

**Parental Involvement and Work Schedules: Time with Children in the United States,  
Germany, Norway, and the United Kingdom**

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*Abstract*

We examine variation in parents' time with children by work schedule in two-parent families, utilizing time use surveys from the United States (2003), Germany (2001), Norway (2000), and the United Kingdom (2000) ( $N = 6,835$ ). We explore how the association between evening work and time with children may vary by employment status for mothers and by partners' employment status for fathers. We find that American fathers working the evening shift spend more time alone with children regardless of mothers' employment status, whereas the association is conditional on mothers' employment in the United Kingdom and Germany. We find no evidence that Norwegian fathers working the evening shift spend more time alone with children, but Norwegian mothers spend considerably more time, as do British mothers. For German mothers evening shifts attenuate the negative association between full-time work and time spent with children. We find that a major consequence of evening work often viewed as positive for children, fathers spending more time with children, is sensitive to both household employment arrangements and country context.

**RUNNING HEAD:** Nonstandard Work and Time with Children in Four Countries

**KEYWORDS:** parents, time use, childcare, cross-national, nonstandard work

Nonstandard work schedules are pervasive in the United States and Europe. Whereas about one-fifth of working Americans work a non-day shift, when we shift the lens to couples, one partner works a non-day shift in a third of dual-earner couples. Rates of non-day work are similar in the United Kingdom and trail only slightly in Norway and Germany (Presser 2003; Statistics Norway 2008). Although nonstandard shifts have been linked to health problems and decreased marital quality in two-parent families, parents who work evenings or nights may be better able to coordinate parental care for their children (Presser 2003). Research in the United States has repeatedly found that non-overlapping work schedules matter for fathers' time with children. Fathers spend more time with their children if they are not working while their partner is (Brayfield 1995; Casper and O'Connell 1998; Presser 1988).

There are reasons to suspect, however, that the implications of working a nonstandard shift vary by country context. There is evidence that the association found in the United States between work schedule and fathers' time with children does not hold in Norway. Research on Norwegian fathers has found little effect of non-overlapping work schedules on fathers' time with children (Kitterød and Pettersen 2006). This suggests that the mechanism linking work schedule and time with children varies by context. Several researchers have made a call for cross-national comparisons of this relationship (Kitterød and Pettersen 2006; Wight, Raley, and Bianchi 2008).

We explore whether the association between work schedule and parents' time with children varies across differing national contexts. We look at both patterns of time use over the day using tempograms and absolute time spent with children using regression models. We use four nationally-representative time diary studies from the United States, Germany, Norway, and the United Kingdom, focusing on two parent families with children ages zero to fourteen.

## Theoretical Framework

Parents, in general, enjoy spending time with their children, valuing this time above other activities (Hallberg and Klevmarcken 2003). A large body of social science research, however, reveals substantial variation in the time parents spend with their children and the investments they make. Conceptions of what children need and how parents should provide it vary greatly across time and space (for example see Coltrane and Galt 2000). To explain variation, social constructionists focus on how parenthood is constructed at the individual, interactional, and institutional levels (Højgaard 1997). A similar conception comes from the family systems (Parke 1996) and ecological literatures with a focus on how, "the behaviors and beliefs of children, fathers, and mothers are viewed in an interdependent web of personal, relational, and community influences" (Doherty, Kouneski, and Erickson 1998: 284).

There are two dominant approaches from the household labor literature to understanding how personal, relational, and community influences affect childcare. The time constraints, or demand/response capability, approach focuses on individuals' pragmatic allocation of work given availability and demand, predicting that partners distribute workloads toward equilibrium (Blood and Wolfe 1960; Coverman 1985). This perspective does not have distinct theoretical underpinnings, but arose from early studies concerned with the effect of women's employment on the division of household labor (Blood and Hamblin 1958; Heer 1958). Some researchers, however, have aligned this perspective with rational choice theory, or have extended this hypothesis to explicitly incorporate concepts from Becker's (1981/1991) new home economics, such as comparative advantage (Blair and Lichter 1991). Individuals are hypothesized to do less housework or childcare the more time they spend on employment, and more housework or childcare the more time their partner spends on employment and the more children they have.

Note that this perspective is gender-neutral unless gender-related characteristics are incorporated into an understanding of comparative advantage.

A second dominant approach focuses on gender, and is invoked to explain why mothers and fathers have, on average, different configurations of time constraints and demands, and why they may have a differential response to the same constraints and demands. The “doing gender” perspective focuses on gendered expectations for interaction and how individuals construct gender through housework and childcare (Berk 1985; South and Spitze 1994; West and Zimmerman 1987). Drawing on ethnomethodology (Garfinkel 1967) and extending gender display (Goffman 1977), West and Zimmerman (1987) posit that individuals continuously do gender in interaction because their behaviors are always accountable to and assessed by their sex category. This perspective highlights that individual and normative expectations for mothers and fathers may differ across time and place.

Taken together, an individual’s demands and capability to respond are influenced by individual and household characteristics, interactions with partners, employers, and children, and the institutional practices and policies that individuals are embedded within, but these levels of influence are informed by gender (Risman 1998). Overall, research has shown that individuals sometimes allocate household labor in a manner consistent with pragmatic allocation based on time, but that their behaviors are informed by and interpreted in light of norms and individual attitudes about gender (Bianchi, Milkie, Sayer, and Robinson 2000; Brines 1993).

### Previous Research

The main conceptualization of time constraints is hours of work. The evidence linking work hours and child care time is mixed, for both mothers and fathers. For fathers, research finds a negative effect of work hours on fathers’ time with children in the United States and in

most European countries (Smith 2004; Yeung, Sandberg, Davis-Kean, and Hofferth 2001). In Norway, however, Kitterød and Pettersen (2006) find that Norwegian fathers' working hours do not affect childcare time. Compared to non-employed mothers in the United States, employed mothers spend less time in the company of children, but preserve direct engagement time with them, especially for older children (Bianchi 2000; Nock and Kingston 1988).

A main conceptualization of demand is partner's employment status. In the United States, the absolute increase in men's involvement associated with mothers' employment is small and not robust (Pleck and Stueve 2001). In her study of 14 European countries, Smith (2004) found that fathers are more likely to spend substantial time in child care (28 hours or more per week) if their spouse is employed. Some researchers, however, argue that women's part-time employment does not pull fathers into family work because it is a strategy that enables women to combine work and family without pressuring fathers to be more involved (Stier and Lewin-Epstein 2000). A number of U.S. studies, however, have found that men partnered to women working part-time, not full-time, are more likely to provide child care during mothers' work hours. Mothers' full-time work is more likely to be met with hiring outside care (Folk and Beller 1993). In Norway, Kitterød and Pettersen (2006) find that fathers do more childcare and spend more time alone with children when their partners' work limited part-time hours (1-19 hours).

There is much less research on the influence of fathers' work hours on mothers' time spent on child care. There is less variation in fathers' work time, and mothers are generally expected to adhere to a high standard of maternal care time regardless of fathers' constraints or availability. There is no evidence that women increase child care as fathers' work hours increase (Nock and Kingston 1988).

Although constraints have typically been viewed as how much an individual works, which shift a parent works may be more consequential for time with children than the actual number of hours worked. In the United States, findings for fathers' time with children are somewhat contradictory. Nock and Kingston (1988) find that late day and evening work decreases fathers' time with children to a slightly greater degree than does day or night work; the association is not dependent on the age of the child. In contrast, a recent study finds that fathers working nights or evenings spend more time *alone* with children, and more time on routine child care (Wight, Raley, and Bianchi 2008); associations were not tested by the age of the child. Focusing on only dual-earner couples, Brayfield (1995) finds that fathers working non-days are more likely to care for preschoolers, but they are less likely to care for school-aged children.

Findings for mothers are more consistent, and show different associations than fathers. In the United States, working from 3 to 6 p.m., and to a lesser extent core daytime hours, reduces time with children more than evening or night work (Nock and Kingston 1988). American mothers working nights spend more time with children than do mothers working days or evenings, and mothers working evenings spend less time on routine child care (Wight, Raley, and Bianchi 2008).

From a demand perspective, research in the United States finds that partners' shift is consequential. Mothers' evening work increases the time fathers spend with children and the likelihood of fathers caring for children (Brayfield 1995; Nock and Kingston 1988). Presser (1988) makes an interesting qualification. She finds that among married mothers working a non-day shift, fathers were more likely to be the principal carer while mothers were at work if she worked part-time instead of full-time (60% versus 40%) (Presser 1988). This points to potential importance of mothers' employment status for understanding the influence of work shift on

men's childcare. Again, there is little research on the influence of fathers' work schedule on mothers' time. Nock and Kingston (1988) find no evidence of an association for fathers in the United States.

In addition to the particular shift, the degree of non-overlap is consequential for fathers. In the United States, non-overlapping work schedules increase the likelihood that fathers care for their children when the mother is not present (Brayfield 1995). In Norway, Kitterød and Pettersen (2006) find that if the mother works 1-19 hours when the father does not, he spends more time alone with children, but does not spend more time on active child care or on total time with children. They find no evidence of a relationship with greater non-overlap, but because of the small sample size there are very few fathers with non-overlap higher than 19 hours.

The studies reviewed here suggest that the association between work schedule and child care time may vary by the age of the child. Younger children require more care and supervision. As children age, they spend more of the day in pre-school, school, and after-school activities, aging into activities away from parents (Robinson and Bianchi 1997). Whereas working an evening shift may facilitate parental care for pre-school aged children during the day (Casper and O'Connell 1998; Presser 1988), for school-aged children, parents working an evening shift may not be able to make up this time because of children's school schedule and activities (Presser 2003). Even school-age children, however, need supervision and time with parents before and after the school day, as well as during frequent breaks and interruptions in school schedule.

We control for several other characteristics that may influence parents' motivation, skill-set, or demands for child care. Age may tap potential energy and interpersonal resources (Parke 1996). More educated parents may be more knowledgeable about the importance of involvement, especially in academic-related activities. The more children in the household, the greater the



demands are on parents (Yeung, Sandberg, Davis-Kean, and Hofferth 2001). Some studies also suggest that the gender of the child may be a motivational factor, noting that fathers are more involved with boys than with girls (Pleck and Masciadrelli 2004).

### Why Would the Influence of Work Schedule Vary by Country?

We contend that the influence of work schedule varies by context because parenting time is embedded in care policies, work policies, and cultural context (see Lewis 1992; Pfau-Effinger 2005; Sainsbury 1996). Policy and cultural context may influence concrete resources and opportunities available to parents (e.g., the length of the standard workweek), and normative expectations about behavior (e.g., who should take parental leave) (Author 2010). To investigate this idea, we select countries from three welfare state regimes – the United States and the United Kingdom representing the liberal, Norway representing the social-democratic, and Germany representing the conservative regime. Liberal welfare states are characterized by a hands-off approach to employment and family affairs. Individual choice and the primacy of labor market forces shape gender relations within the employment and family sectors. In contrast, social-democratic countries are characterized by a range of universal policies that seek to support work-family balance for both men and women. Conservative countries also have an array of “family-supportive” policies, but in general, the focus of these policies is to support male-breadwinner/female-caregiver families (Esping-Andersen 1990). We select these countries because each is an exemplar of its type and each has high-quality, publicly available time use data. We briefly review the context in each country, circa 2000, and present hypotheses regarding the relationships between work schedules and parental time.

#### *The United States*

The United States is the exemplar of the liberal welfare state regime. Compared to other welfare states, even within the liberal regime, labor market regulations and family policy provisions are low. As the primary legislation governing employment hours, the Fair Labor Standards Act (FLSA) mandates overtime pay for weekly hours over 40. Several exemptions within the FLSA, however, mean that today over one-quarter of workers are exempt including salaried managers and professionals. Mandatory overtime is not restricted, and there is no limit on weekly hours. Federal legislation is silent on limits or compensation for work during nonstandard hours (Gornick and Meyers 2003).

The United States also leaves family policy largely to the market. The availability of unpaid parental (and medical) leave was mandated in 1993. The Family and Medical Leave Act (FMLA) provides 12 weeks of unpaid job-protected leave for men and women meeting tenure and hour requirements employed in establishments of 50 or more workers. Five states provide new mothers with some pay through temporary disability insurance. Employers may voluntarily provide pay, but coverage is uneven and regressive (Gornick and Meyers 2003).

The United States is also a laggard in childcare provisions. Childcare is generally provided through private, market-based arrangements. For most families, available federal assistance is limited to the ability to deduct 20 to 30 percent of childcare costs from taxable income. Childcare is generally available, but is expensive for most families and quality is largely unregulated beyond basic health and safety standards. Some families receive means-tested assistance, but only a minority of eligible families receives benefits (Gornick and Meyers 2003).

Limited labor market regulations and family policy provisions are reflected in Table 1. Compared to the three other countries, the United States has the highest percentage of employed men working over 50 hours per week and the smallest percentage of employed mothers working

less than 30 hours per week. The United States also stands out with the smallest percentage of children ages three to five in publicly-funded childcare and as the country where parents bear the largest share of childcare costs. Note, however, that the private market is large, with 38% of children ages zero to two in some type of licensed care.

For dual-earning couples with children, we expect the combination of comparatively long work hours for men and women and a lack of publicly-funded childcare (and high cost of private care) to impact parental time with children. Some families choose nonstandard schedules to tag-team parenting and avoid non-parental care. Very few fathers and less than half of mothers, however, report working nonstandard shifts for family reasons (Presser 2003). Even if nonstandard hours are not preferred, they do create an opportunity in dual-earner couples to avoid potentially costly non-parental care. Based on previous research, we expect women's time with children to remain fairly stable regardless of shift, but we expect men to spend more time with children when working an evening shift.

[INSERT TABLE 1 ABOUT HERE]

### *The United Kingdom*

Until recently labor market regulations and family policy provisions in the United Kingdom were fairly similar to those in the United States. With the election of the New Labour party in 1997, however, policies have begun to diverge more significantly. Regulations on Working Time enacted in 1998 limit mandatory hours to 48 per week. Workers, however, may voluntarily opt-out of this cap (Finch 2003b). Normal working hours are not set, but average hours set through collective bargaining are 37.5 per week. There are no laws regulating hours or compensation for nonstandard shifts (Gornick and Meyers 2003).

In regards to family leave, it was not until 1996 that mothers were guaranteed the right to return to their job after maternity leave (Finch 2003a). As of 2000, mothers were granted 18 weeks paid at a flat rate or at 90% of wages (whichever is smaller) and an additional 22 weeks unpaid. In 1999, an additional 13 weeks unpaid leave was introduced, available to both men and women, although no more than 4 weeks may be taken in one year; this benefit is available until the child is age 5 (Gornick and Meyers 2003).

The United Kingdom is similar to the United States in relying on for-profit enterprises to provide childcare. New Labour introduced the National Childcare Strategy in 1998 with a focus on affordability, accessibility, and quality. Large jumps in coverage occurred in early education by 2000. There was also an increase in nurseries, after school programs, and child care during school vacations. Childcare tax credits were introduced in 2001. Some means tested assistance is available, but there are very few spaces relative to need (Finch 2003a).

Table 1 shows several similarities with the United States; Mother's employment is high, while leave provisions and child care for young children are low. The United Kingdom stands out, however, in its high rate of part-time employment for mothers. Two-thirds of employed mothers (with 2 or more children) work less than 30 hours per week. The United Kingdom also shows greater variation in men's weekly work hours than the United States; 32% of men report working 50 or more hours per week and 31% report working 39 hours or less. The United Kingdom also has greater provision of care for 3-5 year olds, driven primarily by half-day care for four year olds. Parents' share of childcare costs is less than in the United States, but considerably more than in Germany or Norway. Fewer young children than in the United States are in some type of licensed care.

Similar to the United States, we expect relatively meager provisions for childcare to encourage parents to use a tag-team solution either by choice or when presented the “opportunity.” We may observe this more frequently in the United Kingdom because of the prevalence of part-time employment for mothers, which may provide more opportunities for such arrangements. We expect women’s time to be stable, regardless of work shift, and men to spend more time when on an evening shift, particularly when their partner is employed part-time.

### *Germany*

Germany’s labor market is highly regulated through collective bargaining among employers, trade unions, and the state. There are strict regulations and protections for workers in standard employment contracts but far fewer regulations for “irregular” contracts such as part-time workers (Ebbinghaus and Eichhorst 2006). Normal weekly work hours are not set by legislation, but the average through collective bargaining is 37.7 hours per week. Maximum mandatory hours are capped at 48. Sunday work is prohibited, with exceptions, and work at night is paid at a premium (Gornick and Meyers 2003).

Maternity and parental leave benefits have been extensive since 1986. As of 2000, after 14 weeks of fully paid maternity leave, German parents were granted up to three years of parental leave at a flat-rate with job security. Men’s take-up is extremely low, while most women take two to three years of leave. Thus, in the former West, only 15 percent of mothers with children below the age of four are employed (Ostner, Reif, Turba, and Schmitt 2003).

Childcare provisions, both public and private, are meager. Children under the age of three are expected to be cared for in the home, by mothers. Children ages three to six are entitled to part-day kindergarten, which generally operates three to four hours in the morning (Ostner, Reif,

Turba, and Schmitt 2003). Once in primary school, children may be sent home for lunch creating a need for a parent to be available mid-day (Gornick and Meyers 2003).

Table 1 shows that Germany is similar to the United Kingdom in several respects; employed mothers generally work part-time, similar proportions of men work 50 or more and 39 or fewer hours per week, and public childcare coverage is similar. Germany stands out, however, in its extensive leave provisions and its lack of private childcare for children under three.

Given the strong norm of at-home maternal care, particularly for small children, we expect work shift to have little effect on women's time. Countervailing factors in Germany, however, make our expectations for fathers more complex. On one hand, given the strong expectations for maternal care, we may expect men's work schedule (and partners' employment) to have little effect on men's time. On the other hand, the lack of public or private childcare may prompt fathers to spend more time on care, particularly when their partner is working part-time.

#### *Norway*

Working time is regulated in Norway through the Work Environment Act, which caps weekly hours at 40, with several exceptions. Hours over 40 cannot be mandatory and over-time work is paid a minimum 40% premium. The average workweek set through collective bargaining is 37.5 hours. Work between 9pm and 6am and on Sundays is generally not permitted, though there are many exceptions (Torp and Barth 2001).

Norwegian leave policy is designed to promote gender equality and parental choice. Norway offers parents 42 weeks of fully-paid leave, or 52 weeks at 80% pay. Nine weeks are reserved for the mother and four weeks for the father. Fathers' take-up rates are 85 percent. Leave may be extended if used while employed part-time. In a nod to parental choice Norway

enacted a cash for care scheme in 1998, providing a cash payment to parents who do not use public childcare for children ages one to two, whether they are employed or not (Skevik 2003).

Norway has the most extensive childcare system of the four countries. Pre-primary programs are full-day, operating 41 or more hours per week (Gornick and Meyers 2003). These programs are considered an integral part of children's socialization and development. Parents pay a sliding scale for services, capped at 20% of the cost. Although primary school hours are comparatively short, all municipalities are required to make before- and after-school programs available to children in first through fourth grades (Organization for Economic Cooperation and Development 2006; Skevik 2003).

Table 1 shows that Norway has the highest rate of maternal employment, with fewer mothers working part-time than in the United Kingdom or Germany. Men in Norway are the least likely to be working 50 or more hours per week and the most likely to work 39 or fewer. Many more children ages 1 to 2 are in publicly-funded childcare, and leave provisions are more extensive than in the United States or the United Kingdom. Norway was the only country of the four to offer paternity leave in 2000.

Given the extensive daytime services available to children in Norway, we expect that parents working an evening shift, both mothers and fathers, may spend *less* time with children. As early care, school, and before and after school programs sync well with the day shift, children may not be available during day when parents could "make up" time. Only parents who forgo public care and programs would be able to shift time to the day.

In sum, we expect considerable variation in the association between evening work and time with children in the four countries, particularly for fathers. We expect work shift to have little effect on women, with mothers working evenings shifting time with children to the

daytime. This may be less likely in Norway, unless mothers eschew public care for younger children and wrap-around activities before and after school for older children. We have similar expectations for Norwegian fathers. In the United States and United Kingdom, we expect men working evenings to spend more time with children, in part, to avoid high costs of childcare. Because of the high prevalence of women's part-time work in the United Kingdom, this may be more common. We have countervailing expectations for fathers in Germany, where the lack of public or private care competes with the strong preference for at-home maternal care.

## METHOD

### *Data*

We use four time use surveys conducted in the early 2000s to explore our hypotheses. In time use studies respondents are asked to either keep a paper diary of their activities or are asked by interviewers to reconstruct their previous day. In most diaries respondents record what they were doing in their own words (primary activity), what else they were doing (secondary activity), who they were doing it with, where they were doing it, and what time they started and stopped the activity. Staff then code the activities using a standard activity lexicon. For the United States, we use the American Time Use Survey (ATUS) 2003 conducted by the Bureau of Labor Statistics. Respondents reconstructed the previous day using computer assisted telephone interviewing. Only one adult in the household constructed a diary and only main activities were recorded. The other three datasets followed the Harmonised European Time Use Survey guidelines with some small variations. In contrast to the ATUS, the others used paper diaries completed throughout the day. The diaries contained 10-minute time slots and provided space to record secondary activities. Germany's Time Use Survey 2001-2002, conducted by the Federal Statistical Office, collected diaries from all household members for three days. Norway's Time



Use Survey 2000-2001, conducted by Statistics Norway, collected diaries for two days from one adult. The United Kingdom's National Survey of Time Use 2000-2001, conducted by a research company commissioned by the Office for National Statistics, collected diaries from all household members for two days (Ipsos-RSL and Office for National Statistics 2003).

We made the datasets comparable in several steps. After the Norwegian and German datasets were translated into English, we selected time use categories of interest and developed a template for harmonization. Harmonization was executed by a programmer at the Population Research Institute. We then examined and harmonized demographic and other variables across the countries. The dataset excludes households containing children over the age of 14 or additional adults because the British dataset includes time spent with a partner in the same category as time spent with other household members (this eliminates a small percentage of households, for example, about 7 percent of coupled households in the United States).

We restrict the sample to workdays of heterosexually partnered and employed fathers and mothers residing with children under the age of fourteen (social, not necessarily biological, parents). Because so few fathers were not employed, we restrict mothers to those with employed partners. We also eliminate night-time workers because so few diaries (2 to 6 percent) were completed by respondents working a night-time shift. Finally, we delete 215 cases with missing data, omitting 2.9 percent of the sample, resulting in a sample of 6,835 diaries. The deleted cases show no concerning differences from the full sample. The resulting sample sizes by country are listed in Table 2. Respondents in Germany, Norway, and the United Kingdom may provide multiple cases to a regression because studies gathered multiple diary days. Also, note that we have the most statistical power in the United States and Germany, less in the United Kingdom, and the least in Norway.

The time-diary format is widely recognized as the most valid and reliable measure of time use and is generally robust to variations in data collection, facilitating cross-national comparison (Harvey 1993; Juster 1985; Marini and Shelton 1993; Robinson 1985). Studies show great similarity between paper diary and recall methods of data collection (Harvey 1993). An advantage of national time diary studies is that respondents are not primed for specific topics, so social desirability bias is minimized (Pleck and Stueve 2001). This is useful for cross-national research where cultural differences might influence responses to survey questions. In sum, the data are well-suited to this project because the data are largely robust to variation, lack strong desirability bias, and contain detailed measures of involvement.

### *Measures*

Dependent variables are created from parents' diary accounts of their activities and who else was present during their activities. *Time alone with children* is the time that the parent is the only adult physically with a child, regardless of activity. It is when the parent is in "sole charge" or has full responsibility of the child (Craig 2006; Kitterød and Pettersen 2006). Note that we are unable to distinguish which household child the respondent is with in all of the surveys, thus the variable captures the time a parent is with any of the household children. *Childcare time* includes both physical care, such as feeding, bathing, dressing, supervising, transporting, and accompanying a child, and interactive care, such as talking, reading, teaching, and playing.

Childcare time is calculated from primary activity reports only. The European surveys included secondary activities in a comparable way, but the ATUS format is not compatible with the HETUS. Thus, the results presented are underestimates as child care is often multitasked, and some child care tasks are not captured as child care. For example, making lunch for a child is recorded as cooking, not child care (Budig and Folbre 2004). Interactive care, such as talking

with children, may be more nebulous than physical care and more likely to occur simultaneously with other activities. For example, a conversation with a child that occurs while driving the child to school would not be captured, being coded instead as transportation. Thus, how people choose to record it may be more variable (Kitterød, personal communication). Another concern about the ATUS's lack of secondary activities is that whether people can report secondary activities may affect their reporting of main activities. Kitterød (2001) found that Norwegian women reported more primary child care time when they were not allowed to record secondary activities. Some of these activities were shifted to secondary activities when women were allowed to report them as such. She did not find a similar pattern for men.

Although these reporting issues are concerning, errors can be lessened by considering patterns across multiple measures - both activity reports (childcare) and reports of whom the respondent was with (alone time). Additionally, we make several within country comparisons (e.g., between day and evening workers), which are not sensitive to comparability issues.

Our independent variable of primary interest is work shift. We choose a classification scheme consistent with past research in the United States (Presser 2003; Wight, Raley, and Bianchi 2008). We classify respondents reporting the majority of their work time (on their diary day) between 8 a.m. and 4 p.m. as day workers, between 4 p.m. and midnight as evening workers, and between midnight and 8 a.m. as night workers. In a few cases where hours were equally split over time periods, respondents are coded to the more nonstandard schedule. Information on work schedule comes from the time diary, thus we do not know respondents' usual schedule, only their schedule on the day they completed the diary. Because few respondents work the night shift, given our sample size, we omit night workers.

Other independent variables, shown in Table 2, focus on characteristics of individuals, employment, partners, and children. Independent variables at the individual-level include age, measured continuously, and education. Education is coded using the International Standard Classification of Education (ISCED). Respondents with post-secondary, non-tertiary education (level 4) or above are coded as having a high-level of education.

For men, variables tapping work characteristics are weekly work hours and whether the respondent reported 50 or more hours per week. Work hours measures the usual hours of work, top-coded at 50 hours for comparability. For women, we replace hours with part- or full-time employment. Exploratory analyses revealed hours of work was a more salient factor for men, whereas part- or full-time status was more salient for women. We use 35 hours as the distinction between part- and full-time employment. Comparisons show 35 hours is the most comparable cut-off. Almost no respondents, in any country, report being a full-time worker while reporting less than 35 hours. Conversely, very few report being a part-time worker while reporting 35 hours or more. We were concerned that using these categories, instead of usual weekly hours, could obscure substantial variation between countries. We examined mothers of young children, comparing reported weekly hours and self-reported employment status. We found that the means and medians are highly comparable. The median for full-time workers ranges from 38 (in the Norway and the United Kingdom) to 40 (in the United States and Germany). The median for part-time workers ranges from 19 (in Norway) to 20 (in the other countries). The means are similar ranging from 19 to 21 for part-timers and 37 to 41 for full-timers. In the United States if respondents reported that their hours vary, we code them to part-time.

Partners' work characteristics are measured by respondents' reports of their partners' employment status. In men's equation, we include dummy variables for partners' full-time and

part-time employment (the omitted category is partner not employed). In women's equation, we include a dummy variable for partners' part-time employment (the omitted category is partner working full-time). Respondents report their partners' employment status, except in Norway where respondents report work hours. We code these hours the same as above.

We do not include a measure of cohabitation (in contrast to marriage). This is a practical decision as only 3.3% of American and 2.3% of German respondents report cohabiting. The numbers in Norway and the United Kingdom are higher at 29.2% and 13.7%, respectively. Single country analyses in Norway and the United Kingdom show no associations between cohabitation and our dependent variables.

Variables tapping children's characteristics are the age, sex, and the number of children. Age is represented by a dummy variable, noting if the youngest household child is under the age of six. The number of children is a continuous variable, top-coded at 12, counting children under the age of 15. Boy is coded to one if at least one of the household children is male.

There are three primary limitations of the data and measures. First, the dependent variables are limited to measures of behavior. There are no available measures on how these behaviors correspond to outcomes of child well-being. Although this would be ideal, available research indicates that engagement time is positively associated with child well-being (Pleck and Masciadrelli 2004). Second, the data are cross-sectional, and thus, we do not conclude that relationships are causal. For example, although mothers' employment may predict father involvement, father involvement may predict mothers' employment. The contribution of this research is to explore whether associations hold in direction and magnitude across countries.

Third, comparable analyses of four countries require the exclusion of some independent variables of interest. Included variables are the lowest common denominator available in all

datasets. Of particular importance is that we are only able to distinguish step- from biological-parents in the United Kingdom, thus we do not include this in our models. In the United Kingdom, we find that being a step-father is associated with 10 minutes less of direct childcare time, and being a step-mother is associated with an hour less of alone time with children. We do not find, however, that the inclusion of this information changes the findings reported below.

### *Analyses*

The multivariate analyses focus on discerning differences across countries in the effects of variables on parents' time use. We began by modeling parental involvement in each country, separately for men and women. We performed seemingly unrelated estimation, which rejected a common model for men and women and a common model across countries. Thus we present separate models for each country and test for the equality of coefficients across models. All analyses are weighted using the weights provided in each dataset, which account for sampling design, day of the week, and non-response. We cluster standard errors by person to account for multiple diaries per person (non-independence) in Germany, Norway, and the United Kingdom.

Most time use variables have a significant amount of zeros, creating an irregular distribution. These zeros arise from either a mismatch between the observation window (one day) and the period of interest (routine time use) or from respondents never engaging in an activity (Stewart 2009). In the case of parents' time with children, we assume that zeros arise from this mismatch and not from a group of parents who never interact with their children.

Because of the frequency of zeros, multivariate analyses of time use data are contested terrain. Many researchers fear that OLS estimates will be biased because models will violate normality assumptions. Instead they employ Tobit models for censored data, which assume that we do not observe the dependent variable over its full range (e.g., Kitterød and Pettersen 2006;

Sayer, Bianchi, and Robinson 2004; Yeung, Sandberg, Davis-Kean, and Hofferth 2001). As applied to time use data, the Tobit specification assumes that some zero values are real and that some zero values represent negative values that were not observed. The theoretical underpinnings of the Tobit do not fit time use variables which are bounded between zero and twenty-four hours per day.

Recent empirical work demonstrates that OLS is preferred over Tobit and two-part models. Stewart (2009) finds that marginal effects from Tobit models are biased, increasingly so as the proportion of zeros increases. A two-part model performs similar to OLS, but OLS is preferred if a covariate predicts performance and time spent. He concludes, “OLS estimates are unbiased and robust to a number of assumptions about the relationship between the variables in the model and the probability of doing an activity” (p. 12). Gershuny and Eggerton (2006) find further support for using OLS over Tobit. Unlike Tobit, OLS coefficients sum to zero and the intercepts sum to 24 hours if identical regressions are performed on an exhaustive list of time use categories, and coefficients are stable whether generated from a single diary day or a weekly average. We use OLS for the multivariate analysis.

## RESULTS

Table 2 shows descriptive statistics for our sample of employed fathers and mothers. There are several notable cross-national differences in demographic and employment characteristics. A smaller percentage of German households contain a child under the age of six; Germany trails the other countries by 14 to 20 percentage points. Thus means that are not adjusted for age of household children will show German parents spending less time than other parents in other countries because parents spend more time with younger children.

Regarding employment, relatively few German fathers are partnered to women working full-time, only 13%, compared to about 30% or more in the other countries. In contrast, relatively few American fathers are partnered to women working part-time, only 26%, compared to about 50% in the other countries. British fathers are the most likely to work over 50 hours per week, at 42%, while Norwegian fathers are the least likely to put in over 50 hours, at 17%. Eight to 13% of fathers worked an evening shift on their recorded workday. In our sample of mothers, the majority in United States are employed full-time, at 71%, compared to less than half of mothers in other countries. Eleven to 16% of mothers worked an evening shift.

[INSERT TABLE 2 ABOUT HERE.]

Table 3 shows daily participation rates and mean time among those participating for our dependent variables. We show figures separately for workers on the day and evening shifts, and test for differences within each country. Note that there is considerable uncertainty around the means for evening workers, particularly in Norway and the United Kingdom where we have smaller sample sizes. There are no statistically significant differences between day and evening workers in participation rates for time alone with children or rates for childcare in any of the countries. In all countries, however, fathers spend more time alone with children if they worked the evening shift - a half hour more in Germany, about an hour more in the United States and Norway, and an hour and 20 minutes more in the United Kingdom. Only fathers in the United States and the United Kingdom, however, appear to translate this time with children into direct child care time. Mothers in all countries, except Germany, spend more time alone with children if they worked the evening shift - about an hour more in the United States and the United Kingdom, and an hour and a half more in Norway. Only mothers in Norway appear to translate



this time alone with children into direct child care time. We observe clear differences in time with children by work shift in each country, except for German mothers.

[INSERT TABLE 3 ABOUT HERE.]

Although means are informative, we can expect much of the influence of work schedule to be a shifting of time from one part of the day to another. Figure 1 shows tempograms of the percentage of all fathers spending time alone with children throughout the day by work shift. Fathers working the first shift are most likely to spend time alone with their children in the evenings, their involvement peaking around 7:30 p.m. in all countries. There is also a smaller spike in spending time alone with children in the mornings around 7:30 a.m.; this is particularly noticeable in the United States. Fathers working the second shift show a much higher rate of involvement in the morning and greater engagement throughout core daytime hours. Fathers working the second shift in the United States reach over 25% participation around 8:00 a.m., and participation remains relatively high until 1p.m. Women show a similar pattern, as shown in Figure 2, but show higher levels of time alone with children and steeper early morning peaks that rival evening peaks. Women working the first shift begin their evening peak in time alone with children about the same time as men (around 2:30), except in Germany where growth begins as early as noon; this may be explained by the high prevalence of part-time work among German women as well as school schedules. Recall that young children are entitled to kindergarten for 3 to 4 hours in the morning and children in primary school may be sent home for lunch.

[INSERT FIGURES 1 AND 2 ABOUT HERE.]

### *Multivariate Analyses*

Table 4 shows the results from multivariate analysis of fathers' time alone with children and childcare time. The variable of primary interest, working an evening shift, is interacted with

partners' part- and full-time employment status. Thus, the effect listed under "evening shift" is conditional and refers to fathers with non-employed partners. Similarly, the effect of partners' part- and full-time employment is conditional and refers to fathers working a day shift. The interaction terms show the deviation from these values for other groups.

Beginning with time alone with children at the top of Table 4, we observe little influence of fathers' work hours on time alone with children. We do, however, observe the importance of work shift and partners' employment status in several countries. For men who work the day shift, having a partner employed part- or full-time is associated with about a half hour more of alone time with children in the United States and Norway. We detect no effect of partners' employment for fathers working days in Germany or the United Kingdom.

Fathers working the evening shift are predicted to spend nearly an hour more alone with children in the United States, conditional on having a non-employed partner. This association differs from the other three countries ( $p \leq .05$ ), where we observe a negative association (though the association is not statistically significant in Norway). Fathers working evenings with a non-employed partner are predicted to spend a half hour less alone with children in the United Kingdom, and 20 minutes less in Germany.

In the United States and Norway the interactions are not statistically significant. Thus, in the United States all fathers working evenings are predicted to spend more time alone with children, regardless of partners' employment status. Similarly, fathers with partners employed part- or full-time are predicted to spend more time alone with children in both the United States and Norway, regardless of whether they worked the day or evening shift.

Interactions terms for Germany and the United Kingdom, however, suggest more complex relationships between work schedule and partners' employment. In Germany, fathers

working evenings with non-employed partners are predicted to spend 20 minutes *less* alone with children than fathers working days with non-employed partners. Fathers working evenings with partners employed part-time, however, are predicted to spend 17 minutes *more* alone with children (adding the values of the interaction term to the "main" effects) than fathers working days. This association does not appear to extend to fathers with partners working full-time.

We observe a similar, but more extreme, relationship in the United Kingdom. Fathers working evenings with non-employed partners are predicted to spend 30 minutes *less* alone with children than fathers working days. Fathers working evenings with partners employed part-time, however, are predicted to spend 104 minutes *more* alone with children, and those with partners employed full-time are predicted to spend 30 minutes more than fathers working days.

[INSERT TABLE 4 ABOUT HERE.]

The second half of Table 4 shows whether patterns observed for time alone with children translate to patterns for direct childcare time. We no longer observe a positive effect of evening shift in the United States. We continue to see an effect for partners' part- and full-time employment, which are associated with about 20 minutes more of child care time, regardless of fathers' work shift. There are no discernable effects for fathers in Norway. In Germany and the United Kingdom we continue to see a negative effect, of about 20 minutes, for fathers working an evening shift with non-employed partners as opposed to similar fathers working a day shift. And again we see a positive effect of evening work for fathers with partners working part-time. In the United Kingdom this amounts to 45 minutes more of child care compared to fathers working days with non-employed partners. This association does not extend to fathers working evenings with partners employed full-time. Recall, however, that in both countries the majority of fathers are partnered to women working part-time.

Table 5 shows the results for women. The sample is restricted to working mothers partnered to working men. The variable of primary interest, working an evening shift, is interacted with mothers' full-time employment status (the comparison group is mothers employed part-time). Compared to women working part-time on the day shift, women working full-time are predicted to spend about 45 minutes less alone with children in all countries, except Norway. In Germany, however, this negative association between full-time employment and time alone is attenuated by working full-time on an evening shift.

Compared to women working part-time on the day shift, mothers in Norway and the United Kingdom are predicted to spend substantially more time alone with children if they work the evening shift, at over an hour and a half in Norway, and about an hour in the United Kingdom. The effect for full-time employment and evening work does not statistically differ from this pattern in Norway and the United Kingdom, thus the positive association between evening work and time alone with children appears to hold regardless of employment status. In contrast, women working part-time on the evening shift are predicted to spend about the same amount of time alone with children in the United States and Germany.

[INSERT TABLE 5 ABOUT HERE.]

The second half of Table 5 shows results for direct childcare time. We continue to observe a negative association between full-time employment and childcare time in the United States, Germany, and the United Kingdom. Working an evening shift appears to attenuate this effect only in the United Kingdom. Working an evening shift continues to have a direct, positive effect in Norway, where mothers working an evening shift are estimated to spend about an hour more on childcare.

In sum, work shift is associated with parents' time with children, but associations are different for mothers and fathers, and different across countries. Fathers in the United States working an evening shift spend about an hour more alone with their children regardless of their partners' employment status. Fathers in the United Kingdom and Germany, however, spend less time if they work an evening shift, unless they are partnered to women working part-time, in which case they spend more time alone with children (these associations extend to direct childcare time). In both the United States and Norway, fathers partnered to employed women spend more time alone with children, regardless of their own work shift (extends to direct childcare time in the United States). Mothers in the United Kingdom and Norway spend more time alone with children when working an evening shift, regardless of their employment status (extends to direct childcare time in Norway). For German mothers, however, the effect of working an evening shift serves to attenuate a negative association between full-time employment and time alone with children.

#### *Sensitivity Analysis*

We tested the sensitivity of the results to the inclusion of partner's employment schedule. We were able to match couples in the United Kingdom and in Germany. We limited the sample to days that both the respondent and their partner worked. This provides a sample of 335 diaries for women and 317 for men in the United Kingdom, and 922 diaries for women and 922 for men in Germany. We replaced the variable *evening shift* with two dummy variables: *respondent day shift/partner evening shift* and *respondent evening shift/partner day shift*.

In both countries, the results for *evening shift* are consistent with results for *respondent evening shift /partner day shift*. One explanation for the similarity in the estimates is that the vast majority of respondents working an evening shift have a partner working the day shift. There is

evidence in both countries, however, that if a respondent works days while their partner works the evenings the respondent spends additional time alone with children. This effect is not captured in the main analysis, but its exclusion does not affect the conclusions we draw.

### DISCUSSION

Nonstandard schedules are pervasive in North America and Europe. In our sample of working parents, 8 to 13 percent of fathers and 11 to 16 percent of mothers worked an evening shift on the day they completed their diary. We find that work schedules are associated with time with children for both mothers and fathers, although the patterns are different for men and women within the same country, and the patterns vary across countries.

Consistent with Wight, Raley, and Bianchi (2008), fathers in the United States spend more time alone with children (but not necessarily more time on childcare) when they work an evening shift. Curiously, fathers spend more time regardless of partners' employment status. Even when partnered to stay-at-home mothers, fathers in the United States translate evening employment to more time alone with their children. Results are consistent with our expectations that fathers working an evening shift would spend more time with children when mothers are employed, but our finding of an uptick for fathers partnered to stay-at-home mothers suggests that the mechanism underlying this increase in time may be about more than a than deliberate childcare strategy. Fathers' presence during the day, of course, may free mothers for non-employment activities as well.

In contrast, the patterns we observe are quite different in the other countries. Consistent with Kitterød and Pettersen (2006), we observe no effect of evening work for fathers in Norway (working an evening shift is not statistically significant, and the coefficients for evening work are negative). In Germany and the United Kingdom, we observe an interesting pattern where

working an evening shift means less time alone with children and less time on childcare if the respondents' partner is not employed, but more time alone and more time on childcare if the partner is employed part-time (and to a lesser extent full-time in the United Kingdom). These relationships suggest a deliberate childcare strategy in the United Kingdom and, to a lesser extent, in Germany, where the effects are substantially smaller. The larger effect of part-time employment and evening work (compared to full-time employment) is consistent with prior research that if mothers are employed full-time, parents hire care, but if mothers are employed part-time, fathers are more likely to provide care (Folk and Beller 1993). It appears that men's evening work makes this even more likely. Although Germany and the United Kingdom show a similar pattern, the magnitude is smaller in Germany, suggesting less father care with women's part-time employment. The strong norms of at-home maternal care may help explain this.

Mothers have substantially different patterns associated with evening work. In Germany, evening work attenuates the negative association between full-time employment and time alone with children. In the United Kingdom and Norway, mothers employed both part- and full-time spend more time alone with children if they work an evening shift. In Norway, the effect is large for both time alone with children and direct childcare time. Recall that we observe no effect for Norwegian fathers. Even with small sample size, this suggests that Norwegian fathers do not translate evening work to more time with children as Norwegian mothers do. We hypothesized that evening work would not increase parents' time with children in Norway, unless parents eschewed public care and school programs. This suggests that evening work may be a strategy Norwegian mothers use to care for their children (while keeping their children out of public care), but it is something men do as feature of their job. This would be consistent with Presser's

(2003) findings in the United States that mothers are more likely to report that their nonstandard schedule is chosen for family reasons than are fathers.

We encountered several noteworthy data limitations. First, theory and research suggest that the ages of children may alter the association between work shift and parental time. Unfortunately, due to our small sample size of evening workers, we are unable to explore interactions with the ages of children. An important extension for future research is to incorporate children's developmental stages into a cross-national analysis of work schedule. Second, we do not have couple-level data for all four countries. Couple-level time use data would add additional complexity and value to our understanding of work schedules and family life in two-parent families. Third, although we restrict our focus to two-parent families, a cross-national analysis of work schedule among single parents is an important next step.

Research shows both positives and negatives for families when parents work nonstandard hours. Although evening and night work have been linked to both health problems and decreased marital quality and stability for parents, evidence suggests both positives and negatives for children (see Presser 2003). We find that a major consequence of evening work often viewed as positive for children, fathers spending more with them, is sensitive to both household employment arrangements and country context. This suggests that great care should be exercised when generalizing the effects of evening work to different family types and across countries.



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Figure 1. Tempograms of fathers' time alone with children on a workday, by work shift, weighted

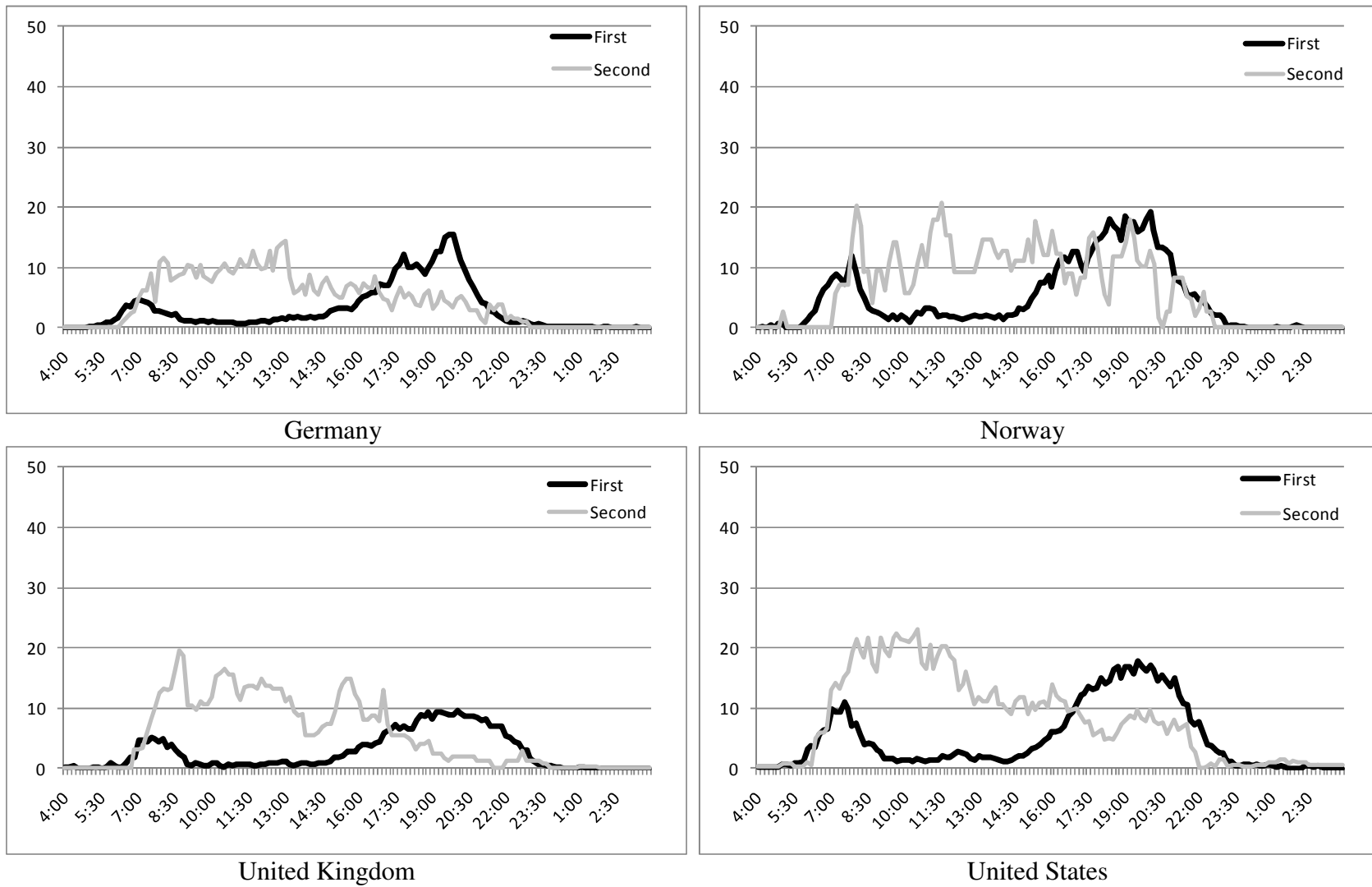


Figure 2. Tempograms of mothers' time alone with children on a workday, by work shift, weighted

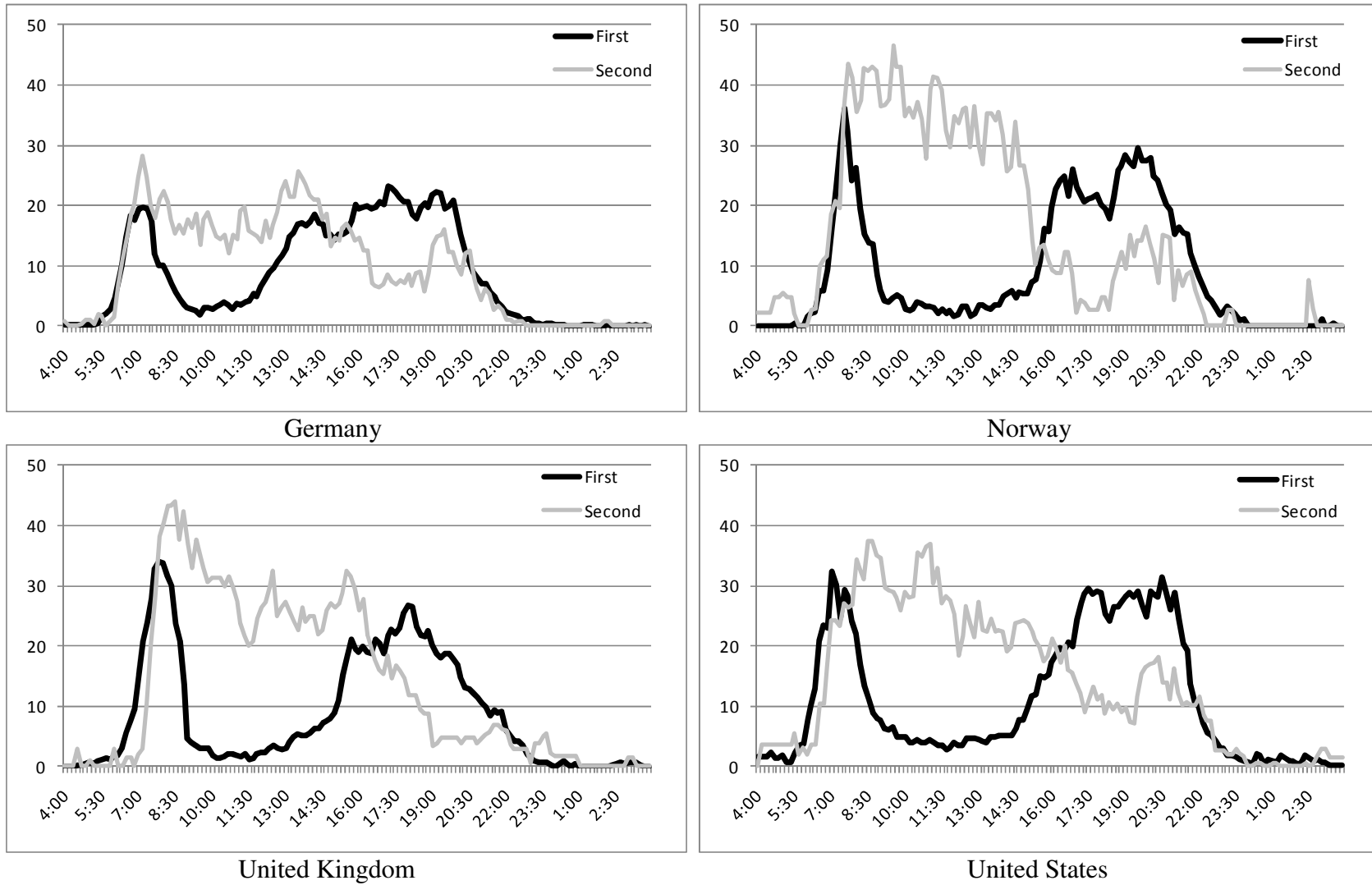


Table 1. Summary of labor market and policy context, 2000

National Characteristics	US	UK	NO	GE
Employed men working 50+ hours, percent <sup>a</sup>	27	32	20	29
Employed men working 39 hours or less, percent <sup>a</sup>	19	31	42	29
Mothers (2+ children) employed, percent <sup>b</sup>	65	62	78	56
Employed mothers (2+ children) working 30 hours or less, percent <sup>b</sup>	24	63	41	60
Paid maternity leave (fully-paid), weeks <sup>c</sup>	0	5	38 <sup>d</sup>	14
Paid paternity leave, weeks <sup>c</sup>	0	0	4	0
Extended leave (paid or unpaid), weeks <sup>c</sup>	12	13	52	156 <sup>e</sup>
Children ages 1 to 2 in publicly-funded childcare, percent <sup>c</sup>	6	2	37	5
Children ages 3 to 5 in publicly-funded childcare, percent <sup>c</sup>	53	77	78	77
Children under age 3 in licensed childcare, percent <sup>f</sup>	38	26	44	9
Parents' share of childcare cost, average or cap, percent <sup>f</sup>	60	45	20	14

Notes: a) Fagan 2002 ; Jacobs and Gerson 2004 for United States b) Organization for Economic Cooperation and Development 2002 refers to children under age 15 c) Gornick and Meyers 2003 d) Nine weeks reserved exclusively for the mother, the remainder may be shared. e) This is a family entitlement; the others are an individual entitlement f) Organization for Economic Cooperation and Development 2006.

Table 2. Independent Variables: Descriptive Statistics, Means or Percentages, Weighted (N=6,835)

	Fathers				Mothers			
	<u>US</u>	<u>NO</u>	<u>GE</u>	<u>UK</u>	<u>US</u>	<u>NO</u>	<u>GE</u>	<u>UK</u>
Age of respondent in years	37.2	36.9	39.8	36.9	35.9	35.1	37.3	35.5
	(.25)	(.39)	(.17)	(.28)	(.35)	(.38)	(.23)	(.32)
College degree (1 = yes)	49%	38%	55%	30%	55%	41%	41%	36%
Number of children in household	2.0	2.0	2.0	1.8	1.9	2.0	1.9	1.7
	(.03)	(.04)	(.02)	(.04)	(.04)	(.05)	(.03)	(.04)
Male child present (1 = yes)	72%	73%	69%	66%	68%	78%	64%	65%
Youngest child 0 to 5 (1 = yes)	59%	64%	45%	62%	52%	56%	36%	54%
Weekend (1 = yes)	12%	11%	9%	11%	12%	12%	11%	11%
<i>Employment Variables</i>								
Evening shift (1 = yes)	10%	9%	8%	13%	11%	16%	15%	13%
Hours of work per week	41.8	40.9	41.8	43.5	35.6	31.6	27.0	28.9
	(.30)	(.35)	(.18)	(.38)	(.44)	(.63)	(.52)	(.63)
Works 50 hours+ (1 = yes)	28%	17%	26%	42%	9%	4%	3%	7%
Full-time (1 = yes)	95%	96%	96%	93%	71%	48%	38%	40%
Partner full-time (1 = yes)	37%	37%	13%	29%	91%	97%	93%	79%
part-time (1 = yes)	26%	47%	52%	58%	9%	3%	7%	21%
not employed (1 = yes)	38%	16%	34%	13%	-	-	-	-
<i>N - Evening shift diaries</i>	143	32	193	84	97	38	164	68
<i>N - Individuals</i>	1,145	251	991	387	654	228	602	294
<i>N - Diaries</i>	1,145	409	2,040	674	654	354	1,091	468

Note: Standard errors appear in parentheses underneath means.

Table 3. Dependent Variables: Descriptive Statistics, Means or Percentages, Weighted (N=6,835)

	Fathers				Mothers			
	<u>US</u>	<u>NO</u>	<u>GE</u>	<u>UK</u>	<u>US</u>	<u>NO</u>	<u>GE</u>	<u>UK</u>
Time alone with children								
Day shift								
Participation rate	59%	77%	63%	37%	87%	93%	87%	77%
Minutes participating	102	92	71	101	155	141	142	160
	(4.2)	(5.1)	(2.3)	(6.5)	(5.8)	(7.9)	(4.6)	(8.4)
Evening shift								
Participation rate	64%	63%	56%	48%	88%	95%	92%	86%
Minutes participating	165	154	103	181	210	229	151	229
	(17.1)	(31.1)	(14.3)	(37.7)	(21.8)	(29.0)	(12.6)	(30.3)
Difference (evening - day shift)								
Participation rate	5%	-14%	-6%	11%	1%	1%	5%	8%
Minutes participating	63 *	62 *	32 *	80 *	54 *	89 *	9	68 *
Childcare time								
Day shift								
Participation rate	64%	68%	57%	60%	86%	91%	78%	88%
Minutes participating	80	62	46	56	127	80	76	110
	(3.2)	(3.6)	(2.0)	(5.1)	(5.0)	(4.6)	(3.1)	(5.7)
Evening shift								
Participation rate	62%	65%	52%	53%	85%	88%	84%	88%
Minutes participating	106	87	55	97	125	128	72	104
	(13.0)	(19.1)	(7.2)	(20.6)	(12.1)	(19.7)	(7.9)	(16.6)
Difference (evening - day shift)								
Participation rate	-2%	-4%	-5%	-7%	-1%	-3%	6%	0%
Minutes participating	26 *	25	9	41 *	-3	48 *	-4	-6

Note: \* indicates that the means for day and evening workers are statistically different at the  $p \leq .05$  level.



Table 4. Linear Regression Predicting Fathers' Time Spent Alone with Children and Childcare Time, by Country, Weighted (N = 4,268)

	TIME ALONE WITH CHILDREN											
	United States			Norway			Germany			United Kingdom		
	B	SE		B	SE		B	SE		B	SE	
Age	.40	.49		.79	.64		.54	.41		1.19	.93	
College degree	15.35	6.03 *	N	-13.46	9.03		8.84	4.15 *	N	5.70	7.66	
Number of children	8.50	3.89 *		4.55	5.70		9.91	3.23 **		7.86	4.29 +	
Male child present	14.95	7.11 *	G	12.14	13.00		-2.63	4.97		-1.40	7.20	
Youngest child < 6	19.37	7.67 *		31.34	10.13 **		24.39	5.16 ***		20.73	9.96 *	
Work hours (weekly)	-.98	.76		.68	.61		-1.04	.55 +	N	-.73	.75	
Works over 50 hours	7.24	9.73		-26.78	14.44 +	U, G	7.65	6.58		-1.70	9.24	
Evening shift	53.73	17.65 **	N, G, B	-53.44	33.06		-18.73	10.59 +		-30.26	12.33 *	
Partner part-time (PT)	26.96	8.35 **	G	26.58	10.81 *	G	1.76	4.84		15.02	9.63	
Partner full-time (FT)	34.97	7.56 ***	G, B	29.26	10.60 **	G, B	4.71	6.28		-.14	10.00	
Evening x Partner PT	2.00	33.16		67.56	48.06		33.49	15.82 *		119.45	38.98 **	U, G
Evening x Partner FT	-41.12	27.62		23.72	46.47		8.82	15.42		65.43	34.49 +	U
Weekend	6.26	8.48		72.95	21.69 ***	U, G, B	29.11	7.40 ***	U, N, B	-1.92	12.80	
Constant	17.60	39.20		-42.96	40.30		27.31	22.48		-10.19	44.19	
R <sup>2</sup>	.07			.12			.08			.09		
	CHILDCARE TIME											
Age	.31	.37		-.24	.38		-.13	.28		1.00	.72	
College degree	15.70	4.75 ***		9.93	6.87		10.65	3.56 **		9.58	6.67	
Number of children	4.70	2.85 +		3.05	4.52		-.57	2.05		-.48	3.39	
Male child present	9.29	4.81 +	g	9.07	7.55		-1.82	4.16		-.92	5.26	
Youngest child < 6	28.42	5.60 ***		38.57	7.22 ***		31.61	4.17 ***		29.91	7.69 ***	
Work hours (weekly)	.21	.30		.06	.43		-.69	.34 *	U	-.85	.43 +	
Works over 50 hours	-1.91	5.85		-3.02	11.25		-.78	4.94		2.70	6.98	
Evening shift	16.18	11.15		-15.78	34.61		-20.19	8.83 *	U	-20.98	10.52 *	U
Partner part-time (PT)	16.63	6.11 **	G	5.97	9.12		-7.85	4.65 +		8.14	7.69	
Partner full-time (FT)	22.58	5.50 ***	G, B	7.32	10.15		-6.03	5.57		.86	7.86	
Evening x Partner PT	7.76	24.14		11.60	41.34		31.21	10.83 **		58.47	23.49 *	
Evening x Partner FT	-10.66	20.17		-8.29	40.96		3.85	11.00		26.36	17.76	
Weekend	2.71	6.37		31.57	16.07		12.61	5.49 *	B	-4.66	6.03	
Constant	-16.22	19.94		8.57	26.27		54.61	18.45 **	U	12.44	36.29	
R <sup>2</sup>	.07			.15			.13			.11		
N	1,145			409			2,040			674		

Note: +p < .10, \*p < .05, \*\* p < .01 \*\*\* p < .001. Upper-case letters denote that a coefficient is statistically different (at the p < .05 level) from the comparison country (U= United States, N = Norway, G=Germany, B= United Kingdom). Lower-case letters indicate a comparison is marginally significant (p < .10).

Table 5. Linear Regression Predicting Mothers' Time Spent Alone with Children and Childcare Time, by Country, Weighted (N = 2,567)

	TIME ALONE WITH CHILDREN									
	United States		Norway		Germany		United Kingdom			
	B	SE	B	SE	B	SE	B	SE		
Age	.43	.98	.74	1.91	-1.66	1.17	-1.40	1.21		
College degree	24.72	10.45 *	22.97	16.43	13.13	10.65	.79	15.36		
Number of children	37.82	6.95 ***	41.54	15.18 **	18.11	7.94 * <sup>b</sup>	46.00	11.54 ***		
Male child present	-1.34	10.69	-15.19	23.69	-22.18	10.07 *	-8.29	14.25		
Youngest child < 6	35.42	13.39 **	60.06	22.14 **	58.26	13.47 ***	38.66	13.73 **		
Partner part-time	3.05	14.71	54.32	85.99	-15.57	22.94	-9.25	13.82		
Evening shift	16.10	30.07	100.71	35.60 ** <sup>u, G</sup>	-1.54	12.72	62.29	31.82 + <sup>g</sup>		
Employed full-time	-42.88	13.42 **	-8.05	16.87	-49.97	10.74 *** <sup>N</sup>	-48.57	13.36 *** <sup>n</sup>		
Evening x full-time	59.21	42.79	-34.26	56.14	42.49	22.52 +	-9.77	45.17		
Weekend	-14.31	17.15	-49.34	34.49	-44.99	13.39 ***	-64.13	17.07 *** <sup>U</sup>		
Constant	48.76	42.49	-.02	85.30	165.81	48.19 *** <sup>u, n</sup>	109.12	51.90 *		
R <sup>2</sup>	.14		.22		.17		.17			
	CHILDCARE TIME									
Age	.50	.70	-.55	1.07	-1.98	.56 *** <sup>U</sup>	-.63	.70		
College degree	20.89	8.41 *	3.36	10.06	14.21	5.83 *	25.68	9.55 **		
Number of children	22.54	5.90 *** <sup>G</sup>	24.92	8.91 ** <sup>G</sup>	-2.42	5.32	21.26	7.46 ** <sup>G</sup>		
Male child present	7.81	8.51	-1.90	13.38	-8.61	5.86	-11.23	8.84		
Youngest child < 6	58.52	9.85 ***	35.68	12.30 **	50.36	6.90 *** <sup>b</sup>	60.46	8.92 ***		
Partner part-time	-5.56	11.87	29.79	31.93	22.02	14.87	15.41	12.16		
Evening shift	-10.17	20.57	59.00	24.11 * <sup>U, G, B</sup>	-9.13	8.66	-28.62	17.66		
Employed full-time	-31.38	10.80 ** <sup>N</sup>	1.85	10.21	-35.35	5.87 *** <sup>N</sup>	-39.56	8.37 *** <sup>N</sup>		
Evening x full-time	23.83	25.02	-26.47	33.87	19.27	16.73	52.46	31.28 + <sup>n</sup>		
Weekend	-44.49	10.08 ***	-41.46	17.01 *	-27.65	5.16 ***	-25.90	9.19 **		
Constant	33.69	31.19	29.27	42.85	145.05	22.85 *** <sup>U, N, B</sup>	65.33	29.86 *		
R <sup>2</sup>	.19		.24		.26		.25			
N	654		354		1,091		468			

Note: + $p < .10$ , \* $p < .05$ , \*\* $p < .01$  \*\*\* $p < .001$ . Upper-case letters denote that a coefficient is statistically different (at the  $p \leq .05$  level) from the comparison country (U= United States, N = Norway, G=Germany, B= United Kingdom). Lower-case letters indicate a comparison is marginally significant ( $p \leq .10$ ).