisure. In contrast, qualitative studies report Canadian and American parents devote the majority of their non-employment time to children, guided by the belief that good parenting requires time-intensive investments in children. Perceptions that children are public goods, supported and valued as citizens and future productive workers may also decrease French parents' inclination to make children the focal point of private family life. White (2009) argues that French support for work/family reconciliation policies is closely interwoven with the cultural conceptualization of motherhood as a public good, similar to military service among men, that rightly must be supported with public funds. In contrast, high child care countries historically have had a stronger distaste for non-familial care of children, with the United States a polar extreme to France. According to O'Reilly (2006), a pattern of French exceptionalism is evident across multiple typologies of countries, including the varieties of capitalism typology, strong or weak male breadwinner typology, and Esping-Andersen's welfare state regimes. Explanations range from the historical 'triumph of secularism over religious authority' (Morgan, 2003, p. 260) that legitimated a strong state model and statism over subsidiarity to pragmatic acceptance of full-time maternal employment as being in the best interests of women, children, and country. Our data do not allow us to test these as possible explanations of low child care time in France. They suggest, however, that future studies of parental child care time should include items that measure cultural

norms about the care of children, in addition to child care time, work hours, and gender arrangements.

As noted earlier, primary child care time is an underestimate of parents' time with children and a limitation of this analysis. Whether similar patterns would be observed for all time with children, or the quality of time with children, remains to be seen. Data limitations hamper explorations of this empirical question. The vital nature of how all aspects of parents' time with children—as well as national cultures of parenting—are influenced by micro- and macro-level factors warrants future innovative data collections and empirical investigations. In sum, the interplay of structure and culture generates national models of motherhood and fatherhood that affect the amount of time mothers and fathers invest in employment and child care, the association of employment with child care, and the gender gap in child care between mothers and fathers.

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Notes

1. In this article, 'child care' refers to parental care, whereas ECEC refers to state or market provided care.
2. Australia, the United States, and Canada. Canada is officially bilingual, but we refer to Canada as English-speaking in this article because our data do not allow us to distinguish between French and English-speaking Canadian residents.
3. Our employment hour measure is based on hours of employment in the week prior to the time diary survey and mothers on leave may report being employed but also report zero employment hours.

References

Aldous, J., Mulligan, G. M. and Bjarnason, T. (1998). Fathering over time: what makes the difference? *Journal of Marriage and the Family*, **60**, 809–820.

Anxo, D. (2007). Working time patterns among industrialized countries: a household perspective. In Messenger, J. C. (Ed.), *Working Time and Workers' Preferences in Industrialized Countries: Finding the Balance*. Geneva: International Labour Office, pp. 60–107.

Becker, G. S. (1965). A theory of the allocation of time. *The Economic Journal*, **75**, 493–517.

Becker, G. S. (1991). *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Bianchi, S. M. (2000). Maternal employment and time with children: dramatic change or surprising continuity? *Demography*, **37**, 401–414.

Bianchi, S. M., Robinson, J. P. and Milkie, M. A. (2006). *Changing Rhythms of American Family Life*. New York, NY: Russell Sage Foundation.

Billari, F. C. (2004). *Choices, Opportunities and Constraints of Partnership, Childbearing and Parenting: the Patterns in the 1990s*. Geneva, Switzerland: European Population Forum 2004.

Bittman, M. (1999). *Recent Changes in Unpaid Work*. Occasional Paper. Sydney, NSW: Social Policy Research Centre, the University of New South Wales.

Bittman, M. (2004). Parenting and employment: what time-use surveys show. In Folbre, N. and Bittman, M. (Eds.), *Family Time: The Social Organization of Care*. London, UK: Routledge, pp. 152–170.

Brennan, D. (2007). Babies, budgets, and birthrates: work/family policy in Australia 1996–2006. *Social Politics: International Studies in Gender, State and Society*, **14**, 31–57.

Brooks-Gunn, J., Han, W. J. and Waldfogel, J. (2002). Maternal employment and child cognitive outcomes in the first three years of life: the NICHD study of early child care. *Child Development*, **73**, 1052–1072.

Buchen, C. (2010). *What Kind of Capitalism Is Emerging in Eastern Europe? Varieties of Capitalism in Estonia and Slovenia*. Paper presented at the 13th Research Seminar on Managing the Economic Transition, University of Cambridge, March 2004.

Budig, M. J. and Folbre, N. (2004). Activity, proximity, or responsibility? Measuring parental childcare time. In Folbre, N. and Bittman, M. (Eds.), *Family Time: The Social Organization of Care*. London: Routledge, pp. 51–68.

Bureau of Labor Statistics and U.S. Census Bureau. (2004). *American Time Use Survey User's Guide*. Washington, DC: U.S. Government Printing Office.

Campbell, I. and Brosnan, P. (1999). Labor market deregulation in Australia: the slow combustion approach to workplace change. *International Review of Applied Economics*, **13**, 353–394.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, **94**, S95–S120.

Cooke, L. P. (2010). The politics of housework. In Treas, J. and Drobnic, S. (Eds.), *Dividing the Domestic: Men, Women, and Household Work in*

- Cross-National Perspective*. Stanford, CA: Stanford University Press on Social Inequality, pp. 59–78.
- Coverman, S. (1985). Explaining husbands' participation in domestic labor. *The Sociological Quarterly*, **26**, 81–97.
- Craig, L. (2005). The money or the care: a comparison of couple and sole parent households' time allocation to work and children. *Australian Journal of Social Issues*, **40**, 521–540.
- Craig, L. (2006a). Children and the revolution—a time-diary analysis of the impact of motherhood on daily workload. *Journal of Sociology*, **42**, 125–143.
- Craig, L. (2006b). Parental education, time in paid work and time with children: an Australian time-diary analysis. *British Journal of Sociology*, **57**, 553–575.
- Daly, K. J. (2001). Deconstructing family time: from ideology to lived experience. *Journal of Marriage and the Family*, **63**, 283–294.
- Drobnic, S. (2004). Part-time work in central and eastern European countries. In Blossfeld, H.-P. and Hakim, C. (Eds.), *Between Equalization and Marginalization: Women Working Part-Time in Europe and the United States of America*. Oxford: Oxford University Press, pp. 71–112.
- Duvander, A.-Z., Lappégard, T. and Andersson, G. (2010). Family policy and fertility: fathers' and mothers' use of parental leave and continued child-bearing in Norway and Sweden. *Journal of European Social Policy*, **20**, 45–57.
- Ellingsæter, A. L. (1998). Dual breadwinners between state and market. In Crompton, R. (Ed.), *Restructuring Gender Relations and Employment: The Decline of the Male Breadwinner*. Oxford: Oxford University Press, pp. 40–59.
- Esping-Andersen, G. (1999). *Social Foundations of Postindustrial Economies*. Oxford: Oxford University Press.
- Fagan, C. (2007). Gender and working time in industrialized countries. In Messenger, J. C. (Ed.), *Working Time and Workers' Preferences in Industrialized Countries: Finding the Balance*. Geneva: International Labour Office, pp. 108–146.
- Fagan, C. et al. (2005). Gender mainstreaming in the enlarged European Union: recent developments in the European employment strategy and social inclusion process. *Industrial Relations Journal*, **36**, 568–591.
- Fagnani, J. and Letablier, M. T. (2004). Work and family life balance: the impact of the 35-hour laws in France. *Work Employment and Society*, **18**, 551–572.
- Fagnani, J. (2002). Why do French women have more children than German women? Family policies and attitudes towards child care outside the home. *Community, Work and Family*, **5**, 103–119.
- Fawcett, J. (1983). Perceptions of the value of children: satisfactions and costs. In Bulatao, R. and Lee, R. (Eds.), *Determinants of Fertility in Developing Countries, Vol. 1: Supply and Demand for Children*. New York, NY: Academic Press, pp. 429–457.
- Figart, D. M. and Mutari, E. (2000). Work time regimes in Europe: can flexibility and gender equity coexist? *Journal of Economic Issues*, **34**, 847–871.
- Folbre, N. (2004). A theory of the misallocation of time. In Folbre, N. and Bittman, M. (Eds.), *Family Time: The Social Organization of Care*. London: Routledge, pp. 7–24.
- Folbre, N. and Yoon, Y. (2005). *What Is Child Care? Lessons from the 2003 American Time Use Survey*. Halifax, Canada: International Association for Time Use Research.
- Folbre, N. et al. (2005). By what measure? Family time devoted to children in the United States. *Demography*, **42**, 373–390.
- Gauthier, A. H., Smeeding, T. M. and Furstenberg, F. F. (2004). Are parents investing less time in children? trends in selected industrialized countries. *Population and Development Review*, **30**, 647–671.
- Gershuny, J. (2000). *Changing Times: Work and Leisure in Postindustrial Society*. Oxford: Oxford University Press.
- Gershuny, J. and Sullivan, O. (2003). Time use, gender, and public policy regimes. *Social Politics*, **10**, 205–228.
- Gornick, J. C. and Meyers, M. K. (2003). *Families That Work: Policies for Reconciling Parenthood and Employment*. New York, NY: Russell Sage Foundation.
- Haas, B. et al. (2006). Household employment patterns in an Enlarged European Union. *Work, Employment and Society*, **20**, 751–771.
- Hays, S. (1996). *The Cultural Contradictions of Motherhood*. New Haven, CT: Yale University Press.
- Hill, J. L. et al. (2005). Maternal employment and child development: a fresh look using newer methods. *Developmental Psychology*, **41**, 833–850.
- Hofferth, S. L. and Sandberg, J. F. (2001). How American children spend their time. *Journal of Marriage and Family*, **63**, 295–308.
- Hook, J. L. (2006). Care in context: men's unpaid work in 20 countries, 1965–2003. *American Sociological Review*, **71**, 639–660.
- Jacobs, J. A. and Gerson, K. (2004). *The Time Divide: Work, Family, and Gender Inequality*. Cambridge, MA: Harvard University Press.
- Juster, F. T. (1999). *Time Use Data: Analytic Framework, Descriptive Findings, and Measurement Issues*. Washington, D.C: Paper prepared for the National Research Council, Committee on National Statistics

- Workshop on Measurement of Research on Time Use.
- Kitterød, R. H. and Kjeldstad, R. (2003). A new father's role? Employment patterns among Norwegian fathers 1991–2001. *Economic Survey*, **1**, 39–51.
- Kohler, H. P., Billari, F. C. and Ortega, J. A. (2002). The emergence of lowest-low fertility in Europe during the 1990s. *Population and Development Review*, **28**, 641–680.
- Lareau, A. (2003). *Unequal Childhoods: Race, Class and Family Life*. Berkeley: University of California Press.
- Lee, S. (2007). Working-hour gaps: trends and issues. In Messenger, J. C. (Ed.), *Working Time and Workers' Preferences in Industrialized Countries: Finding the Balance*. Geneva: International Labour Office, pp. 29–59.
- Lewis, J., Campbell, M. and Huerta, C. (2008). Patterns of paid and unpaid work in Western Europe: gender, commodification, preferences and the implications for policy. *Journal of European Social Policy*, **18**, 21–37.
- McCann, D. (2007). Regulating working time needs and preferences. In Messenger, J. C. (Ed.), *Working Time and Workers' Preferences in Industrialized Countries: Finding the Balance*. Geneva: International Labour Office, pp. 10–28.
- Milkie, M. *et al.* (2004). The time squeeze: parental statuses and feelings about time with children. *Journal of Marriage and Family*, **66**, 739–761.
- Misra, J., Moller, S. and Budig, M. J. (2007). Work-family policies and poverty for partnered and single women in Europe and North America. *Gender and Society*, **21**, 804–827.
- Morgan, K. J. (2003). The politics of mothers' employment: France in comparative perspective. *World Politics*, **55**, 259–289.
- Morgan, K. J. (2005). The 'production' of child care: how labor markets shape social policy and vice versa. *Social Politics: International Studies in Gender, State Society*, **12**, 243–263.
- Nock, S. L. and Kingston, P. W. (1989). The division of leisure and work. *Social Science Quarterly*, **70**, 24–39.
- O'Reilly, J. (2006). Framing comparisons: gendering perspectives on cross-national comparative research on work and welfare. *Work, Employment and Society*, **20**, 731–750.
- Ray, R., Gornick, J. C. and Schmitt, J. (2010). Who cares? assessing generosity and gender equality in parental leave policy designs in 21 countries. *Journal of European Social Policy*, **20**, 196–216.
- Rogers, S. J. and Amato, P. R. (2000). Have changes in gender relations affected marital quality? *Social Forces*, **79**, 731–753.
- Saxonberg, S. and Sirovátka, T. (2006). Failing family policy in post-communist Central Europe. *Journal of Comparative Policy Analysis: Research and Practice*, **8**, 185–202.
- Sayer, L. C., Bianchi, S. M. and Robinson, J. P. (2004a). Are parents investing less in children? Trends in mothers' and fathers' time with children. *American Journal of Sociology*, **110**, 1–43.
- Sayer, L. C., Gauthier, A. H. and Furstenberg, F. F. (2004b). Educational differences in parents' time with children: cross-national variations. *Journal of Marriage and Family*, **66**, 1149–1166.
- Scharle, Á. (2007). The effect of welfare provisions on female labour supply in Central and Eastern Europe. *Journal of Comparative Policy Analysis: Research and Practice*, **9**, 157–174.
- StataCorp. (2009). *Stata Statistical Software: Release 11*. College Station, TX: StataCorp LP.
- Stewart, J. (2006). *Tobit or Not Tobit?* Paper presented at the 2006 IATUR annual conference, Copenhagen..
- Stone, P. (2007). *Opting Out: Why Women Really Quit Careers and Head Home*. Berkeley: University of California Press.
- Sullivan, O. *et al.* (2009). Father-friendly policies and time-use data in a cross-national context: potential and prospects for future research. *Annals of the American Academy of Political and Social Science*, **624**, 234–254.
- White, L. A. (2009). Explaining differences in child care policy development in France and the USA: norms, frames, programmatic ideas. *International Political Science Review*, **30**, 385–405.
- Williams, J. (2000). *Unbending Gender: Why Family and Work Conflict and What to Do About It*. New York: Oxford University Press.
- Yeung, W. J. and Stafford, F. P. (2003). *Parental Child Care Time Allocation*. Paper presented at the annual meeting of the Population Association of America, Minneapolis, MN, May 2003.

Appendix A

Appendix Table A1 Sample characteristics of married mothers with children aged ≤ 4 years, by country

	USA	CAN	UK	AUS	FRA	NET	NOR	SWE	SLO	All mothers
Employment hours										
Zero	0.40	0.45	0.38	0.45	0.45	0.40	0.22	0.28	0.15	0.36
1–14	0.06	0.05	0.11	0.19	0.00	0.17	0.05	0.02	0.01	0.07
15–30	0.16	0.15	0.28	0.20	0.18	0.37	0.30	0.26	0.08	0.21
31–40	0.28	0.26	0.15	0.11	0.32	0.05	0.38	0.38	0.57	0.29
≥ 41	0.10	0.09	0.08	0.05	0.04	0.02	0.06	0.05	0.18	0.07
Number of children	2.20	2.00	1.97	2.19	1.99	1.95	2.00	2.05	2.06	2.07
Education										
Uncompleted secondary	0.09	0.07	0.24	0.04	0.14	0.24	0.03	0.08	0.26	0.12
Completed secondary	0.23	0.19	0.45	0.53	0.40	0.43	0.50	0.59	0.40	0.41
Above secondary	0.68	0.73	0.31	0.43	0.46	0.33	0.47	0.33	0.34	0.48
Age group (years)										
25–29	0.27	0.25	0.31	0.25	0.30	0.24	0.31	0.21	0.40	0.28
30–34	0.38	0.41	0.37	0.40	0.43	0.50	0.39	0.41	0.36	0.40
35–39	0.23	0.25	0.23	0.28	0.20	0.24	0.23	0.28	0.22	0.24
≥ 40	0.12	0.08	0.09	0.07	0.07	0.02	0.07	0.11	0.02	0.09
N	1213	441	748	653	694	124	755	671	305	5604

Author calculations, MTUS world 5.52

Appendix Table A2 Sample characteristics of married fathers with children aged ≤ 4 years, by country

	USA	CAN	UK	AUS	FRA	NET	NOR	SWE	SLO	All fathers
Employment hours										
Zero	0.07	0.16	0.07	0.14	0.12	0.05	0.04	0.07	0.01	0.09
1–30	0.04	0.03	0.05	0.05	0.05	0.09	0.05	0.01	0.03	0.04
31–40	0.40	0.32	0.33	0.29	0.75	0.46	0.56	0.59	0.59	0.46
41–50	0.27	0.27	0.28	0.52	0.06	0.27	0.24	0.26	0.20	0.27
≥ 51	0.22	0.22	0.26	0.00	0.01	0.13	0.10	0.07	0.17	0.14
Number of children	2.18	1.98	1.93	2.13	1.93	1.80	2.06	2.10	1.93	2.04
Education										
Uncompleted secondary	0.11	0.13	0.28	0.05	0.15	0.13	0.06	0.12	0.39	0.15
Completed secondary	0.26	0.22	0.46	0.29	0.47	0.38	0.53	0.51	0.40	0.38
Above secondary	0.63	0.65	0.26	0.66	0.38	0.49	0.41	0.37	0.21	0.46
Age group (years)										
25–29	0.20	0.17	0.18	0.14	0.20	0.10	0.21	0.12	0.23	0.18
30–34	0.33	0.37	0.38	0.35	0.40	0.32	0.33	0.30	0.42	0.36
35–39	0.28	0.30	0.25	0.31	0.23	0.43	0.31	0.31	0.28	0.28
≥ 40	0.19	0.16	0.18	0.20	0.17	0.15	0.14	0.27	0.07	0.18
N	1111	461	750	621	683	74	475	588	281	5014

Author calculations, MTUS world 5.52