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Doctoral Thesis

Reconciling Work and Family in a 24/7 Economy? Gender and Class Inequalities in Trends and Patterns of Paid and Unpaid Work in Germany, the United Kingdom, and France

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Reconciling Work and Family in a 24/7 Economy?

Gender and Class Inequalities in Trends and Patterns of Paid and Unpaid Work in Germany,
the United Kingdom, and France

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CHAPTER 1: Introduction

Setting the Stage

Across Western countries, a growing institutional mismatch has emerged between the flexible temporal demands of the labor market and the persistently rigid schedules governing children's lives (Carillo et al., 2017). As economies have shifted from industrial to service-based models and moved toward labor market deregulation, the demand for nonstandard work schedules outside the Monday-to-Friday 9-to-5 workweek has increased, particularly in lower-class jobs (Anttila et al., 2015; Presser, 2003). At the same time, many European countries have invested in formal education and care to support women's employment, either by expanding public childcare or promoting market-based care (Lewis, Knijn, et al., 2008; Thévenon, 2011). However, although evening, night, and weekend work are widespread in the "24/7 economy" (Presser, 2003), children's schedules remain tied to an industrial logic. Schools and childcare facilities typically operate during standard work hours, on weekdays, and often run for partial rather than full days (Parente, 2020; Wight et al., 2008). Despite this contradictory institutional arrangement, existing research on how parents organize their daily time to reconcile paid work with caregiving remains incomplete.

A broad literature has analyzed historical and cross-national differences in work-family arrangements, i.e. models of how mothers and fathers combine paid and unpaid work. From a historical perspective, research across Western countries has shown that although women now often achieve higher educational attainments than men and have massively entered the labor force since the 1960s, unlike men, they continue to interrupt their careers after childbirth and often work part-time to reconcile work and family (Esping-Andersen, 2009; Kan et al., 2022; Pailhé et al., 2021). Moreover, trends toward gender convergence in

paid and unpaid work have been primarily driven by better-educated women and have stalled since the late 1990s in some countries (England, 2010; England et al., 2020; Kan et al., 2022). From a comparative perspective, scholars found that gender and class inequalities in work-family arrangements differ by welfare state context (Esping-Andersen, 1999; Hook, 2015). This literature has emphasized that work-family arrangements are jointly shaped by labor market and family policies. Family policies impact gender inequalities in the time spent on paid and unpaid work, while labor market policies regulate class inequalities in access to and rewards for paid work (Cooke, 2011; Shalev, 2008). Moreover, migration policies influence whether rich Western countries promote a market for domestic services that encourages advantaged mothers to outsource their domestic work to pursue stable full-time careers (van Hooren, 2012). However, this intersectional, historical, and comparative literature has primarily focused on the *amount of time* spent on paid and unpaid work.

On the other hand, a second strand of the work-family literature on the *scheduling* of paid and unpaid work has four major gaps. First, previous studies have mainly either focused on the class stratification of work schedules and their consequences for families (Carillo et al., 2017; Harknett et al., 2022; Lesnard, 2008) or on how work schedules are associated with the gendered division of housework and childcare (Bünning & Pollmann-Schult, 2016; Presser, 2003; Täht & Mills, 2016). Second, little research has examined how social policies impact gender and class inequalities in the scheduling of paid and unpaid work (Gracia et al., 2021; Hook & Wolfe, 2013). Third, by exploring how work schedules are associated with the time spent on unpaid work, previous studies often looked at employed individuals only (Hook & Wolfe, 2013; Presser, 2003). Fourth, few studies have comprehensively analyzed time-use patterns in terms of whether, when, and how many hours individuals spend on paid and unpaid work throughout the day (Vagni, 2020; Vagni & Cornwell, 2018).

To address these gaps, this dissertation investigates two overarching research questions. First, how do typical daily time-use patterns among parents differ by gender and class? Second, how does this vary across time and welfare state contexts? By addressing these research questions, the thesis aims for a better understanding of how gender and class intersect in shaping everyday work and family life. Considering both the amount and scheduling of paid and unpaid work, I theorize and empirically assess how parents organize their daily time throughout the day. Conceptually, I integrate theories on the gendered division of labor with class-centered and family-centered research on work schedules, arguing that women rather than men have to manage the compatibility of their work schedules with their children's schedules. On the one hand, I contend that this mechanism creates gender inequalities in parents' daily time use regardless of social class. On the other hand, I propose that it penalizes disadvantaged women the most, as their lack of access to compatible work schedules often marginalizes them from the labor market. Furthermore, building on the comparative welfare state literature (Esping-Andersen, 1999; Hook & Li, 2020; Orloff, 2009), I emphasize that gender and class inequalities in parents' daily time-use are coproduced—and can therefore be exacerbated or alleviated—by social policies that regulate class inequalities in work schedules and their gendered (in)compatibility with care responsibilities. For example, labor market policies influence lower-class workers' exposure to nonstandard work schedules (Gracia et al., 2021), while family policies structure daily caregiving responsibilities by governing children's schedules (Wight et al., 2008).

Empirically, three targeted small-N studies combine sequence and cluster analyses with regression models on time use data to uncover trends and patterns of paid and unpaid work in distinct historical and institutional contexts. Each of the studies addresses different aspects of the overarching research questions. *Study 1* investigates how mothers' and fathers'

daily time-use patterns changed across social classes in historically conservative western Germany (the former West Germany) and formerly socialist eastern Germany (the former East Germany) between 1990 and 2013. In the 2000s, Germany combined labor market deregulation with public childcare expansion and the introduction of an income-based parental allowance (Lewis, Knijn, et al., 2008; Van Kersbergen & Hemerijck, 2012).

Comparing change across time in western and eastern Germany allows me to capture how the policy reforms unfolded in two contexts with historically distinct gender and class legacies. Before reunification in 1990, social policies relied on the male-breadwinner model in West Germany, whereas East Germany promoted the dual-earner model (Esping-Andersen, 1990; Rosenfeld et al., 2004). The empirical analyses use data from the German Time Use Survey (1991-1992, 2001-2002, 2012-2013). I found that the policy reforms coincided with more gender-equal time-use patterns among middle- and upper-class couples with standard work hours in western Germany. By contrast, gendered nonstandard work patterns and dual-joblessness became more prevalent among lower-class couples, particularly in eastern Germany, which had faced an economic crisis after reunification (Trappe et al., 2015).

Study 2 shifts the research focus from gender inequalities among couples to class disparities among mothers. It examines class differences in mothers' organization of paid and unpaid work, and how these differences are associated with the hiring of domestic workers for housework and childcare. Complementing Study 1's historical and regional endeavor, this study compares western Germany (2013) with the United Kingdom (2015) as an example of a liberal welfare state (Esping-Andersen, 1990, 1999). In the mid-2010s, both contexts lacked comprehensive full-day education and care provisions, despite recent social investments. Yet, they greatly differed in their broader family, labor, and migration policies (Daly & Scheiwe, 2010; Morel, 2015; Rubery et al., 2024). Using data from the German Time Use Survey

(2012-2013) and the United Kingdom Time Use Survey (2014-2015), I found that in both contexts, disadvantaged mothers were more likely to have unpaid household and care workdays rather than nonstandard workdays. However, in the UK, more market-oriented as opposed to conservative family policies, stronger labor market deregulation, and more consistent policy incentives for domestic outsourcing corresponded with a greater share of advantaged mothers who outsourced care work to pursue standard (9-5) workdays. By contrast, in western Germany, the pattern of partial workdays in the morning, combined with more unpaid work allocation in the afternoon, prevailed regardless of social class—consistent with the dominance of the standard one-and-a-half-earner model (Study 1).

Study 3, co-authored with Jeanne Ganault, examines how education, and the presence and age of children, shape work schedule arrangements among different-sex couples. In contrast to Studies 1 and 2, it focuses solely on identifying paid work schedules. At the same time, it broadens the research focus by also including partnered men and women without children. Further expanding the comparative scope, we contrast Germany (2013) and France (2010) as two countries with similar labor market regulations but distinct family policies. Similar to Germany, France is a formerly conservative welfare states with recent trends toward labor market deregulation (Palier & Thelen, 2010). However, unlike in Germany, in France conservative family policies are combined with comprehensive full-day public education and care and the 35-hour week (Lewis, Knijn, et al., 2008; Rubery et al., 2024). The empirical analyses use data from the German Time Use Survey (2012-2013) and the French Time Use Survey (2009-2010). We found that in both labor market contexts, less-educated men were more likely to work imposed shift schedules, whereas less-educated women were more likely to not be employed. However, in France, more work-facilitating “social-democratic” family policies corresponded with more gender-equal standard work

schedules among better-educated men and women. By contrast, in line with Studies 1 and 2, German mothers were more likely to not be employed or to have partial workdays.

Jointly, the three studies advance an intersectional, historical, and comparative perspective on everyday work and family life. Taken together, the findings challenge class-centered theoretical approaches that conceptualize work schedules as a direct expression of labor market opportunities (Harknett et al., 2022; Lesnard, 2008), and family-centered approaches, arguing that nonstandard work schedules promote a more gender-equal division of labor (Presser, 2003; Täht & Mills, 2016). Instead, they highlight how gender and class intersect in shaping everyday work and family life. By showing that women, unlike men, adjust not only *how many* hours they spend on paid work but also *when* they spend these hours to accommodate family responsibilities, this dissertation adds a daily time-use perspective to research on the persistence of gendered responsibilities for unpaid work (England et al., 2020; Kan et al., 2022). It also suggests that lower-class jobs with rigid work schedules push fathers into nonstandard work hours but can marginalize mothers from access to the labor market due to their incompatibility with family responsibilities.

The findings underscore the critical role of social policies in structuring gender and class inequalities in parents' daily time use. Amid a European shift toward labor market deregulation alongside increased social investments in education and care, they contribute to current debates on how the interplay of social policies shapes work-family arrangements (Fasang et al., 2024; Nelson et al., 2022). First, the results align with arguments that full-day state-subsidized public education and care promote more gender-equal employment patterns but do not alter gendered responsibilities for unpaid work within the family (Jenson, 2009; Saraceno, 2015). Second, they support the view that market-based rather than public care systems favor advantaged mothers (Daly, 2011a; Thévenon, 2011). Third, they show that

expanding public education and care also disproportionately benefits better-educated women with access to standard work hours when combined with trends toward labor market deregulation. Finally, they illustrate that investments in public education and care do not necessarily advance gender equality in economically unstable labor market contexts.

The remainder of this introduction reviews previous research on gender and class inequalities in both the amount and scheduling of paid and unpaid work, and introduces my theoretical, comparative, and empirical approach. Chapter 2, 3, and 4 present the three empirical studies. Finally, in Chapter 5, I further discuss the implications of my findings for theory, research, and social policy alongside the contributions and limitations of this dissertation. To conclude, I outline pathways toward greater gender and class equality in everyday work and family lives.

Previous Research, Literature Gap, and Conceptual Approach

Gender Differences in the Amount of Time Spent on Paid and Unpaid Work

A large body of literature has documented historical and cross-national variations in the amount of time men and women spend on paid work, typically defined as income-based market work in the public sphere of production, and unpaid work, typically defined as household and care work in the private sphere of reproduction (Sullivan & Gershuny, 2001). Across Western countries, the shift from industrial to service-based knowledge economies has been accompanied by a dramatic inflow of women into the paid labor force since the 1960s (Esping-Andersen, 2009). Scholars controversially discuss whether women's greater participation in paid work is the first step of a gender revolution towards a more gender-equal division of both paid and unpaid work (Goldscheider et al., 2015). The gender revolution

framework maintains that men's greater participation in unpaid work is a necessary consequence of women's greater participation in paid work (Goldscheider et al., 2015).

Consistent with this framework, time-use research across Europe and the United States found a gender convergence in the amount of time individuals spend on paid and unpaid work since the 1960s (Bianchi et al., 2000; Gershuny, 2000; Hook, 2006; Pailhé et al., 2021). However, this convergence has been primarily driven by women's increased time spent on paid work and their reduced time spent on housework. Men have only slightly increased their time spent on housework—and not in all countries—and both mothers and fathers tend to spend more time on childcare (Bianchi et al., 2000; Gershuny, 2000; Hook, 2006; Pailhé et al., 2021). Moreover, trends towards more gender equality in paid and unpaid work have slowed down or reversed in some countries since the late 1990s (England, 2010; England et al., 2020; Kan et al., 2022). Thus, men continue to spend more time on paid work than women, whereas women continue to stem the bulk of time-intensive routine housework and childcare tasks (Kan et al., 2022; Lightman & Kevins, 2021; Pailhé et al., 2021). Overall, women's time use has changed much more fundamentally than men's time use.

Many scholars have argued that the gender revolution has thus “stalled” (Hochschild & Machung, 1989), has been “uneven” (England, 2010) or “incomplete” (Esping-Andersen, 2009). Although women now achieve higher educational attainments than men in many Western countries, women typically interrupt their employment in response to the 24/7 care needs of very young children and often reduce their work hours when re-entering employment to combine paid work and caregiving (Lewis, Campbell, et al., 2008). Using an event history approach, studies show that men's and women's labor market trajectories diverge sharply with family formation across various industrialized countries, although to different degrees (Kleven et al., 2019). For women, the transition to parenthood is associated

with a long-term motherhood penalty in terms of labor force participation, weekly hours worked, and wages (Angelov & Johansson, 2016; Goldin & Mitchell, 2017). By contrast, scholars controversially discuss whether a “fatherhood premium” exists (Mari, 2019).

Class Differences among Men and Women in the Amount of Time Spent on Paid and Unpaid Work

Time spent on paid and unpaid work does not only differ by gender but also by class. Focusing on paid work, the labor market literature has emphasized that skill-biased technological change, tertiarization, and the trend toward labor market deregulation have led to greater class inequalities in the amount of time individuals spend on paid work across Western countries (Gerstel & Clawson, 2015; Kalleberg, 2011). From this perspective, the institutionalization of precarious employment forms through zero-hour contracts, weakly protected part-time contracts, and temporary contracts has reinforced the structurally induced divide between higher-skilled workers with long work hours and lower-skilled workers with short work hours and high unemployment risks (Gerstel & Clawson, 2015; Kalleberg & Vallas, 2018). Supporting this perspective, Gershuny (2000) found an “inversion of the gradient” between better-educated and less-educated individuals across selected Western countries among both men and women. Using multinational time-use data on a 40-year period, he showed that better-educated individuals now have the longest workweeks, whereas less-educated individuals spend the least amount of time on paid work, in contrast to the 1960s (Gershuny, 2000). Similarly, there is evidence across countries that higher-skilled workers are most likely to work excess hours, although they have greater control over how many hours they work (Lyness et al., 2012).

However, class-centered narratives capture at most half of the coin. Considering both gender and class, cross-national research found that differences in the amount of time

individuals spend on paid work are considerably larger among women than among men (Cooke, 2011; Esping-Andersen, 2009). Although better-educated men devote more time to paid work than less-educated men, most men work full-time, regardless of both their education and the presence and age of their children (Cooke, 2011; Esping-Andersen, 2009; Eurostat, 2024; Lewis, Campbell, et al., 2008). By contrast, in many countries, more flexible part-time jobs have enabled skilled mothers to move into the labor force in the first place (Rubery et al., 2024). When having children, better-educated women often use their flexibility to reduce their work hours to combine paid work and caregiving (Chung & van der Horst, 2018; Chung & van der Lippe, 2020). Skilled mothers with access to well-paying jobs can also manage their care responsibilities by outsourcing domestic work to pursue stable, male-dominated full-time careers (Ehrenreich & Hochschild, 2002; Gonalons-Pons, 2015). Less-educated mothers are much more likely to not be employed or to work low-hour part-time jobs but spend more time on housework (Cooke, 2011; Lewis, Campbell, et al., 2008; Rubery et al., 2024). Across OECD countries, 83% of mothers with tertiary education are employed, compared to only 47% with at most lower secondary education (OECD data, 2021). Thus, the gender revolution has stalled in yet another way (England, 2010).

Welfare State Differences in Work-Family Arrangements by Gender and Class

Gender and class differences in the time spent on paid and unpaid work do not only vary across time but also across countries, both historically and currently (Kan et al., 2022; Pailhé et al., 2021). The comparative welfare state literature aims to understand such differences through an institutional lens (Esping-Andersen, 1999; Leitner, 2003; Orloff, 2009). Early welfare state analysis focused on the nexus between the state and the market, emphasizing that the absence of labor market regulations exacerbates class inequalities (Esping-Andersen, 1990). Feminist scholars criticized this perspective for ignoring how

policies and institutions affect the gendered division of paid and unpaid work in the family (Lewis, 1992; Orloff, 1993). Gender researchers typically classify welfare states based on the work-family arrangement that they rely on, such as a male-breadwinner/female-caregiver model, a one-and-a-half-earner model—with a full-time working father, and a part-time working and part-time caring mother—, or a dual-earner/dual-carer model—with two full-time working parents that share unpaid work equally (Gornick & Meyers, 2003; Lewis, 2001; Lewis, Campbell, et al., 2008).

Combining both streams of literature, an established comparative literature has emphasized that gender *and* class need to be considered to understand how national institutional contexts shape work-family arrangements (Cooke, 2011; Hook, 2015; Mandel & Shalev, 2009). From this perspective, labor market and family policies jointly influence gender and class inequalities in how work and family lives can be combined in different welfare states (Fasang et al., 2024). For instance, *on one pole*, countries that combine strong labor market regulations with generous family policies, such as full-day state-subsidized public childcare, enable most women to return to full-time employment after childbirth (Hook, 2015). Thereby, they alleviate both gender and class inequalities in work-family arrangements. *On the other pole*, in countries that historically combine strong labor market deregulation with an absence of family policies, market-based care systems have developed as a consequence of supply and demand (Esping-Andersen, 1999). In such countries, greater access to male-dominated full-time careers has been limited to advantaged mothers who can afford private formal childcare facilities or outsource their care work by hiring low-paid informal, often migrant domestic workers (Cooke, 2011; Esping-Andersen, 1999; Lightman, 2021). By contrast, less-educated mothers are often not employed or in weakly regulated, low-paying part-time jobs (Hook, 2015; Rubery et al., 2024).

Gender and Class Differences in the Prevalence of (Non)standard Work Schedules

Gender and class differences display not only in the amount of time individuals spend on paid work but also in their work schedules. Across Europe and the United States, a significant share of workers now have nonstandard schedules (Gracia et al., 2021; Presser, 2003). Following Presser's (2003) seminal work, scholars differentiate between working nonstandard hours and working nonstandard days. To classify working hours, studies typically draw on a "majority rule", differentiating between "standard hours" (at least half the hours are worked inside an 8 a.m. to 4 p.m. workday) and "nonstandard hours" (at least half the hours are worked outside of that window) (Hook & Wolfe, 2013; Presser, 2003). Alternatively, working hours are classified as nonstandard if employees self-report to (regularly or always) work evenings, nights, or rotating schedules (Betthäuser et al., 2024; Bünning & Pollmann-Schult, 2016; Han, 2004). Working Saturdays or Sundays is defined as working nonstandard days (Presser, 2003).

Comparing 29 European countries Gracia et al. (2021) found a prevalence of nonstandard schedules between 30 and 45 percent in most countries¹. Despite a lack of historical research on work schedules, scholars typically assume that the postindustrial shift has prompted an increase in nonstandard work schedules (Anttila et al., 2015; Gracia et al., 2021; Presser, 2003). For instance, Lesnard (2008) argues that—compared to the system of industrial mass production—postindustrial economies do not only strictly regulate workers' everyday lives through employers' control over their working time (Thompson, 1967) but also require employees to "constantly adapt [...] the timing of their work to ensure that production remains in line with the slightest variation in demands" (Lesnard, 2008, p. 448).

¹ This study classified individuals as working a nonstandard schedule if they declared (1) to frequently work nonday shifts, (2) to have frequent rotating hours or days, or (3) to work during most weekends of the month (Gracia et al., 2021: 4).

Corresponding with the idea of a 24/7 service economy (Presser, 2003), nonstandard work schedules are most prevalent in female-dominated lower-class service and leisure jobs, such as among waiters/waitresses, shop assistants, and cleaners. However, they are also typical in lower-class male-dominated jobs, such as among factory laborers and truck drivers (Presser (2003) for the United States; Lesnard (2008) and Ganault (2022) for France; Täht and Mills (2016) for the Netherlands; Betthäuser et al. (2024) for Germany). By contrast, standard work schedules are the norm in professional and managerial jobs, among both men and women (Gerstel & Clawson, 2015; Lesnard, 2008; Presser, 2003). Although women are overrepresented in occupations that demand nonstandard schedules, men are slightly more likely to work nonstandard schedules across most European regions and the United States (Gracia et al., 2021; Presser et al., 2008). However, across countries, educational differences in the prevalence of nonstandard work schedules are considerably larger than gender differences (Gracia et al., 2021; Presser, 2003). Similarly, the prevalence of nonstandard work schedules hardly varies by the presence and age of children among both employed men and women (Gracia et al., 2021; Presser et al., 2008).

Consistent with the importance of class in determining work schedules, many scholars have emphasized that nonstandard work schedules are not a choice of workers but are externally imposed by employers (Chenu & Lesnard, 2006; Gerstel & Clawson, 2015; Presser, 2003). Presser (2003) first showed for the United States that the vast majority of individuals worked nonstandard schedules due to the nature of their jobs, because the employer mandated it, or because they could not find a job on a standard schedule. In lower-class jobs, employer-driven flexibility means that employees are not only expected to work nonstandard schedules but that they also often have unpredictable work schedules, characterized by “limited advance schedule notice, schedule changes, and variability in the

days of work” (Henly & Lambert, 2014, p. 989). By contrast, advantaged employees are more likely to benefit from employee-driven flexibility, meaning that they typically have some control over their work schedule, considering the starting and stopping times (Gerstel & Clawson, 2015; Lyness et al., 2012). Studies across Europe and the United States found that women are overrepresented in low-paid jobs with externally imposed schedules (Chung, 2018; Gerstel & Clawson, 2015; Lyness et al., 2012).

Researchers have also attributed the rise of nonstandard work schedules to the transfer of market risks to employees through neoliberal labor market restructuring since the 1970s (Anttila et al., 2015; Gracia et al., 2021; Kalleberg & Vallas, 2018). Despite the lack of historical studies on work schedules, comparative research supports the idea that labor market deregulation reinforces the pressure on lower-class employees to accept jobs with nonstandard work schedules. Across Europe, nonstandard work schedules are more prevalent in countries with greater levels of labor market deregulation, and educational inequalities in the prevalence of nonstandard work schedules are exacerbated in such countries (Gracia et al., 2021). Correspondingly, research found that employees have greater control over their work schedules in more generous welfare state contexts (Lyness et al., 2012).

The Class-Centered Perspective: Nonstandard Work Schedules as an External Constraint with Negative Consequences for Families

There are two major perspectives on how work schedules are associated with the allocation of unpaid work in the family. A class-centered perspective has conceptualized mothers’ and fathers’ work schedules as an expression of their labor market opportunities. This perspective has emphasized that the synchronicity of standard work schedules with children’s schedules in schools and daycare facilities allows advantaged parents to reconcile work and family life, whereas imposed nonstandard schedules make the organization of

childcare extremely complex among lower-class parents (Carillo et al., 2017; Harknett et al., 2022; Lesnard, 2008; Presser, 2003). For instance, research found that mothers and fathers who work nonstandard schedules are less likely to rely on formal childcare and more likely to rely on multiple care arrangements (Verhoef et al. (2015) for Finland, the United Kingdom, and the Netherlands; Presser (2003) for the United States). Substantiating these findings in a qualitative study on employed parents working in the U.S. lower-service, Carillo et al. (2017) showed that parents with nonstandard work schedules often depend on reliable informal caretakers, typically grandmothers, and “must piece together care on an ad hoc basis from family, neighbors, and programs” (Carillo et al., 2017, p. 446) if they have unpredictable work schedules.

Correspondingly, research has linked nonstandard work schedules to increased work-family conflict (Mills & Taiji, 2020), higher distress levels among mothers (Feng & Teti, 2025), and negative consequences for child well-being (Strazdins et al., 2006) and children’s educational outcomes (Betthäuser et al., 2024). For instance, Betthäuser et al. (2024) found that in Germany children are less likely to enter the academic track if their mothers always work in the evening, even though typically only one parent has a nonstandard schedule. Moreover, some studies found that parents who work nonstandard schedules spend less time on childcare, less time with their partner, and less joint family time than those who work on a standard schedule (for childcare: Craig and Powell (2011) in Australia; Nock and Williams (1988); Wight et al. (2008) in the United States; for time with spouse: Kingston and Nock (1987)/ Wight et al. (2008) in the United States; for joint family time: Lesnard (2008) in France).

A few studies used time-use data to investigate how mothers’ and fathers’ daily work schedules are linked among couples (Kingston & Nock, 1987; Lesnard, 2008; Nock &

Kingston, 1984). Looking at two-earner couples in France, Lesnard (2008) found that upper-class couples were more likely to have control over their work schedules and typically worked synchronized standard work schedules. In contrast, working-class couples were more likely to have no control over their schedules and to have desynchronized schedules with one shift working partner. From this perspective, work schedules are an expression of individual labor market opportunities, and due to social homogamy, inequalities are exacerbated at the couple level (Lesnard, 2008). In their review of the time-use literature, Chenu and Lesnard (2006) conclude that “desynchronization of dual-earner couples’ work schedules is almost never chosen, but results instead from the shifted schedules that companies impose individually on spouses” (Chenu & Lesnard, 2006, p. 21).

The Family-Centered Perspective: Nonstandard Work Schedules as an Opportunity for a more Gender-Equal Division of Labor

A second, family-centered perspective has focused on how work schedules are associated with the gendered division of labor. Most of this literature has argued that nonstandard work schedules allow for a more gender-equal division of paid and unpaid work because they encourage parents to split shifts at work and at home in a “tag-team” parenting strategy (Presser, 2003; Täht & Mills, 2016). Several scholars have claimed that mothers’ nonstandard work schedules can force fathers to do more housework and childcare (Barnett & Gareis, 2007; Han, 2004; Presser, 2003). From this perspective, shift-working mothers often do paid work in the late afternoon and early evening during peak household and care work periods. In the absence of the mother, fathers have to take on time-inflexible household and childcare tasks that fall into this time of the day, such as school or daycare pickup, homework supervision, preparing and having family dinners, and putting the children to bed. Supporting this perspective, some studies found that fathers spend more time on routine

household tasks and childcare when their spouses work nonstandard schedules (Han (2004) and Presser (2003) in the United States; La Valle et al. (2002) in the United Kingdom). However, there is also opposing evidence, indicating that couples have a more unequal division of labor when fathers work nonstandard schedules (Craig and Powell (2011) in Australia).

Another version of the idea that nonstandard work schedules promote more gender-equal work-family arrangements emphasizes that parents choose to work desynchronized schedules to combine a two-earner model with caregiving responsibilities (Carriero et al., 2009; Presser, 1988; Täht & Mills, 2016). Täht and Mills (2011) found in the Netherlands—a country with expensive and limited formal childcare—that desynchronized work schedules were more prevalent among couples with young children than couples without children. Qualitative interviews confirmed that “it was a conscious choice to desynchronize and combine work and family via nonstandard schedules.” (Täht & Mills, 2011, p. 1078). In line with these findings, Bünning and Pollmann-Schult (2016) found in a study of 22 European countries that tag-team parenting can be a solution to a lack of access to formal childcare.

In contrast to the idea of tag-team parenting, some scholars argued that mothers handle the bulk of childcare and routine housework irrespective of their work schedule. From this perspective, mothers’ work schedules do not impact the amount of time fathers spend on housework and childcare, and vice versa (Barnes et al., 2006; Hook & Wolfe, 2013). For instance, studies in Australia (Craig & Powell, 2011) and the United States (Presser, 2003; Wight et al., 2008) found that, unlike fathers, mothers used night shifts to schedule their employment around their care responsibilities in the “family rush hour” after school or daycare hours, even if they had to sacrifice sleep or leisure. Correspondingly, some studies found that fathers’ time spent on different activities was independent of their spouses’ work

schedules (Barnes et al., 2006; Craig & Powell, 2011; Hallberg & Klevmarken, 2003). For instance, Craig and Powell (2011) found in Australia that the amount of time fathers with young children spent on paid work, housework, and childcare did not vary by the mother's work schedule. Similarly, studies in the United Kingdom (Barnes et al., 2006) and Sweden (Hallberg & Klevmarken, 2003) found that fathers' time spent with their children was independent of their partner's work schedule.

Literature Gap and Conceptual Approach

While extensive research on work-family arrangements has examined the amount of time spent on paid and unpaid work, there are four major gaps in the literature on how mothers and fathers schedule these activities. The first gap is conceptual, the second gap is historical and comparative, and the third and fourth gaps are methodological. *First*, focusing on the *amount* of time, an established literature has analyzed intersectional inequalities in work-family arrangements by gender and class (Chung & van der Horst, 2020; England, 2010; Gonalons-Pons, 2015). By contrast, most of the literature on the *scheduling* of paid and unpaid work has *either* focused on the class stratification of work schedules and the disruptive consequences of nonstandard work schedules for family cohesion and the organization of childcare (Carillo et al., 2017; Lesnard, 2008; Mills & Taiji, 2020; Presser, 2003), *or* on how work schedules are associated with the gendered division of labor (Craig & Powell, 2011; Presser, 2003; Täht & Mills, 2016). Moreover, most studies from both class-centered and family-centered perspectives on work schedules implicitly assume that parents organize their family life in response to external labor market constraints. Thereby, they neglect that gendered care responsibilities could not only shape differences in *how many hours* men and women can spend on paid work but also *when* they can work these hours.

Second, historical and comparative research has highlighted the pivotal role of the welfare state in regulating intersectional inequalities in work-family arrangements by gender and class (Cooke, 2011; Esping-Andersen, 1999; Hook, 2015; Mandel & Semyonov, 2006). This literature has shown how family and labor market policies jointly influence disparities in paid and unpaid working time (Esping-Andersen, 1999; Folbre, 2009; Shalev, 2008). Recent work has expanded this perspective by conceptualizing policy constellations and their effects on intersectional inequalities in work and family life courses within specific economic and normative contexts (Fasang et al., 2024; Nelson et al., 2022; Zagel & Van Winkle, 2022). However, research on the *scheduling* of paid and unpaid work has not fully addressed the role of social policies in mitigating or reinforcing these inequalities (Gracia et al., 2021; Hook & Wolfe, 2013). While some studies examined how labor market policies relate to class-based disparities in work schedules or how childcare availability impacts gender differences in parents' work schedules (Bünning & Pollmann-Schult, 2016; Gracia et al., 2021), little is known about how the interplay of social policies shapes gender and class inequalities in parents' daily organization of paid and unpaid work.

Third, previous research examining how work schedules are associated with the allocation of unpaid work has typically controlled for the number of paid work hours to estimate how work schedules “affect” the time mothers and fathers devote to unpaid work (Craig & Powell, 2011; Hook & Wolfe, 2013; Presser, 2003). However, this approach is methodologically problematic for two main reasons. First, because care responsibilities disproportionately constrain women's labor market participation and working hours, estimating the effect of work schedules on unpaid work can introduce reversed causality in statistical models. Second, by excluding the “not employed”—in the family context typically mothers who sustain the economy through their unpaid work—such studies relied on highly

selective samples that obscured many mothers' daily realities, and more so those of the least privileged who are more often out of the labor force. Moreover, excluding the not employed is problematic in comparative research, since selective parts of the population—in particular women—are out of the labor force in different countries (Fasang et al., 2024).

Fourth, given that women, rather than men, often work part-time to reconcile work and family and that nonstandard work schedules are concentrated in lower-class jobs, it is crucial to conceptualize and empirically analyze mothers' and fathers' daily time use in terms of *whether, when, and how many hours* they allocate to paid and unpaid work. In other words, to uncover how gender and class inequalities unfold in the organization of everyday work and family lives, it is important to consider not only the total amount of paid and unpaid work but also their sequencing throughout the day. However, previous studies adopting such a comprehensive approach have either concentrated exclusively on classifying paid work schedules (Lesnard, 2008; Lesnard & Kan, 2011; Sautory & Zilloniz, 2015) or have not focused on families (Bison & Scalcon, 2018; Vagni, 2020; Vagni & Cornwell, 2018).

To address these gaps, this dissertation adopts an intersectional, historical, and comparative perspective to examine gender and class inequalities in parents' daily time use. I conceptualize typical daily time-use patterns among parents as prevailing models of how mothers and fathers organize their time spent on different activities—such as paid work, unpaid household, and care work—throughout the day. Gender differences are theorized through both economic approaches that highlight rational decision-making (Becker, 1991; Blood & Wolfe, 1960) and cultural theories that emphasize norms in sustaining the gendered division of labor (Eagly, 1987; West & Zimmerman, 1987). Gender is empirically captured through individuals' binary self-assessment as men or women. Class, a complex and contested concept, includes both individual and household-level components (Robert Erikson

& John Harry Goldthorpe, 1992). I rely on a material rather than a cultural concept of class, focusing on unequal labor market opportunities and differential access to formal and informal care provisions outside the family, such as institutional childcare and the outsourcing of household and care work by hiring domestic workers (Crompton, 2006; Folbre, 2009; Hook & Li, 2020). Labor market researchers typically use occupation-based class schemes (Robert Erikson & John Harold Goldthorpe, 1992; Oesch, 2006), while I use level of educational attainment as a proxy for class at the individual level (Cooke, 2011; Hook, 2015; Korpi et al., 2013). In family sociology, using education circumvents the difficulty of excluding not-employed women or assigning them their partners' class (Hook & Li, 2020; Sørensen, 1994). Additionally, I use household income and women's income share as proxies for available financial resources at the household level and their gendered distribution (Gonalons-Pons, 2015; Korpi et al., 2013; Lightman & Kevins, 2021).

While gender and class are often treated as separate dimensions of social inequality, intersectional perspectives explore how these dimensions overlap (Choo & Ferree, 2010; Collins, 1990; Crenshaw, 1991; McCall, 2002). Early literature on intersectionality has mainly focused on the experience of marginalized groups from an intracategorical view or rejected categorical perspectives altogether for reproducing rather than questioning the complexity of social inequalities from an anticategorical view (McCall, 2002, 2005). In this dissertation, I follow an intercategorical approach that examines how economic and institutional conditions privilege some groups while disadvantaging others (Cooke, 2011; Hook & Li, 2020; McCall, 2005). Compared to intracategorical and anticategorical perspectives, the intercategorical view shifts the focus from identities to structural inequalities, highlights the interdependence of group inequalities, and avoids normalizing the privileges of dominant groups (Fasang & Aisenbrey, 2021).

The next section introduces my theoretical framework on how gender and class inequalities manifest in the daily organization of paid and unpaid work within families. It focuses on the identification of mechanisms, which I derive from gendered family dynamics in the division of labor and class inequalities in work schedules that have been discussed across Western countries. Subsequently, I outline my comparative and empirical approach, followed by a summary of the three case studies.

Theoretical, Comparative, and Empirical Approach

Economic and Cultural Perspectives on the Gendered Division of Labor

Theories on the gendered division of labor can be divided into economic and cultural approaches. Economic approaches are anchored in rational choice theory, which conceptualizes individuals as rational actors who maximize utility and understands macro-level social phenomena as the aggregate of micro-level individual decisions (Coleman, 1990). Prominently, Becker (1991) introduced the *specialization perspective*. From this view, men specialize in paid work and women specialize in unpaid work as a rational strategy to maximize the household's overall utility. According to this approach, specialization in market and non-market work is rational, as it maximizes the household's efficiency. Men contribute by investing in market work—focusing on developing their human capital on the labor market—, whereas women contribute by investing in unpaid work—focusing on childcare and household tasks—, because women have a comparative advantage in non-market work due to biological differences.

Another economic approach, *the time availability perspective*, centers on time constraints as the key factor determining which partner performs how much paid and unpaid work (Coverman, 1985). It argues that the partner who spends less time on paid work will

have more time available and will thus take on a larger share of unpaid work. From this perspective, men and women pragmatically adjust their time allocation to the total amount of unpaid household and care work to be done. Coverman (1985) argued that men's long working hours often limit their available time for household and care work. At the same time, she emphasized that men are under pressure to take on more domestic responsibilities if children place high demands on the households' total amount of unpaid work and their spouses work long hours on the job.

In contrast to the *specialization* and the *time availability* perspective, the *economic bargaining perspective* conceptualizes the division of labor as a consequence of unequal power dynamics between partners, influenced by their relative economic resources (Blood & Wolfe, 1960). From this perspective, partners do not have unified but potentially conflicting interests and bargain over the distribution of time and resources. This approach relies on the assumption that individuals prefer paid work over household and care work because market work provides financial resources, which enable individuals to achieve financial autonomy and social recognition, whereas non-market work is unpaid due to its social devaluation. Thus, it expects the partner with greater resources to use their bargaining power to spend more time on paid work and negotiate them out of unpaid work (Blood & Wolfe, 1960).

Unlike economic approaches that conceptualize individuals as rational actors, cultural approaches emphasize the power of norms in upholding and challenging the gendered division of labor. *Social role theory*, a structuralist approach, focuses on how societal institutions shape the gendered division of labor (Eagly, 1987). According to this approach, societies are built on sets of beliefs about appropriate attitudes, responsibilities, and behaviors of individuals based on their assigned sex, often referred to as gender ideologies (Connell, 1987; Hochschild & Machung, 1989). These sets of beliefs inform, legitimize, and perpetuate

prevailing gender roles in society. Social role theory maintains that individuals adopt gender roles in the process of socialization. Through social interactions within institutions, such as the family and schools, children learn how to conform to socially prescribed norms of masculinity and femininity and internalize these norms (Eagly, 1987). It highlights that gender roles vary across time and countries. However, it assumes that they change relatively slowly, as cultural shifts are often driven by and lag behind broader economic and technological shifts (Eagly & Wood, 1999; Hochschild & Machung, 1989).

A competing approach, *gender display* (Goffman, 1976), is rooted in symbolic interactionism—a theoretical perspective assuming that individuals construct their identity through social interactions within broader normative contexts (Mead, 1934). In contrast to the structuralist idea of predefined gender roles, gender display argues that individuals actively construct their gender identities through conventionalized behaviors in public contexts (Goffman, 1976). West and Zimmerman (1987) introduced the *doing gender perspective* in response to the structuralist emphasis of gender role theory, and the narrow focus on interactions of the gender display perspective. Going beyond the situational and public character of *gender display*, the *doing gender perspective* argues that individuals constantly perform their gender in their interactions, as they are held accountable by others to act according to their sex category. Thus, due to social control, men and women have to reinforce socially constructed gender differences through their behavior in a continuous, interactive process. However, considering that constant performative re-enactments are necessary to maintain gender norms at the societal level, the doing gender perspective also leaves room for social change. For instance, individuals can change their behavior, if social movements or policy changes “weaken the accountability of conduct to sex category” (West & Zimmerman, 1987, p. 146).

Gendered Time Constraints: A Work Schedule Perspective on the Gendered Division of Labor

Much of the previous literature on how work schedules are associated with the allocation of unpaid work in the family is anchored in the *time availability perspective* (Hook & Wolfe, 2013). For instance, the concept of “tag-team parenting” (Presser, 2003; Täht & Mills, 2016) relies on the assumption that fathers take on a greater share of unpaid work if nonstandard work schedules constrain the mothers’ available time for household and care work. Even studies arguing that women do the bulk of unpaid work due to gender essentialist norms implicitly relied on a time availability approach by investigating how mothers’ and fathers’ work schedules impact their own or their partners’ time spent on unpaid work (Craig & Powell, 2011; Hook & Wolfe, 2013). A major problem of this approach is that it neglects the constitutive assumption of all major theories on the division of labor that couples jointly determine how they allocate their time spent on paid and unpaid work, i.e. that time in the labor force is endogenous to time spent on unpaid work (Gough & Killewald, 2011). Thereby, the time availability perspective is characterized by an *implicit male bias*.

In *economic terms*, across Western countries, the gendered segregation of the labor market continues to encourage women rather than men to adjust their employment to their children’s care demands, although more women have entered the labor force in response to more gender-equal educational opportunities (Hook, 2006; Pailhé et al., 2021). From a *specialization perspective*, higher wages and better career prospects in male-dominated occupations persist and incentivize an unequal division of labor, in which mothers spend less time on paid work and more time on unpaid work than their partners. From an *economic bargaining perspective*, men’s labor market privilege strengthens their bargaining power and allows them to impose the bulk of unpaid work on their partners. In *cultural terms*, gender essentialist norms for unpaid work tend to coexist with more gender-equal employment

opportunities (England, 2010). From a *gender role perspective*, women rather than men have to resolve the contradictory imperatives of an “ideal worker norm” (Williams, 2000)—that conceptualizes individuals as “male” independent workers who can flexibly adjust their working time to their companies’ demands—and norms of “intensive mothering” (Hays, 1996)—that define mothers as the primary caregivers for their children who spend as much time and emotional energy on childcare as possible to foster their children’s development. From a *doing gender perspective*, women—not men—are held accountable by others if they “fail” to attend to such demanding caregiving norms.

Thus, in both economic and cultural terms, time constraints are *gendered* (Hook, 2006; Hook & Wolfe, 2013). I argue that this does not only hold for the amount of time mothers and fathers spend on paid and unpaid work but also for the *work schedules* that are accessible to mothers and fathers. For fathers, their work schedules could limit their available time for unpaid work, whereas for mothers, the opposite logic could apply: The organization of their unpaid work could not only affect *whether* and *how much* time they can spend on paid work but also *when* they can spend this time. Children’s schedules are organized through schools and daycare facilities that typically operate during standard work hours, and do not necessarily run on a full-day schedule (Carillo et al., 2017; Parente, 2020). Thus, core routine domestic and childcare tasks—such as supervising and playing with young children, homework supervision for school-aged children, preparing and having the family dinner, and putting children to bed—are not flexible but tied to specific times of the day, particularly in the afternoon and evening (Presser, 2003; Wight et al., 2008). For mothers rather than fathers, such family responsibilities could be a constraint under which they navigate their work schedules, rather than the other way around.

Parents' Daily Organization of Paid and Unpaid Work: An Intersectional Perspective

From this perspective, mothers and fathers do not simply organize their unpaid work in response to externally given work schedules, as highlighted by the class-centered perspective (Carillo et al., 2017; Lesnard, 2008). By contrast, when viewed through an intersectional lens, class inequalities in “choice of” work schedules could affect mothers’ and fathers’ daily time use differently due to gendered care responsibilities. High-skilled jobs demand long working hours for career progression but employees in such jobs typically work during standard hours and tend to have some control over *when* and *how many hours* they work (Lyness et al., 2012). Two mechanisms could shape similarities or differences in how better-educated mothers and fathers organize their daily time. *First*, from an *economic perspective*, better-educated women have comparatively well-paying and intrinsically rewarding jobs and have thus high opportunity costs of unpaid work (Becker, 1991; Hook & Paek, 2020). Thereby, they could outsource their care work to resolve potential scheduling conflicts between long work hours and the limited time children spend in education or care (Chapter 3). This way, better-educated women could get access to presumably male-dominated time-use patterns with long paid work hours during standard hours.

Second, from a *cultural perspective*, gender norms assign the primary responsibility for childcare to mothers. Thereby, better-educated men and women with children could use their flexibility to shape their work schedules differently (Ganault, 2022; Gerstel & Clawson, 2014). Unlike men, women could use their class advantage to adjust their work schedules to their children’s schedules. For instance, reducing their work hours could allow better-educated mothers to combine partial paid workdays during school hours with caregiving responsibilities (Craig & Powell, 2011). Better-educated women could also select into occupations that allow for compatible work schedules, or switch to such jobs when having

children, even if they pay less, in contrast to better-educated men (Murray & Cutcher, 2012; Valet et al., 2021).

By contrast, less-educated individuals, particularly women, are overrepresented in jobs with externally imposed nonstandard and often unpredictable schedules that are entirely diametrical to children's rigid schedules (Chung, 2018; Gerstel & Clawson, 2015). Previous research arguing that nonstandard work schedules promote a more gender-equal division of labor often implicitly assumed that disadvantaged couples depend on two incomes for economic subsistence, and thus "have to" share paid and unpaid more equally (Han, 2004; Presser, 2003). This argument resonates with economic perspectives on the family that have questioned the rationality of gender specialization in postindustrial societies, where lower-class individuals face precarious and unstable employment conditions (Hook & Paek, 2020; Oppenheimer, 1997).

However, it neglects the structural constraints that lower-class mothers face in combining their caregiving responsibilities with paid work. Gender scholars have emphasized that the lack of access to affordable childcare hinders less-educated mothers' rather than fathers' labor market participation (Gonalons-Pons & Marinescu, 2024; Lewis, Knijn, et al., 2008). Similarly, lack of control over work schedules in lower-class jobs could affect mothers and fathers differently. In contrast to the class-centered perspective, I argue that two externally imposed work schedules are not necessarily compatible with care responsibilities. From an *economic perspective*, lower-class women lack the financial resources to resolve scheduling conflicts between work and care by hiring domestic workers (Gonalons-Pons, 2015) if they do not have a partner who can handle the childcare during their work hours or do not have access to reliable, informal care arrangements. From a *cultural perspective*, their lack of work schedule control impedes their ability to adjust their work hours to their

normatively assigned care responsibilities. Thus, rather than enabling more gender-equal work-family arrangements, nonstandard work schedules could reinforce gendered daily time-use patterns among lower-class parents. Due to gendered care responsibilities, the lack of work schedule control in lower-class jobs could force fathers into nonstandard schedules but tend to marginalize mothers from access to the labor market.

Theorizing Gender and Class Inequalities in Parents' Daily Time Use in Context: A Historical and Comparative Approach

These mechanisms could play out differently, depending on the *welfare state context*. Across Europe and the United States, there are large historical and cross-national differences in whether social policies exacerbate or alleviate class inequalities in the labor market and gender inequalities in the division of paid and unpaid work (Esping-Andersen, 1990, 1999; Lewis, 2001; Orloff, 1993). These inequalities are closely tied to differences in the extent to which countries emphasize the state, the market, or the family for the organization of market and non-market work (Esping-Andersen, 1999; Fasang et al., 2024). On the one hand, social policies reflect dominant economic and gender norms that vary across time and countries (Orloff, 2009). On the other hand, they constantly reproduce and maintain gender and class inequalities in the time spent on paid and unpaid work a) by mediating structural inequalities in access to the labor market and to care provisions outside the family (Hook & Li, 2020), and b) by influencing individual incentives and normative ideals about the gendered division of labor (Hook, 2006, 2015).

In this cumulative dissertation, I rely on *targeted small-N comparisons* to theorize how the interplay of social policies influences gender and class differences in parents' daily organization of paid and unpaid work. Targeted small-N comparisons allow for an in-depth analysis of how social policy constellations impact intersectional inequalities by gender and

class in distinct historical, economic, and cultural contexts (Cooke, 2011; Fasang et al., 2024; Nelson et al., 2022). By contrast, *causal studies* that evaluate the effect of single policies often neglect the interplay of policies (Fasang et al., 2024; Nelson et al., 2022). For instance, studies that identify the effect of state-subsidized public childcare on women's employment (Pettit & Hook, 2005) obscure that the same family policies can have opposing effects on different groups of women, depending on other contextual factors, such as labor market regulations (Folbre, 2009; Mandel & Shalev, 2009) or economic crises (Grunow & Aisenbrey, 2016; Rosenfeld et al., 2004).

Moreover, targeted small-N comparisons have two advantages compared to large-N comparisons. *First*, large-N comparative studies often classify countries by welfare state regimes or summarize labor market and family policies into broad dimensions (Esping-Andersen, 1999; Hook, 2015; Kan et al., 2022). Thereby, they can neither consider the full array of policies that impact work-family reconciliation nor comprehensively address their interplay with each other and with the economic and cultural context (Cooke, 2011). *Second*, many European countries increasingly no longer fit ideal types of welfare states (Hemerijck, 2015). On the one hand, in the “age of neoliberalism” (Harvey, 2007), scholars have observed a shift toward labor market deregulation and welfare state retrenchment since the 1980s, which have been historically linked to the liberal welfare state model (Esping-Andersen, 1990; Hassel, 2010; Nelson et al., 2022).

On the other hand, many European countries have expanded formal education and care to support women's employment—either in the form of state-subsidized public childcare according to the social-democratic welfare state model or by investing in market-based care systems (Esping-Andersen, 1990; Lewis, Knijn, et al., 2008; Nelson et al., 2022). Complementary to this “social investment” turn (Hemerijck, 2015; Jenson, 2009), many

European countries have implemented labor, care and migration policies that intend to promote and/or formalize informal domestic and care services in private households to encourage women's employment, although to different degrees (Brennan et al., 2012; Lightman, 2021; Morel, 2015). Large-N comparative studies that consider predefined sets of labor market and family policies have not yet considered the impact of such policies on gender and class inequalities in work-family arrangements.

Previous comparative research on intersectional inequalities in work-family arrangements by gender and class has focused on the amount of time spent on paid and unpaid work (Cooke, 2011; Esping-Andersen, 2009; Gupta et al., 2010; Hook & Paek, 2020; Korpi et al., 2013). My comparative approach builds on this literature but shifts the perspective to how social policy constellations impact gender and class inequalities in the daily scheduling of paid and unpaid. *First*, labor market policies can exacerbate or alleviate class differences in “access to” or “choice of” work schedules (Gracia et al., 2021). *Second*, by governing children's schedules, family policies structure the gendered compatibility of work schedules with care responsibilities (Wight et al., 2008). *Third*, labor, family, and migration policies jointly regulate whether and for which mothers domestic services are accessible to resolve scheduling conflicts between work and care.

Focusing on gendered daily time-use patterns among couples with children, *Study 1* analyzes change across time and social classes in western and eastern Germany between 1990 and 2013. Germany is a paradigmatic example of a European country that has combined labor market deregulation with the expansion of state-subsidized public childcare in the 2000s (Daly, 2011b; Lewis, 2001). With the “Hartz reforms”, low-paid, marginal, part-time employment (*Minijobs*) and more means-tested unemployment benefits were introduced, and requirements for the unemployed to accept suitable jobs were tightened (Hassel, 2010; Van

Kersbergen & Hemerijck, 2012). In parallel, Germany introduced family policies typical of social-democratic welfare states through several childcare reforms and an income-based parental allowance (Lewis et al., 2008). Scholars have heatedly discussed the implications of such policy shifts for gender and class inequalities under the umbrella of the “adult worker model” of social policy (Lewis, 2001), which assumes individual self-sufficiency through employment. Some argue that better childcare coverage promotes gender equality and that labor market activation boosts employment among low-income families (Hemerijck, 2015; Van Kersbergen & Hemerijck, 2012). Others maintain that the adult worker model neglects gender and class inequalities in the labor market, and ignores the gendered division of unpaid work within families (Cooke, 2011; Daly, 2011b; Saraceno, 2015).

By comparing how the policy reforms unfolded in western and eastern Germany, I contrast two contexts with historically distinct gender and class legacies. Between 1949 and 1990, Germany was divided into capitalist West Germany and socialist East Germany. In the 1990s, western Germany (the former West Germany) still fit the prototype of a conservative welfare state (Cooke, 2011; Esping-Andersen, 1990). Strong employment regulations coupled with a lack of formal childcare, short school and daycare hours, long parental leaves, generous cash benefits, and the tax and social security system encouraged the male-breadwinner/ female-caregiver model regardless of social class (Bröckel & Andreß, 2015; Cooke, 2011). In contrast, the dual-earner model was the norm in East Germany. The state economy guaranteed full employment and full-day public education and care enabled mothers to combine caregiving with full-time employment (Rosenfeld et al., 2004). After reunification, the West German institutional system was extended to eastern Germany (the former East Germany). Nevertheless, the childcare infrastructure remained largely intact.

Economically, the region went through a crisis marked by high unemployment and long-term adverse effects on mothers' labor market opportunities (Kreyenfeld & Geisler, 2006).

I propose that the policies typical of the adult worker model affected couples' daily time-use differently in western and eastern Germany. *For western Germany*, I argue that time-use patterns became more gender-equal among middle- and upper-class couples. For advantaged mothers, better childcare coverage and higher leave replacements resonated with more gender-equal employment opportunities and access to compatible work schedules in high-skilled jobs. By contrast, I argue that gender equality in the division of labor stalled among lower-class couples. By strengthening employer-driven flexibility, neoliberal reforms could have pressured fathers to accept jobs with nonstandard work schedules. In contrast, they may have marginalized mothers from access to the labor market. Additionally, *Minijobs* set incentives for lower-class couples to maintain gender specialization. *For eastern Germany*, I argue that gender equality in couples' time-use patterns declined across classes despite better childcare coverage after the reforms (Stahl & Schober, 2018) and the greater economic necessity and normative commitment to the dual-earner model (Trappe et al., 2015). Here, the economic crisis and neoliberal reforms restricted mothers' access to full-time jobs (Rosenfeld et al., 2004). Moreover, lower wage levels and more labor market competition than in western Germany may have amplified the economic necessity of lower-class fathers to accept jobs with nonstandard schedules, further limiting their spouses' access to the labor market. In addition, structural unemployment hampered lower-class couples' labor market participation more strongly than in western Germany.

Shifting the research focus from gender inequalities among couples to class inequalities among mothers, *Study 2* is designed as a cross-national comparison between western Germany (2013) and the United Kingdom (2015). Extending Study 1, Study 2

explicitly theorizes how labor market, family and migration policies that regulate the outsourcing of domestic labor contribute to class disparities in mothers' patterns of paid and unpaid work in the two contexts. At the same time, it broadens the comparative scope by contrasting western Germany with the United Kingdom, which is typically classified as a liberal welfare state (Esping-Andersen, 1990, 1999). In the mid-2010s, both contexts lacked a comprehensive system of full-day formal education and care provision, despite greater social investments since the late 1990s. However, the two countries differed a great deal in how their broader family, labor, and migration policies regulated class disparities in how mothers reconcile work and family (Lewis, Knijn, et al., 2008; Morel, 2015).

For *advantaged mothers* in the UK, the lack of full-day educational and care provisions conflicts with the precariousness of part-time jobs in a deregulated labor market and the country's parental leave policy and tax and social security system that assume individual self-sufficiency (Daly, 2011a; Rubery et al., 2024). By contrast, in western Germany, the part-time nature of children's schedules accords with the right to work part-time, and the country's tax and social security system that promote gender specialization (Daly & Scheiwe, 2010; Lewis, Knijn, et al., 2008). In both countries, targeted policies encourage advantaged mothers to hire domestic workers. However, employment, care, and migration policies foster the supply of low-paid, informal domestic workers more consistently in the UK (Morel, 2015; Shire, 2015).

Disadvantaged mothers face more obstacles in reconciling unpaid work with employment in the UK than in western Germany due to the high price of childcare in the UK's market-based rather than public formal childcare system, the greater concentration of nonstandard work schedules in lower-class jobs, and the lack of collective rights to reduce work hours to meet care demands (Daly, 2011a). However, the parental leave policy and the

tax and social security system encourage mothers more strongly to specialize in unpaid work in Germany (Lewis, Knijn, et al., 2008). Both countries encourage gender specialization for mothers with low-income opportunities through marginal part-time jobs that are free of tax and social security contributions (Rubery et al., 2024).

I argue that in both welfare state contexts, advantaged mothers rather have access to standard work schedules by outsourcing housework and childcare, whereas disadvantaged mothers are more strongly channeled into unpaid household and care workdays. However, in the UK, advantaged mothers are more strongly incentivized to outsource care work to pursue standard workdays, whereas disadvantaged mothers are under more pressure to work in jobs with nonstandard work schedules. By contrast, in western Germany, mothers are more strongly encouraged to combine a partial workday with maternal care after school or daycare hours regardless of their social class. Correspondingly, outsourcing childcare rather than housework may be less normative in western Germany than in the UK, even among advantaged mothers.

Focusing on how education and the presence and age of children shape work schedule arrangements among couples, *Study 3* further broadens the comparative scope by contrasting Germany (2013) and France (2010) as two formerly conservative welfare states with similar labor market regulations but distinct family policies. In both countries, core economic sectors remain highly regulated. However, similar to Germany, France introduced neoliberal labor market reforms in the 2000s, favoring the concentration of nonstandard work schedules in lower-class jobs (Gracia et al., 2021; Palier & Thelen, 2010). Family policies continue to incentivize the male-breadwinner model in both cases through generous cash benefits for families, and the tax and social security system (Baclet et al., 2005). These policies are combined with family policies typical of social-democratic welfare states in both countries,

but more so in France. In France, full-day public education and care and the 35-hour week encourage the dual-earner model. By contrast, more gender-traditional working-time policies, less comprehensive public childcare, and shorter daycare and school hours encourage the one-and-a-half-earner model in Germany (Lewis, Knijn, et al., 2008; Rubery et al., 2024).

We argue that work schedule arrangements are more gender-equal in France but at the cost of greater polarization among couples. We propose that labor market constraints, reinforced through neoliberal restructuring, tend to push less-educated men into imposed shift schedules but marginalize less-educated women from access to employment in both countries. However, we maintain that more work-facilitating family policies allow for standard work schedules among better-educated men and women in France. Regardless of education, we argue that women adjust their work schedules to their children's schedules in both countries, unlike men. However, in Germany, less comprehensive public childcare channels women with young children more universally out of employment, and shorter daycare and school hours could allow for partial rather than standard workdays among mothers, irrespective of the age of their children.

Capturing Gender and Class Inequalities in Parents' Daily Time Use: Empirical Approach and Data

To empirically capture gender and class inequalities in the daily organization of paid and unpaid work, I rely on a theoretically driven *descriptive* rather than *causal* approach. To test my expectations about prevalent time-use patterns in the distinct contexts and how they differ by gender and class, I use time-use data, in which respondents report in time diaries how they spent their time over a 24-hour period (Chenu & Lesnard, 2006). Time use surveys also typically contain data on individual and household characteristics. Therefore, they are a powerful source for studying everyday work and family lives, and their social stratification

(Vagni, 2020). Most prior time-use research either examined the *amount of time* spent on different activities, such as paid work, unpaid work, or leisure (Bonke, 2005; Gershuny, 2000), or classified work schedules solely based on the *timing* of paid work and analyzed their association with time spent on unpaid work (Craig & Powell, 2011; Hook & Wolfe, 2013). However, an emerging literature fully leverages the diary structure of time use surveys by analyzing the *sequencing* of activities throughout the day (Bison & Scalcon, 2018; Lesnard, 2008; Vagni, 2020; Vagni & Cornwell, 2018).

Building on this literature, I combine sequence and cluster analyses with regression models to uncover gender and class inequalities in parents' daily time use. Sequence analysis is an exploratory statistical method that classifies sequence data comprehensively by considering the prevalence, duration, timing, and ordering of distinct sequence states (Studer & Ritschard, 2016). Unlike regression-based methods, it does not rely on distributional assumptions (Aisenbrey & Fasang, 2010). Cluster analysis, in turn, groups data into internally consistent groups that are maximally different from each other. In the social sciences, researchers have primarily used these methods to identify typical life course patterns (Abbott, 1992; Aisenbrey & Fasang, 2010). Lesnard introduced sequence analysis into time-use research to classify work schedules (Lesnard, 2004; Lesnard & Kan, 2011), while later studies extended this approach to broader patterns of everyday activities (Vagni, 2020; Vagni & Cornwell, 2018). In this dissertation, I use sequence and cluster analyses to identify typical patterns of how parents organize their daily time. Regression analyses then assess how gender and/or class are associated with these patterns.

Two major harmonization efforts have compiled historically and cross-nationally comparable time-use data, the Multinational Time Use Study (MTUS), and the Harmonized European Time Use Survey (HETUS). Although these sources are unique for studying

patterns of paid and unpaid work from a historical and comparative lens, I did not use them for two reasons. First, due to the time-intensive harmonization process, the data tends to be outdated. Second, neither the MTUS nor HETUS integrated sufficient variables to analyze my research questions. Therefore, I harmonized original data from the German Time Use Survey (German TUS 1991-1991, 2001-2001, 2012-2013)², the United Kingdom Time Use Survey (UKTUS 2014-15)³, and—in collaboration with *Jeanne Ganault*—the French Time Use Survey (EDT 2009-2010). I included the latest available data wave of each country. The German TUS was conducted by the German Federal Statistical Office (Destatis). The UKTUS was conducted by the National Centre for Social Research (NatCen) and the Northern Ireland Statistics and Research Agency (NISRA) on behalf of the Centre for Time Use Research (CTUR). The EDT was conducted by the National Institute of Statistics and Economic Studies (Insee).

All of the surveys consist of representative samples of individuals and households. The surveys are unique in providing time diaries of all adult household members, allowing the examination of patterns of paid and unpaid work at the couple level. This was exploited in Studies 1 and 3. Moreover, both the German TUS 2012-2013 and the UKTUS 2014-2015 include information on whether and for which purposes households rely on paid domestic services, which was used for Study 2. To classify activities, I followed the guidelines of the Harmonized European Time Use Survey (Eurostat, 2019). *Paid work* was defined as income-based market work. *Unpaid work* includes housework and care work. *Housework* refers to household activities such as cooking and cleaning. *Care work* involves childcare and care of

² RDC of the Federal Statistical Office and Statistical Offices of the Federal States of Germany, DOIs: 10.21242/63911.2013.00.00.3.1.0; 10.21242/63911.2002.00.00.3.1.0; 10.21242/63911.1992.00.00.3.1.0.).

³ Office for National Statistics. (2019). United Kingdom Time Use Survey. *UK Data Service*. SN: 2000054. <https://doi.org/10.5255/UKDA-Series-2000054>

the elderly. *Personal care* includes sleeping, eating, washing, and dressing. And *free time* refers to all other activities. Table 1 provides a more detailed overview of the classification of activities.

Table 1: Classification of Activities Underlying Study 1, 2, and 3

Paid work	Main and second job, activities related to employment, breaks and travel during work, job seeking activities, commuting to/from work
Housework	Cooking, cleaning, laundry, gardening and pet care, construction and repairs, shopping and services, household management, related travel
Care work	Child care, adult care, travel related to child and adult care
Personal care	Sleep, eating, washing, dressing, personal hygiene
Free time	All other activities, related travel to other activities

This Cumulative Dissertation

Schematic Overview of the Three Studies

In this cumulative dissertation, three case studies trace how gender and class inequalities in work-family arrangements unfold in the organization of daily time. Each case study addresses different aspects of the two overarching research questions how typical daily time-use patterns among parents differ by gender and class, and how this varies across time and welfare state contexts. *Study 1*, presented in Chapter 2, focuses on how gendered daily time-use patterns among different-sex couples with children differ by class. Using data from the German TUS 1991-1992, 2001-2001, and 2012-2013, I analyze change across time in western and eastern Germany. I consider the whole range of activities, classified into paid work, unpaid work, free time, and personal care. The study is single-authored and was published in *Socio-economic Review* (Deuflhard, 2023).

Study 2, presented in Chapter 3, shifts the research focus from gender inequalities among couples to an in-depth analysis of class inequalities among mothers. It broadens Study

1's thematic focus by analyzing how the patterns are associated with the outsourcing of housework and childcare. Complementing and expanding on Study 1's historical and regional endeavor, it is designed as a cross-national comparison between western Germany and the United Kingdom, based on data from the German TUS 2012-2013 and the UKTUS 2014-2015. Rather than considering the whole range of activities, it identifies patterns of paid and unpaid household and care work. The study is single-authored and was published in the *Journal of Family Research* (Deuflhard, 2024).

Study 3, presented in Chapter 4, discusses how gender and class shape work schedule arrangements among different-sex couples. In contrast to Studies 1 and 2, it focuses exclusively on the scheduling of paid work and implicitly accounts for the level of unpaid work. At the same time, it broadens the research focus by comparing partnered men and women with and without children. By contrasting Germany and France based on data from the German TUS 2012-2013 and the EDT 2009-2019, this study further expands this dissertation's comparative scope. Going beyond Studies 1 and 2, it combines individual and couple-level analyses to examine the role of each partner's education and the presence and age of children for couples' work schedule arrangements. The study is co-authored with Jeanne Ganault and was published in the *Journal of Marriage and Family* (Deuflhard & Ganault, 2025).

Table 2 provides an overview of the three studies. To conclude this introduction, I summarize the research questions, the research design, and the main findings of each study.

Table 2: Overview of the Three Studies

	Study 1	Study 2	Study 3
Research focus	How gendered daily time-use patterns differ by class among couples with children	How patterns of paid and unpaid work among mothers differ by class	How gender and class shape work schedule arrangements among couples
Research questions	RQ 1: How did mothers' and fathers' daily time-use patterns change across time?	RQ 1: How do typical patterns of paid and unpaid work differ among mothers by social class?	RQ1: How do (each partner's) education, and the presence and age of children, shape gendered work schedule arrangements among couples?
	RQ 2: How were these changes associated with the couples' social class?	RQ 2: How are these differences associated with domestic outsourcing?	RQ 2: How does this vary by context?
Comparative strategy	Historical change in western and eastern Germany: 1990-2013	Cross-national comparison: United Kingdom (2015) and western Germany (2013)	Cross-national comparison: France (2010) and Germany (2013)
Data	German TUS 1991-92, 2001-02, 2012-13	UKTUS 2014-15 and German TUS 2012-13	EDT 2009-10 und German TUS 2012-13
Activity focus	Full range of activities	Paid and unpaid work	Paid work
Classification of activities	Paid work, unpaid work, free time, personal care	Paid work, housework, care work, other activities	Paid work, other activities
Level of Analysis	Couple level	Individual level	Individual + couple level
Main analytical sample	Ordinary weekdays of different-sex couples with children	Ordinary weekdays of mothers	Days of prime-age one-earner and two-earner different-sex couples, in which at least one partner engages in paid work
Analytical strategy	1. Multichannel sequence and cluster analyses 2. Multinomial logistic regression	1. Sequence and cluster analyses 2. Multinomial logistic regression 3. Logistic regression	1. Sequence and mixed classification analyses 2. Multinomial logistic regression
Main result	Time-use patterns became more gender-equal among middle- and upper-class couples in western Germany but less gender-equal across classes in eastern Germany	Class differences in mothers' patterns of paid and unpaid work are greater in the United Kingdom, where advantaged mothers tend to outsource childcare	Work schedule arrangements among couples are more gender-equal in France, where better-educated women tend to have access to male-dominated work schedules
Authorship	Single-authored	Single-authored	Co-authored with J. Ganault
Journal	<i>Socio-economic Review (SER)</i>	<i>Journal of Family Research (JFR)</i>	<i>Journal of Marriage and Family (JMF)</i>

Summary of Study 1: “Who Benefits from an Adult Worker Model? Gender Inequality in Couples’ Daily Time Use in Germany Across Time and Social Classes”

Study 1 addresses two research questions. First, how did mothers’ and fathers’ daily time-use patterns change across time? Second, how were these changes associated with the couples’ social class? By comparing western and eastern Germany between 1990 and 2013, I analyze how policy reforms typical of the adult worker model unfolded in two contexts with historically distinct gender and class legacies. The main analytical sample focuses on ordinary weekdays. I use multichannel sequence and cluster analyses to map typical patterns of how mothers and fathers combine their daily time use at the couple level. Multinomial logistic regression models assess change across time and social classes, based on the couples’ education and household income.

Three types of patterns emerge: *standard dual-earner patterns* with *synchronized standard work schedules*, *specialized earner/carer patterns*, and *nonstandard patterns* characterized by *desynchronized nonstandard work schedules* or *dual-joblessness*. Gendered responsibilities for paid and unpaid work are reflected across all patterns but to a different extent. The division of labor is most gender-equal in the *standard dual-earner pattern*, in which both parents work full standard schedules. At the same time, couples’ joint total (paid and unpaid) working time is highest in this pattern. In *standard* and *nonstandard one-and-half-earner patterns*, mothers do about one-third of the couples’ paid work and two-thirds of the couples’ unpaid work. When fathers work late or night shifts, mothers do only one-fifth of the couples’ paid work but the bulk of the couples’ unpaid work. Specialized patterns are the most gendered.

In line with expectations, time-use patterns became more gender-equal among middle- and upper-class couples in western Germany but less gender-equal across classes in eastern

Germany. In western Germany, the prevalence of standard dual-earner and one-and-a-half-earner patterns increased relative to the male-earner/female-carer pattern among middle- and upper-class couples. In contrast, among lower-class couples, the male-earner/female-carer pattern remained more dominant, and nonstandard patterns gained in importance, particularly dual-joblessness. For eastern Germany, the prevalence of the standard dual-earner pattern declined substantially across social classes. Moreover, nonstandard patterns with an evening or night working father and dual-joblessness rose more sharply than in western Germany, particularly among lower-class couples. I conclude that policies typical of the adult worker model only benefited advantaged mothers with access to standard work schedules. Moreover, they did not alter gendered responsibilities for unpaid work regardless of social class.

Summary of Study 2: “Divergent Rhythms of Motherhood. Patterns of Paid and Unpaid Work and Domestic Outsourcing among Mothers in the United Kingdom and western Germany”

Shifting the research focus to class inequalities among mothers, *Study 2* examines two research questions. First, how do typical patterns of paid and unpaid work differ among mothers by social class? Second, how are these differences associated with domestic outsourcing? It compares western Germany (2013) with the United Kingdom (2015) as an example of a liberal welfare state. The main analyses concentrate on ordinary weekdays. I use sequence and cluster analyses to identify typical patterns of paid and unpaid work among mothers. Multinomial logistic regression models predict how the patterns differ by the mother’s education and household income. Logistic regression models assess the mothers’ probability of outsourcing housework and childcare by cluster, and to what extent this is mediated by their education, household income, and earnings share.

As anticipated, advantaged mothers were more likely to have standard workdays, whereas disadvantaged mothers were more likely to have unpaid household and care

workdays rather than nonstandard workdays in both contexts. Partially aligning with my predictions, lower-income British mothers were more likely to have nonstandard workdays, while educational differences were not significant in either context. Furthermore, outsourcing housework was relatively uncommon among mothers in both contexts. However, as expected, British advantaged mothers were considerably more likely to outsource childcare to pursue standard workdays. By contrast, the pattern of partial workdays in the morning, combined with more unpaid work in the afternoon, prevailed among western German mothers, regardless of social class—corresponding with the dominance of the standard one-and-a-half-earner model in western Germany in 2013 (Study 1). I conclude that in the United Kingdom, more market-oriented as opposed to conservative family policies, stronger labor market deregulation, and more consistent policy incentives for domestic outsourcing seem more effective than in western Germany in promoting advantaged mothers' careers. However, this comes at the expense of greater class differences in how mothers organize their time.

Summary of Study 3: "Who Can Work When, and Why Do We Have to Care? Education, Care Demands, and the Gendered Division of Work Schedules in France and Germany"

Study 3 focuses exclusively on the scheduling of paid work while including couples with and without children. It addresses two research questions. First, how do education, and the presence and age of children, shape gendered work schedule arrangements among couples? Second, how does this vary by context? It compares Germany (2013) and France (2010) as two countries with similar labor market regulations but distinct family policies. Our analytical sample focuses on diary days of one-earner and two-earner couples, in which at least one partner engages in paid work. We use sequence and mixed classification to identify typical work schedules and show how they are combined with non-workdays among couples.

Multinomial logistic regression models assess how education, and the presence and age of children, are associated with partnered men's and women's types of days.

In line with expectation, in France work schedule arrangements polarized into standard dual-earner couples, and male-breadwinner couples, in which the men worked shifts and the women were not employed. In contrast, one-and-a-half-earner and male-breadwinner couples prevailed in Germany, consistent with Study 1. In both countries, less-educated men were more likely to work imposed shift schedules, whereas less-educated women were more likely to not be employed. However, in France, standard work schedules prevailed among better-educated men *and* women. By contrast, in Germany, women with young children were more likely to not be employed and, unlike in France, partial workdays rather than standard, long, or shift schedules predominated among mothers, regardless of the age of their children—in line with Studies 1 and 2. We conclude that in both labor market contexts, less-educated partnered women rather than men seem to opt out of employment due to scheduling conflicts between work and care. However, more work-facilitating family policies allow for more gender-equal schedules among better-educated men and women in France.

CHAPTER 2: Who Benefits from an Adult Worker Model? Gender Inequality in Couples' Daily Time Use in Germany Across Time and Social Classes

Abstract

This article investigates how mothers' and fathers' daily time use changed across social classes from 1990 to 2013 in Germany. In the 2000s, Germany's adherence to the male breadwinner model was eroded by labor and family policy reforms typical of the adult worker model, which assumes individual self-sufficiency. The implications for gender and class inequality have been heatedly discussed. Drawing on the German Time Use Survey, I find that gender equality in the division of labor is greatest among full-time dual-earner couples with standard schedules. The prevalence of this pattern increased among the middle- and upper-class in historically conservative western Germany, but declined across classes in formerly socialist eastern Germany. In parallel, nonstandard work patterns and dual-joblessness gained in importance among lower-class couples, particularly in eastern Germany. I conclude that the adult worker model benefited mothers with access to standard full-time jobs but at the cost of greater class polarization.

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Introduction

Economic and institutional changes since the 1990s have fundamentally transformed systems of work and care in many postindustrial societies. The shift to the knowledge economy has prompted increases in unemployment, part-time work and nonstandard schedules that fall outside the standard 9-to-5 workday (Hipp et al., 2015; Presser, 2003). In parallel, educational expansion and changing gender roles have led to an increase in female labor force participation (Esping-Andersen, 2009). In this process, many Western European countries have introduced neoliberal labor market reforms and expanded social-democratic family policies to facilitate an “adult worker model” (Lewis, 2001) that aims to achieve full labor market participation. Scholars favoring an adult worker model argue that better childcare coverage promotes gender equality and that labor market activation boosts employment among low-income families (Hemerijck, 2015; Van Kersbergen & Hemerijck, 2012). Other scholars, in contrast, argue that the adult worker model neglects gender and class inequality in the labor market, and ignores the gendered division of paid and unpaid work (Cooke, 2011; Daly, 2011b; Saraceno, 2015).

Although there is a large body of literature on gender and the welfare state, little is known about how parents’ strategies to combine paid and unpaid work have changed in postindustrial economies within and across social policy contexts. From a gender perspective, scholars have argued that the policy shift to an adult worker model has “outrun social reality” (Lewis, 2001, p. 154), as the “one-and-a-half-earner family” with a part-time working mother has become dominant in Europe (Orloff, 2009). However, in this debate, the role of work schedules has not yet been discussed. Conversely, the work/family literature highlights that nonstandard work schedules hamper work/family reconciliation because they conflict with children’s school and childcare schedules (Carillo et al., 2017; Wight et al., 2008). Yet, prior

time use research on the gendered division of labor has mainly discussed total paid and unpaid work time (Bianchi et al., 2012; Hook, 2006, 2010; Sullivan & Gershuny, 2001). Furthermore, studies that consider work schedules have either focused on paid work (Lesnard, 2008)—thus leaving out the role of unpaid work—or have not yet concentrated on families (Bison & Scalcon, 2018; Vagni & Cornwell, 2018).

Against this backdrop, this study investigates how mothers' and fathers' daily time use patterns changed between the early 1990s and the early 2010s (research question 1), and how these changes were associated with the couples' social class (research question 2). I focus on Germany for two reasons. First, in the 2000s, during Germany's transformation into a knowledge economy, the country introduced labor and family policy reforms typical of the adult worker model (Lewis, Knijn, et al., 2008; Van Kersbergen & Hemerijck, 2012). Second, I compare two distinct historical contexts in terms of gender and class legacies. In the 1990s, the former West Germany (hereinafter called western Germany) still fit the prototype of a conservative welfare state that fostered a high level of gender inequality but kept class inequality moderate (Esping-Andersen, 1990). In contrast, in the socialist German Democratic Republic (GDR) from 1949 to 1990, the state promoted both gender and class equality (Cooke, 2011). After reunification, the GDR's extensive public childcare system remained largely intact in the former East Germany (hereinafter called eastern Germany). However, the region faced long-term structural problems with particularly adverse effects on mothers' labor market chances (Hassel, 2010; Trappe et al., 2015).

This paper integrates advances in time use research into the study of gendered social policy by making three key contributions. First, I add to the theoretical discussion on how work schedules shape the gendered division of labor (Craig & Powell, 2011; Lesnard, 2008; Presser, 2003) by highlighting that nonstandard schedules can reinforce gender inequality

through economic and cultural mechanisms. As nonstandard work schedules are concentrated among lower-class couples, I argue that social class increasingly mediates gendered decisions about the allocation of paid and unpaid work in postindustrial contexts. Social policies aimed at creating more gender equality can actually reinforce this trend. Second, by linking the theoretical framework to economic changes and welfare state reforms in western and eastern Germany, I develop a typology of couples' time use patterns. It goes beyond prior research by considering not only the duration but also the scheduling of paid and unpaid work. Third, drawing on the *German Time Use Survey* 1991/92 to 2012/13 and using multichannel sequence and cluster analysis allows me a) to test the typology empirically to explore how couples' daily time use changed across classes in my two contexts, and b) to investigate the implications for gender inequality in the division of labor.

This study is situated in the literature on gender-class tradeoffs (Hook & Li, 2020; Mandel & Semyonov, 2006). I use an intersectional approach to explore how welfare states structure class differences in the gendered division of labor via their cumulative effects on labor markets and the allocation of unpaid work (Cooke, 2011). Classic welfare state analysis has investigated how institutions shape class inequality by moderating the conflict between capital and labor (Esping-Andersen, 1990). Feminist scholars have challenged this perspective for neglecting the effects of welfare states' normative underpinnings on the family and the gendered division of labor (Lewis, 1992; Orloff, 1993). The literature on gender-class tradeoffs assumes that gender and class interact in shaping economic interests and cultural norms. With respect to policies, women's interests and norms can thereby diverge by class (Hook & Li, 2020; Shalev, 2008). Consequently, policies that benefit certain groups of women can prove disadvantageous to other groups of women. My study adds to

this literature by linking it to an empirical case study on the implications of the adult worker model.

For western Germany, the findings suggest that stronger labor market incentives and better childcare coverage promoted a more gender equal division of labor among middle- and upper-class couples, as the share of standard full-time dual-earner and one-and-a-half-earner couples increased relative to male-earner/female-carer couples. In contrast, economic changes and neoliberal labor market reforms increasingly pushed lower-class couples into nonstandard work schedules, which reinforced mothers' domestic roles. For eastern Germany, the prevalence of standard full-time dual-earners declined substantially and across social classes. Moreover, the share of nonstandard working and dual-jobless couples rose more sharply than in western Germany, particularly among lower-class couples. These trends imply more gender inequality in the division of labor across classes in the context of declining and increasingly gendered labor market opportunities in eastern Germany.

The intersectional approach adopted in this study seeks to inform the debate on whether social-democratic family policies have the intended gender-equalizing effects (Fasang & Jalovaara, 2020). My findings imply that the German expansion of social-democratic family policies privileged middle- and upper-class mothers with access to standard full-time jobs but at the cost of greater class polarization. To promote more gender equal work/care models across social classes, social-democratic family policies should be accompanied by labor markets that limit gender and class inequality and shift decisions about schedule flexibility from employers to employees. Moreover, unpaid work should be recognized as "valuable in its own right" beyond the adult worker ideal (Saraceno, 2015, p. 263). The expansion of social-democratic family policies should thus be complemented by social-democratic rather than neoliberal labor market policies.

Theoretical Framework

Theories on the intra-household division of labor can be divided into economic and cultural approaches. Economic approaches stress rational decision-making. The *specialization perspective* assumes that men and women specialize in paid and unpaid work based on differences in their biology and human capital to maximize household utility (Becker, 1991). Relatedly, the *time availability perspective* argues that men and women rationally allocate time according to employment driven time constraints and the total amount of unpaid work to be done (Coverman, 1985). In contrast, *the economic bargaining perspective* assumes that partners negotiate their division of labor based on conflicting interests (Blood & Wolfe, 1960). Based on the assumption that individuals prefer paid work to unpaid work, it expects the partner with the higher level of education and greater earnings potential to be in a better bargaining position and thus to perform a larger share of paid work (Blood & Wolfe, 1960). All three economic approaches argue that partners distribute their total paid and unpaid work to achieve equilibrium (Becker, 1991; Blood & Wolfe, 1960; Coverman, 1985). Through different mechanisms, they thus all predict that a larger share of women's time spent in paid employment leads to a reduction in women's unpaid work time and a more gender equal division of labor.

Cultural approaches emphasize the power of prevailing gender norms. The *gender ideology perspective* argues that individual gender attitudes, acquired through childhood socialization, shape behavior. According to this perspective, individuals who hold more gender egalitarian attitudes are more likely to share paid and unpaid work equally (Greenstein, 1996). In contrast, the *“doing gender” perspective* (West & Zimmerman, 1987) assumes that paid work is normatively assigned to men and unpaid work is normatively assigned to women. It interprets daily gender practices as performative re-enactments of

normative prescriptions. In contrast to the economic approaches, the doing gender perspective predicts that employed women will do more total work than their partners, because egalitarian employment norms can coexist with gender essentialist norms about unpaid work (England, 2010).

Hook (2006, 2010) stresses that context influences how interests and norms shape the gendered division of labor. On one hand, there is historical and cross-national variation in how gender norms are embedded in contexts (Esping-Andersen, 1990; Orloff, 2009). Normative contexts thereby shape interests by influencing “the benefits of specialization” and the “terms of bargaining” (Hook, 2006, p. 642). Social policies, for example, can impact the economic returns for gender specialization (Orloff, 2009), and gender inequality in the labor market affects intra-couple bargaining (Pailhé et al., 2021). On the other hand, individual gender attitudes are informed by normative contexts (England, 2010). Moreover, attitudes are not deterministic of behavior and contexts influence “the ease or difficulty” of adhering to norms (Hook, 2006, p. 642). Gender inequality in the labor market, for example, can obviate the realization of individual ideals about gender equality (Pailhé et al., 2021). The reality can even cause attitude changes because opportunities and norms shape each other (Hook, 2006).

Only a few studies have discussed theoretically how work schedules shape the gendered division of labor. Children’s schedules are structured through schools and childcare facilities that mainly operate from morning to afternoon. While standard working hours facilitate work/family reconciliation through *synchronized schedules* among family members, dual-earner couples often cope with nonstandard working hours via *schedule desynchronization* (Bison & Scalcon, 2018; Lesnard, 2008; Presser, 2003). Here, parents take turns at work and at home—a practice often referred to as “tag team parenting” (Presser, 2003). From a *time availability perspective*, some scholars argue that nonstandard schedules

promote gender equality by increasing fathers' engagement in unpaid work (Lesnard, 2008; Presser, 2003).

Yet, in gendered contexts, men's income is economically more important to families than women's income and men are in a more powerful position. Consequently, mothers are responsible for childcare during their partners' paid working hours if the latter conflict with their children's schedules. "Gendered time constraints" (Hook, 2006) imply that mothers with partners who have an evening or night job must find a job on a standard schedule to be employed. Moreover, nonstandard work schedules are often associated with unpredictable schedules, as they are concentrated in low-wage sectors where employer-driven flexibility prevails (Gerstel & Clawson, 2015; Lyness et al., 2012). If a father has to be available on short notice, his spouse can be employed only in a job whose schedule she can control. However, women are overrepresented in low-wage service jobs with little flexibility and unpredictable schedules (Gerstel & Clawson, 2015; Hassel, 2010). From *an economic perspective*, in gendered contexts, fathers' nonstandard schedules could thereby reinforce gender inequality in the division of labor by restricting mothers' labor market availability. From a *cultural perspective*, mothers' exposure to nonstandard work schedules could also increase gender inequality in the division of labor. Where gender essentialist norms prevail, family responsibilities tend to be a constraint under which mothers navigate their careers (Chung & van der Lippe, 2020). Mothers thus often intentionally work part-time during school hours to avoid having their jobs interfere with their childcare duties (Craig & Powell, 2011). In turn, when standard jobs are not available to them, mothers may become less oriented towards paid employment and develop a preference for gender specialization.

While the predominant time use literature emphasizes gender as the major axis of social inequality (Hook, 2006, 2010), the literature on gender-class tradeoffs stresses that

economic contexts and policies can shape class differences in the gendered division of labor by promoting class-specific interests and norms (Cooke, 2011; Hook & Li, 2020). To investigate the role of work schedules, such an intersectional perspective seems particularly fruitful. Nonstandard work schedules are concentrated among lower-class jobs across welfare state contexts. Overwhelmingly, they represent the demands of the employers rather than the choice of the workers (Gerstel & Clawson, 2015; Lyness et al., 2012). Thus, nonstandard work schedules are likely to reinforce gender inequality in the division of labor particularly among lower-class couples. Due to the rise in nonstandard schedules in postindustrial economies, social class might increasingly mediate the gendered allocation of paid and unpaid work. Gender equality policies that are meant to be universal may actually reinforce this trend, as they fail to impact lower-class families (Matthews & Hastings, 2013). The expansion of public childcare systems, for example, implicitly relies on access to standard working hours. Therefore, it may reduce time constraints mainly among middle- and upper-class mothers.

Economic and Institutional Context

Among Western societies, by the 1990s, West Germany had implemented the male breadwinner model most comprehensively (Cooke, 2011). Industrial production relied on stable, male full-time employment in a coordinated labor market, whereas the high level of gender segregation in education and employment restricted women's labor market opportunities (Esping-Andersen, 1990; Lewis, 2001). While fathers' employment conditions limited the time they had available for unpaid work, long parental leaves, the limited availability of childcare and educational facilities that largely operated in the morning implicitly assumed mothers' responsibility for unpaid work (Lewis, 2001; Lewis, Knijn, et al., 2008). Economic incentives for gender specialization were reinforced through generous

cash benefits for families, a joint tax system that rewarded unequal earnings among spouses and a health system that allowed for the free co-insurance of a non-working spouse (Bröckel & Andreß, 2015; Cooke, 2011). Since male working conditions were very homogeneous and embedded in a family-based social security system, this system limited class inequality but promoted a high level of gender inequality across classes (Cooke, 2011).

In contrast, before reunification in 1990, the GDR was a socialist state that was part of the Eastern Bloc during the Cold War. Unlike West Germany, the GDR ideologically and politically promoted an adult worker model that encouraged the full-time dual-earner family, because the functioning of the planned economy depended on full labor market participation (Rosenfeld et al., 2004). Full employment was guaranteed by the state economy and supported by a universal childcare system and a fully paid year of maternity leave. Although the policies did not question gender essentialist norms in the private sphere, they normatively promoted maternal employment and reduced mothers' time constraints significantly by shifting care work to the state (Cooke, 2011). Furthermore, low wages and the limited income inequality based on gender and education dampened the economic benefits of gender specialization. Overall, the GDR thereby promoted gender and class equality in paid work (Cooke, 2011; Rosenfeld et al., 2004).

Similar to other Western countries, from the 1990s onwards, a growing demand for high-skilled labor triggered the expansion of higher education and the promotion of gender equality in access to education and employment in western Germany (England, 2010; Trappe et al., 2015). Yet, increases in high-skilled standard work were accompanied by a growing demand for low-skilled nonstandard work and rising unemployment (Hassel, 2010; Presser, 2003; Van Kersbergen & Hemerijck, 2012). Whereas stable full-time employment persisted among men in the industrial sector, low-paid part-time work expanded mainly in the growing

female-dominated lower service sector (Hassel, 2010; Mayer-Ahuja, 2003). More gender-equal job prospects were generally limited to women with better educations and major employment gaps between mothers and childless women persisted, reflecting the maintenance of conservative family policies (Misra et al., 2007). Among mothers, the share of female homemakers decreased from 45% to 33% between 1991 and 2002, but maternal employment gains were driven exclusively by part-time and marginal jobs (Kreyenfeld & Geisler, 2006, p. 345). Thus, the male-earner/female-carer family was increasingly replaced by the “one-and-a-half-earner family” (Lewis, 2001).

After reunification in 1990, the West German institutional system was extended to eastern Germany, incentivizing the male breadwinner model via the taxation and social security system (Trappe et al., 2015). Yet, despite a slight reduction in public childcare facilities, childcare coverage remained markedly higher in eastern Germany than in western Germany (Schober, 2014). Economically, the collapse of the socialist system and the GDR’s integration into West Germany’s capitalist system led to a high level of structural unemployment in the 1990s (Trappe et al., 2015). In contrast to western Germany, the growth of high-skilled knowledge jobs was limited in eastern Germany. The expansion of the higher education system produced graduates with more education but there were fewer job opportunities, particularly for mothers (Rosenfeld et al., 2004). From 1991 to 2002, the share of full-time employed mothers decreased from 64% to 51%, predominantly driven by rising unemployment (Kreyenfeld & Geisler, 2006, p. 345).

Against the backdrop of high unemployment and the low employment rate of western German women compared to other western European countries (Lewis, Knijn, et al., 2008), in the 2000s, Germany departed from its strict adherence to the male-breadwinner model by introducing a set of policies typical of the adult worker model (Daly, 2011b; Lewis, 2001).

With the “Hartz reforms”, Germany deregulated its labor market in accordance with the liberal welfare state model (Hassel, 2010). Low-paid, marginal, part-time employment with reduced social security contributions (*Minijobs*) was introduced, earnings-based unemployment benefits were restricted in favor of a means-tested allowance, requirements for the unemployed to accept suitable jobs were tightened, and a supplementary child allowance for low-earning parents was implemented (Hassel, 2010; Van Kersbergen & Hemerijck, 2012). In parallel, Germany institutionalized family policies typical of social-democratic welfare states by introducing several childcare reforms with legally binding targets for children under three years and reformulating parental leave to introduce an income-based parental allowance (Lewis et al., 2008). Table 1 details the key reforms promoting the adult worker model in the 2000s. Overall, they sought to incentivize full labor market participation through short-term earnings-based unemployment benefits combined with activation measures and short-term but generous income replacement during parental leave and the subsequent provision of public childcare (Hemerijck, 2015; Lewis, Knijn, et al., 2008).

Some scholars argue that the adult worker model promotes gender equality by encouraging maternal employment (Van Kersbergen & Hemerijck, 2012). Other scholars, in contrast, argue that it neglects gender inequality in the labor market and in the division of labor (Daly, 2011b; Lewis, Knijn, et al., 2008) and entails an “implicit devaluation of care and relational work” (Saraceno, 2015, p. 263) by normatively relying on full labor market participation. Scholarly assessments regarding the effects of the adult worker model on class inequalities are equally mixed. For some, the adult worker model equalizes employment chances by encouraging labor market access for both low-skill groups and the unemployed (Van Kersbergen & Hemerijck, 2012). For others, it ignores structural unemployment risks

among work-poor households and reinforces skill-based labor market inequality (Cantillon, 2011; Cooke, 2011).

Table 1: Major policy reforms promoting an adult worker model in the 2000s

Year	Name	Content
2003– 2005	Hartz Reforms	• Promotion of nonstandard marginal employment • Reduction of earnings-based unemployment insurance from 32 to 12 months • Introduction of flat-rate means-tested unemployment allowance after 12 months of unemployment • Tightening of requirements for the unemployed to accept suitable jobs • Introduction of a supplementary child allowance (up to 185 euros a month) for families with low earned income
2005	Daycare Expansion Act	• Step-by-step expansion of public childcare provision for children under three years in order to meet demand (goal: 230.000 new childcare slots until 2010)
2007	Parental Allowance Act	• Introduction of income-based parental allowance: 67% wage replacement (min. 300 euros & max. 1800 euros) for up to 12 months + 2 partner months • In the prior scheme, a needs-based parental allowance was granted for two years (max. 300 euros)
2008	Childcare Funding Act 2008	• Introduction of legal entitlement to a childcare slot for all children from the age of one as of 2013 • Legally binding target to further expand public childcare for 35% of children under three years until 2013

Sources: Daly 2011; Hassel 2010; Lewis et al. (2008); Van Kersbergen and Hemerijck (2012); Stahl and Schober 2018.

Beyond this theoretical debate, the empirical literature suggests that the effects of the policy reforms were path-dependent in western and eastern Germany. On one hand, against the backdrop of more labor market competition, the neoliberal reforms promoted the growth of low-wage and nonstandard work in eastern Germany rather than in western Germany (Hassel, 2010). On the other hand, gendered labor market structures were affected differently.

In western Germany, the Hartz reforms primarily led to a further expansion of low paid, part-time employment in the female-dominated lower service sector (Hassel, 2010; Mayer-Ahuja, 2003). By contrast, in eastern Germany, women had been largely pushed out of the labor force after reunification and regained access primarily through low-paid, part-time work (Rosenfeld et al., 2004). Lastly, in male-dominated sectors, full-time employment continued to be the norm, reflecting the persistence of Germany's coordinated market economy in core industries despite labor market liberalization at the margins (Hassel, 2010). In the context of increasing class inequality, gender inequality in the labor market was reinforced among the lower class in western Germany but increased across social classes in eastern Germany.

With the family policy reforms, day care coverage for children younger than three became by no means universal. Nevertheless, attendance rates in day care facilities rose from 10% to 24% in western Germany and from 41% to 52% in eastern Germany between 2007 and 2013 (Stahl & Schober, 2018). Correspondingly, employment rates among western German mothers further increased from 57% to 66% between 2000 and 2012 (BMFSFJ, 2014, p. 45) and mothers more often returned to full- or part-time jobs than to marginal employment (Zoch & Hondralis, 2017). However, by 2012, still less than 20% of western German mothers worked full-time (BMFSFJ, 2014, p. 45), reflecting the continued dominance of conservative policy elements such as the tax and social security system despite the introduction of social-democratic family policies (Daly, 2011b; Lewis, Knijn, et al., 2008). In eastern Germany, in contrast, maternal employment rates remained relatively stable between 2000 and 2012 at about 69%. Nevertheless, full-time jobs were steadily replaced by

part-time jobs and accounted for only 35% of mothers by 2012 despite the improved availability of day care (BMFSFJ, 2014, p. 45).

Expectations

Based on the theoretical discussion, I expect that mothers' and fathers' daily time use patterns can be divided into a) *standard dual-earner patterns* that entail synchronized standard work schedules b) specialized *earner/carer patterns* that rest on gender specialization in paid and unpaid work, and c) *nonstandard patterns* that include couples with *desynchronized nonstandard work schedules* and *dual-jobless couples*. According to the rigid structure of male full-time employment in the German context, I assume that fathers' full-time paid work is dominant across patterns. Since standard working hours promote the compatibility of work and family, because they match with children's schedules, I assume that gender equality in the division of labor is greatest among standard full-time dual-earner couples and moderate among standard one-and-a-half-earner couples, in which mothers work part-time in the morning. By contrast, fathers' full-time nonstandard work schedules could restrict mothers' availability to engage in paid work (see section 2). Table 2 summarizes the expected typology and presents my hypotheses about the changes across time and social classes.

In the wake of the shift to a knowledge economy and the introduction of policy incentives for the adult worker model that conflicted with maintained policies promoting the male breadwinner model, I argue that *class status* increasingly mediated the *economic and cultural mechanisms* that shaped the gendered division of labor. In western Germany, among middle- and upper-class mothers, higher education levels and more gender equal employment opportunities reinforced their economic incentives for employment. These mothers could earn more and their greater relative resources enhanced their bargaining power within their

partnership. From a cultural perspective, educational expansion and the introduction of policies typical of the adult worker model also promoted mothers' normative job commitment. Whereas the rigid structure of male full-time employment continued to restrict fathers' availability for unpaid work, better access to public childcare through family policy reform in the 2000s should have reduced mothers' time constraints during standard working hours.

In contrast, gender equality in the labor market stalled among lower-class couples. From an economic perspective, lower-class mothers' employment incentives remained limited due to their persistently low incomes and continued weak position of power within the couple, combined with the policy incentives that maintained the male breadwinner model. Moreover, gendered labor market opportunities continued to reinforce the economic necessity of fathers' full-time employment. As a consequence of the neoliberal reforms, lower-class fathers might have increasingly had to accept jobs with nonstandard work schedules, restricting their spouses' time availability for paid work. From a cultural perspective, moreover, lower-class mothers' limited access to standard jobs could have reduced their normative job commitment, as nonstandard working hours conflicted with their childcare responsibilities. Additionally, increased unemployment among lower-class couples may have prevented them from adhering to the emerging adult worker norm. Overall, gender equality in the division of labor might have increased among middle- and upper-class couples but stalled among lower-class couples.

In western Germany, I therefore expect the male-earner/female-carer pattern to dominate in the early 1990s. Over time, I expect to see increases in the prevalence of

standard dual-earner patterns, driven by middle-and upper-class couples. I also expect that the share of nonstandard patterns will rise over time, driven by lower-class couples (H1).

In eastern Germany, from an *economic perspective*, low wages continued to incentivize the full-time dual-earner model after reunification despite new policy incentives for gender specialization (Rosenfeld et al., 2004). In addition, mothers faced comparatively fewer time constraints due to the demands of unpaid work because of the childcare infrastructure established. From a *cultural perspective*, parents also continued to be normatively committed to the full-time dual-earner model, as socialist norms acquired through childhood socialization were passed on to the next generation (Trappe et al., 2015). Yet, economic changes and neoliberal reforms had particularly adverse labor market effects on the lower social class, implying increased gender inequality in the labor market across social classes.

Thus, the decline in mothers' access to full-time jobs might have increasingly prevented adherence to the adult worker norm across social classes. Moreover, following the neoliberal reforms in the 2000s, lower wage levels and more labor market competition than in western Germany may have reinforced the economic necessity of lower-class families in eastern Germany to accept jobs that involved nonstandard work schedules. Due to increasingly gendered labor market opportunities, nonstandard work schedules might have become more common among lower-class fathers, limiting their spouses' availability for paid employment. In addition, persistent high structural unemployment may have hampered lower-class couples' labor market participation more strongly than in western Germany. Overall, in contrast to western Germany, in eastern Germany gender equality in the division of labor might have declined across social classes.

Table 2: Expected Gendered Daily Time Use Patterns in Germany: 1990-2013

<i>Type of pattern</i>	<i>A. Standard dual-earner patterns</i>		<i>B. Specialized earner/ carer patterns</i>	<i>C. Nonstandard patterns</i>	
Pattern/ Characteristics & Hypotheses	Standard full-time dual-earner couples	Standard one-and-a-half-earner couples	Male-earner/ female-carer couples	Nonstandard working couples	Nonstandard dual jobless couples
I. Individual paid and unpaid work schedules among parents	- Both parents standard full-time paid work - Both parents limited unpaid work	- Father standard full-time paid work - Mother part-time paid work in the morning and part-time unpaid work in the afternoon	- Father full-time paid work - Mother full-time unpaid work	- Father nonstandard full-time paid work - Mother either paid work with alternated schedule (predominantly part-time), or exclusively unpaid work	- Both parents jobless/ out of labor force - Both parents time available for unpaid work
II. Coordination at couple level	<i>Synchronization</i> Work schedules among parents overlap and match with children's school day and childcare facilities' operating hours		<i>Specialization</i> Fathers' paid work is flexible, as mothers do unpaid work	<i>Desynchronization</i> Parents take turns at work and at home, as nonstandard working hours conflict with children's schedules	-

<i>Type of pattern</i>	<i>A. Standard dual-earner patterns</i>		<i>B. Specialized earner/ carer patterns</i>	<i>C. Nonstandard patterns</i>	
Pattern/ Characteristics & Hypotheses	Standard full-time dual-earner couples	Standard one-and-a- half-earner couples	Male-earner/ female- carer couples	Nonstandard working couples	Nonstandard dual jobless couples
III. Gender equality in the division of labor	<i>High</i> High gender equality, driven by both parents' high paid working hours	<i>Medium</i> Medium gender equality, as mother engages in paid work, but also remains responsible for unpaid work	<i>Low</i> Low gender equality due to gendered task specialization in paid and unpaid work	<i>Low-Medium</i> Low-medium gender equality, as fathers' nonstandard work schedules restrict mothers' labor market availability	-
Western Germany: Expected change (H1)	<i>Rise (+)</i> , driven by middle- and upper-class couples		<i>Decline (-)</i> , yet: persistence among lower-class couples	<i>Rise (+)</i> , especially driven by lower-class couples	
Eastern Germany: Expected change (H2)	<i>Decline (--)</i> across social classes	<i>Rise (+)</i> , driven by middle- and upper- class couples	<i>Stagnation ()</i> at comparatively low level	<i>Rise (++)</i> , especially driven by lower-class couples	

Note: There may be a variety of nonstandard working patterns (e.g. ranging according to early, late or night shifts among parents). Yet, more specific expectations on these patterns were not formulated due to limited prior research; expectations on coordination strategies and gender equality among dual jobless couples were intentionally left out, as the underlying theories on the gendered division of labor don't apply to these couples.

In eastern Germany, I therefore expect to see a decline in the dominance of standard full-time dual-earner couples across social classes. In tandem, I expect to find the increased importance of the standard one-and-a-half-earner pattern among middle- and upper-class couples. Among lower class couples, in contrast, I expect an even stronger growth of nonstandard patterns than in western Germany (H2).

Data and Methods

Data, Sample, and Analytical Strategy

For the empirical analysis, I combine three waves of the *German Time Use Survey* (1991/92, 2001/02, 2012/13). The cross-sectional data consist of representative samples of German private households from the German Federal Statistical Office. It provides time diaries of all adult household members as well as individual and household characteristics. Activities were reported every 5 minutes on two consecutive days in 1991/92 and every 10 minutes on three days (two weekdays and one weekend day) in 2001/02 and 2012/13.

I limit my sample to opposite-sex couples with children under 18 years of age, in which both partners have completed their education and are not yet retired. To reveal how couples link their daily schedules, I restrict the analysis to time diaries that were completed on the same day by both partners, and to days reported as ordinary, meaning the respondents were not on vacation or sick. Although weekend work is a form of nonstandard employment (Presser, 2003), the main analysis focuses on weekdays because children's school and childcare schedules have a strong influence on parents' paid and unpaid work on weekdays, but not on weekends (Wight et al., 2008). A robustness check repeating the analysis for weekend days shows that employment is far less prevalent on weekend days, particularly of both partners, and that nonstandard working hours are rare (supplementary material, pages 12

to 19). To facilitate comparison across waves, I harmonize the data to 10-minute intervals by dropping every second 5-minute time slot in 1991/92. Following Lesnard (2008), this method does not introduce any substantial bias, because more than 95% of activities take more than 5 minutes. Subsequently, I pool the data and reshape it into a dyadic structure. My final sample consists of 6,303 cases, each representing a couples' diary day. Table 3 provides an overview of the sample selection. Sample dropouts do not seem to systematically bias the data.

Table 3: Overview of Sample Selection

A. Overview of stepwise sample selection							
	1991/92		2001/02		2012/13		
	<i>N</i>	% excl.*	<i>N</i>	% excl.*	<i>N</i>	% excl.*	
<i>Individual diary days</i>							
a) Full sample	30732		35691		32105		
b) Couples with children	10372	66.3	9868	72.4	8263	74.3	
c) Weekdays only	7853	24.3	6404	35.1	5310	35.7	
d) Ordinary day	6312	19.6	4739	26.0	3962	25.4	
e) Opposite-sex partner**	5454	13.6	3926	17.2	3226	18.6	
<i>Couples' diary days (dyads)</i>							
Analytical sample***	2727		1963		1613		
B. Distribution for western and eastern Germany: Full sample versus analytical sample							
	1991/92		2001/02		2012/13		
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	
<i>Full sample</i>							
Western Germany	22972	74.8	28819	80.8	25657	79.9	
Eastern Germany	7760	25.2	6872	19.2	6448	20.1	
<i>Analytical sample</i>							
Western Germany	1952	71.6	1581	80.5	1272	78.9	
Eastern Germany	775	28.4	382	19.5	341	21.1	

Note: *Percentage of observations excluded at each stage of sample restriction; **Sample restricted to couples, for which same-day diaries were available ***Each dyad represents a couples' diary day. Accordingly, the number of dyads equals half the number of selected diary days (e).

My analytical strategy involves two steps. First, I use multichannel sequence and cluster analysis to identify a typology of mothers' and fathers' daily time use patterns. Then, I conduct multinomial logistic regression models to investigate (a) how the probability of cluster membership changed over time in western and eastern Germany and (b) how these changes were associated with couples' social class status according to my two research questions.

Step 1: Multichannel Sequence Analysis and Cluster Analysis

Sequence analysis is an exploratory statistical technique that allows me to describe couples' time use in terms of the prevalence, duration, timing, and ordering of activities (Studer & Ritschard, 2014). I operationalize the entirety of the couples' time use over 24 hours. The state sequences are specified according to four basic activities: paid work, unpaid work, free time, and personal care (Bittman & Wajcman, 2000; Sullivan & Gershuny, 2001). Following methodological standards, paid work is defined as income-based market work; unpaid work refers to household work, childcare, and care of the elderly; personal care includes sleeping, eating, washing, and dressing; and free time refers to all residual time including explicit leisure and discretionary activities (see supplementary table 1).

Sequence dissimilarity is estimated based on multichannel pairwise optimal matching distances between fathers' and mothers' sequences. In line with prior time use studies (Lesnard, 2008; Vagni & Cornwell, 2018) and with the aim of highlighting the (de)synchronization of the parents' schedules, I opt for *Hamming distance*, which stresses the *timing* of activities (Studer & Ritschard, 2014). I then apply the distance matrix to Ward's cluster analysis. Cluster analysis is a tool to simplify complexity by partitioning data into groups that are maximally internally consistent and maximally different from each other. Multiple cluster quality measures (Studer, 2013) promote a five-, seven- or nine-cluster

solution (see supplementary table 2, supplementary figure 1). I summarize the nine-cluster solution into eight clusters to balance statistical quality and interpretability (see supplementary figures 2 to 5 and the corresponding note). To investigate the robustness of the findings, I alternate several cost specifications, which yield broadly consistent findings.

Step 2: Modelling Cross Level Interactions for Effect Changes across Time and Classes

I assess class differences based on the couples' education and household income. This conceptualization of class considers both partners' levels of educational attainment to emphasize the importance of their individual qualifications for their employment status (Hook & Li, 2020). It locates class at the household level and includes the household's income to reflect shared living conditions shaped by joint resources (Sørensen, 1994). My operationalization of class contrasts with approaches that use occupation to measure an individual's labor market standing more directly (Robert Erikson & John Harold Goldthorpe, 1992). However, such approaches are problematic when studying the gendered division of labor because homemakers must be excluded from consideration or be assigned to their partners' class (Hook & Li, 2020). Moreover, they cannot capture unemployment among one or both partners.

I use five multinomial logistic regression models. The first model estimates the probability of cluster membership by *year of survey* and *region (western/ eastern Germany)*. Since I expect somewhat opposite regional changes, the model is fit with a two-way interaction (supplementary table 3). The other four models investigate the probability of cluster membership by *social class* and *year of survey*. In two consecutive models for western and eastern Germany, respectively, I include two-way interactions between a) the *couples' education* and b) their *household income* and the *year of survey* (supplementary tables 4 to 7). To identify the unique effect of the two class indicators, the models are mutually adjusted for

income and education. They also control for the *number of children* and the *age of the youngest child*, because these characteristics affect mothers' paid and unpaid work and also differ according to social class (Sullivan & Gershuny, 2001).

Table 4: Distribution of the Independent Variables by Year of Survey: Western and Eastern Germany

	Western Germany					
	1991/92		2001/02		2012/13	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
<i>Education of the couple</i>						
Mother low, father up to mid	713	36.5	320	20.5	156	12.3
Mother mid, father up to mid	681	34.9	620	39.8	603	47.4
Mother up to mid, father high	299	15.3	311	19.9	213	16.7
Mother high, father up to high	259	13.3	308	19.8	300	23.6
<i>Household Income</i>						
Low	413	25.0	367	25.1	318	25.0
Middle	826	50.0	732	50.0	636	50.0
High	412	25.0	366	25.0	318	25.0
	Eastern Germany					
	1991/92		2001/02		2012/13	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
<i>Education of the couple</i>						
Mother up to mid, father up to mid	533	68.8	186	49.3	176	51.6
Mother up to mid, father high	91	11.7	64	17.0	67	19.6
Mother high, father up to high	151	19.5	127	33.7	98	28.7
<i>Household income</i>						
Low	190	25.0	90	25.1	86	25.2
Middle	380	50.0	179	50.0	170	49.9
High	190	25.0	89	24.9	85	24.9

The independent variables are operationalized as follows. *Individual educational level* is measured according to the German system. The levels of education capture “low” [low-track general schooling (*Hauptschule*) and/ or no vocational training], “middle” [middle or

high general schooling (*Realschule, Abitur*) combined with vocational training] and “high” [high general schooling (*Abitur*) combined with a university degree]. I combine the couples’ highest education into four levels considering that educational assortative mating is dominant in the sample and that there are few cases in which the mother is more educated than the father (see table 4). For eastern Germany, I combine the two lower levels due to the small number of poorly educated people as a result of the GDR’s more standardized education system. *Household income* refers to disposable income. Due to persistent income differences between western and eastern Germany, levels are broken down by region into “low” (1st quartile/ bottom 25%), “middle” (2nd and 3rd quartiles/ middle 50%) and “high” (4th quartile/ top 25%). Table 4 shows the distribution of the independent variables by year of survey and region. In particular, it demonstrates the expansion of the educational system during the period of analysis.

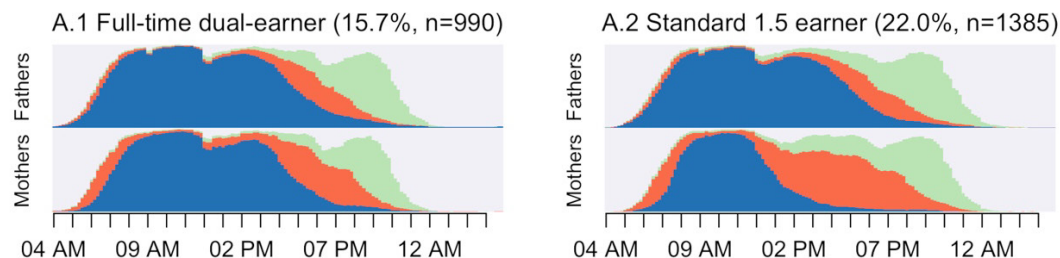
Results

Identification of Mothers’ and Fathers’ Daily Time Use Patterns

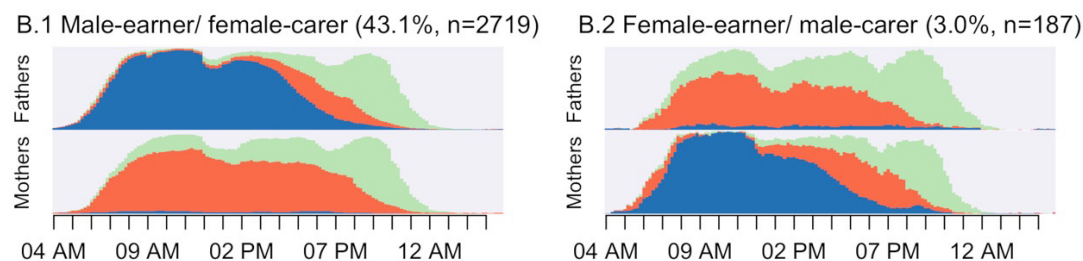
Figures 1 and 2 present state distribution plots and relative frequency sequence plots for the eight identified clusters. The state distribution plots summarize the aggregate state distribution throughout the day for fathers (at the top) and mothers (at the bottom) for each cluster. The relative frequency sequence plots, in contrast, show 100 representative individual time sequences for each cluster with goodness-of-fit measures presented below the graphs (Fasang & Liao, 2014). As expected, the eight time use clusters can be divided into three broad types: *standard dual-earner patterns* (type A), *specialized earner/carers patterns* (type B), and *nonstandard patterns* (type C).

Figure 1: Couples' Time Use Patterns on an Ordinary Day: State Distribution Plots of Eight Time Use Clusters Derived from Multichannel Sequence Analysis

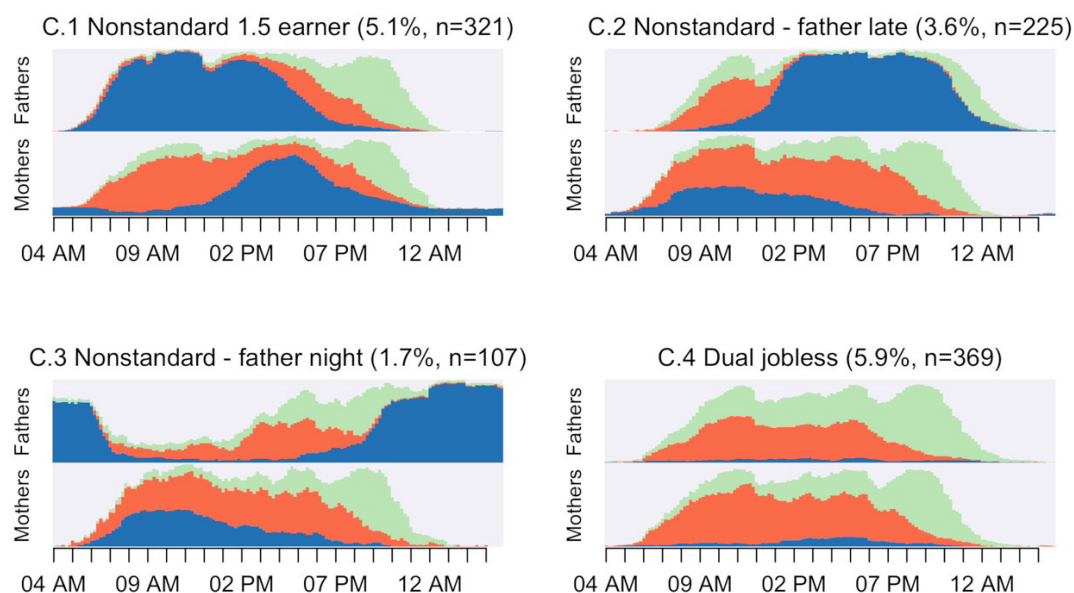
A *Standard dual-earner patterns (37.7%)*



B *Specialized earner/ carer patterns (46.1%)*



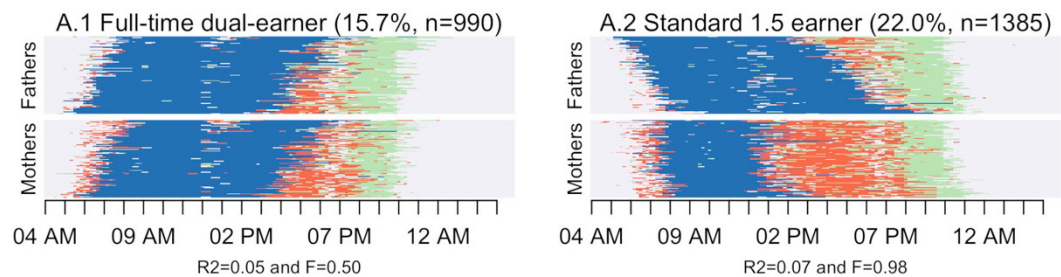
C *Nonstandard patterns (16.2%)*



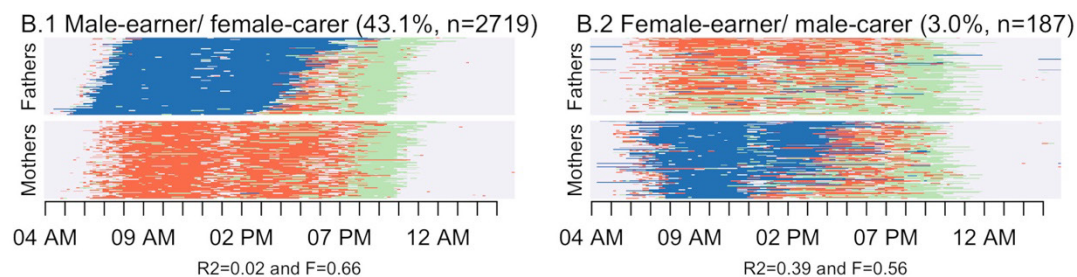
■ Paid work ■ Unpaid work ■ Free time ■ Personal care

Figure 2: Couples' Time Use Patterns on an Ordinary Day: Relative Frequency Sequence Plots of Eight Time Use Clusters Derived from Multichannel Sequence Analysis

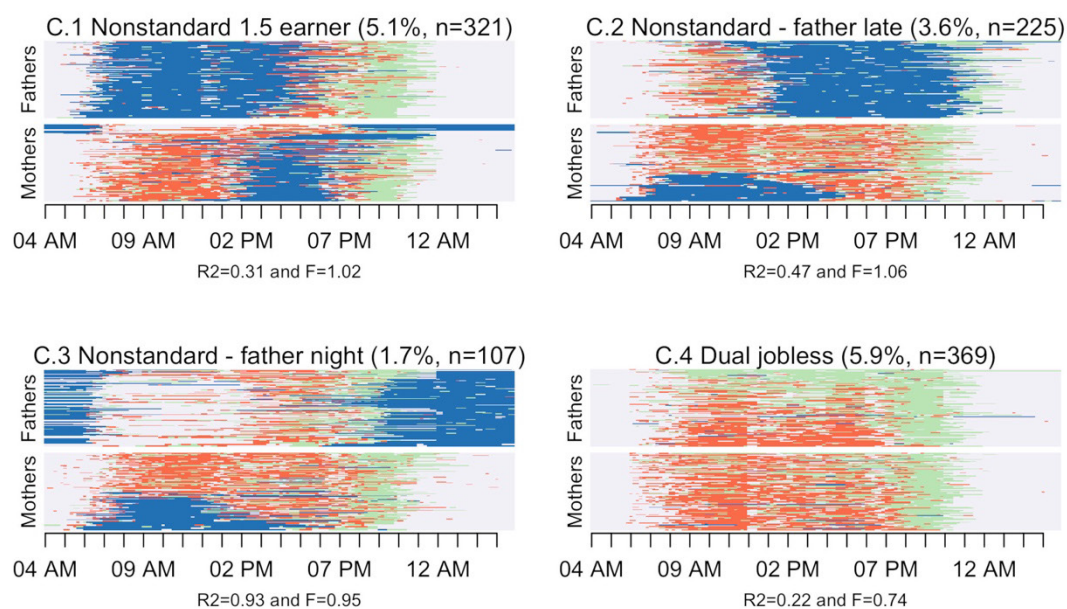
A *Standard dual-earner patterns (37.7%)*



B *Specialized earner/ carer patterns (46.1%)*



C *Nonstandard patterns (16.2%)*



■ Paid work ■ Unpaid work ■ Free time ■ Personal care

Standard dual-earner patterns include parents with synchronized, standard work schedules who have parallel free time in the evening. At 37.7%, they represent a large proportion of the sample. Cluster A.1 captures the expected *standard full-time dual-earner pattern*. Cluster A.2 reflects what I call a *standard one-and-a-half earner pattern*, in which mothers combine a part-time paid work shift in the morning with a part-time, unpaid shift in the afternoon. Comprising 22.0% of the sample, it is larger than the *standard full-time dual-earner pattern* at 15.7%. However, most dominant are *specialized earner/carer patterns* at 46.1% (B), in which one partner does paid work for standard hours, while the other partner spends most of the day on unpaid work, and couples also share some free time in the evening. Among these patterns, the expected male-earner/female-carer pattern is extremely dominant.

Nonstandard patterns are the smallest type, comprising 16.2% of the sample. Clusters C.1 to C.3 capture different versions of *nonstandard working couples*. Consistent with the tag team concept (Presser, 2003), they demonstrate that parents cope with nonstandard working hours by following alternate schedules and thus have less joint free time. Cluster C.1 captures what I call a *nonstandard one-and-a-half earner model*. Here, fathers start full-time paid work early, while mothers engage in a part-time late or night shift, with complementary unpaid work schedules (figure 2). It comprises 5.1% of the sample. Clusters C.2 and C.3 consist of couples in which fathers have a full-time late paid work shift (from about 1 pm to 10 pm) (C.2) or a full-time night shift (C.3), while mothers do a paid work shift in the morning or spend their entire day on unpaid work (figure 2). Cluster C.4 captures dual-jobless couples in which both partners' days are dominated by unpaid work and/or free time. With a share of 5.9%, it is the largest cluster among the nonstandard patterns.

Table 5: Descriptive Statistics for the Eight Clusters

	<i>A. Standard dual-earner patterns</i>		<i>B. Specialized earner/carer patterns</i>		<i>C. Nonstandard patterns</i>			
	A.1 Standard full-time dual- earner	A.2 Standard 1.5 earner	B.1 Male- earner/ female- carer	B.2 Female- earner/ male- carer	C.1 Non- standard 1.5 earner	C.2 Non- standard – father late	C.3 Non- standard – father night	C.4 Non- standard dual jobless
Fathers' mean time by activity (hours per day)								
Paid work	10.0	9.5	9.5	0.7	9.3	9.6	8.9	0.6
Unpaid work	1.8	1.8	1.8	6.4	2.1	2.3	3.2	5.2
Total work	11.9	11.3	11.3	7.1	11.4	11.9	12.1	5.8
Free time	3.1	3.6	3.6	6.4	3.6	2.5	3.3	7.1
Personal care	9.0	9.1	9.2	10.5	9.0	9.6	8.6	11.1
Mothers' mean time by activity (hours per day)								
Paid work	8.9	5.5	0.4	8.3	5.7	3.2	3.7	0.9
Unpaid work	3.2	5.4	8.7	3.0	5.6	6.8	6.1	7.2
Total work	12.2	10.9	9.1	11.3	11.2	10.0	9.8	8.1
Free time	2.5	3.6	4.8	3.3	3.2	4.2	4.1	5.0
Personal care	9.3	9.5	10.2	9.4	9.6	9.8	10.1	10.8
Gender ratio (mother's share in percent)								
Paid work	47.4	36.4	3.0	93.2	37.0	19.4	23.8	54.5
Unpaid work	65.3	76.2	83.7	33.4	72.6	73.6	66.0	60.1
Total work	50.7	49.0	44.6	61.4	49.6	45.7	44.7	58.3
Free time	45.3	50.2	57.0	34.1	45.8	63.2	57.2	42.4
Couples' mean joint time by activity (hours per day)								
Paid work	19.0	15.0	9.8	9.1	15.0	12.8	12.6	1.5
Unpaid work	5.1	7.2	10.5	9.4	7.7	9.1	9.3	12.4
Total work	24.0	22.2	20.3	18.5	22.7	21.9	21.9	13.9
Free time	5.7	7.3	8.4	9.6	6.7	6.8	7.4	12.1

Table 5 summarizes descriptive statistics for the clusters. The gendered division of labor strongly varies between clusters. Gender equality in paid work is by far the greatest among standard full-time dual-earner couples, evident in a mother's share of paid work hours of 47.4%. In the two versions of the one-and-a-half-earner pattern (A.2 and C.1), mothers perform only about one third of the couple's paid work. In line with the *economic*

perspectives, the spouses' total (paid and unpaid) work time is very equal across these three clusters, because the couples share unpaid work complementary to paid work. In the two clusters in which fathers work late or night shifts (C.2 and C.3), on average, the mother's paid work share accounts for only about one fifth of the couple's total paid work. Although fathers with nonstandard schedules do more unpaid work than their peers with standard schedules—especially if they work at night—and have a larger total work load than their partners, they do the majority of the paid work and their spouses do the majority of the unpaid work. In line with the theoretical discussion, fathers' nonstandard schedules thereby reinforce gender specialization by limiting their spouses time availability for paid employment. Overall, as expected, gender equality in the division of labor is by far the lowest in the specialized earner/carer patterns, and by far the highest among standard full-time dual-earner couples.

Yet, even among standard full-time dual-earner couples, in which partners share paid work most symmetrically, and in which mothers' comparatively long hours at work limit the time they can devote to unpaid work, mothers spend considerably more time on unpaid work than their partners. In line with the *doing gender perspective*, mothers' normative commitment to unpaid work shapes their behavior even if they work full-time. Moreover, fathers in jobless couples do considerably less unpaid work than their partners, and male homemakers do considerably less unpaid work than female homemakers, confirming that fathers do gender in counter-normative situations (Hook, 2010).

The clusters also reflect the German context, as fathers' paid working hours are very homogeneous, while mothers' working hours are strongly polarized. Couples' joint paid working hours range from an average of 1.5 hours among dual-jobless couples to up to 19 hours among standard full-time dual-earner couples. Reflecting the *time availability*

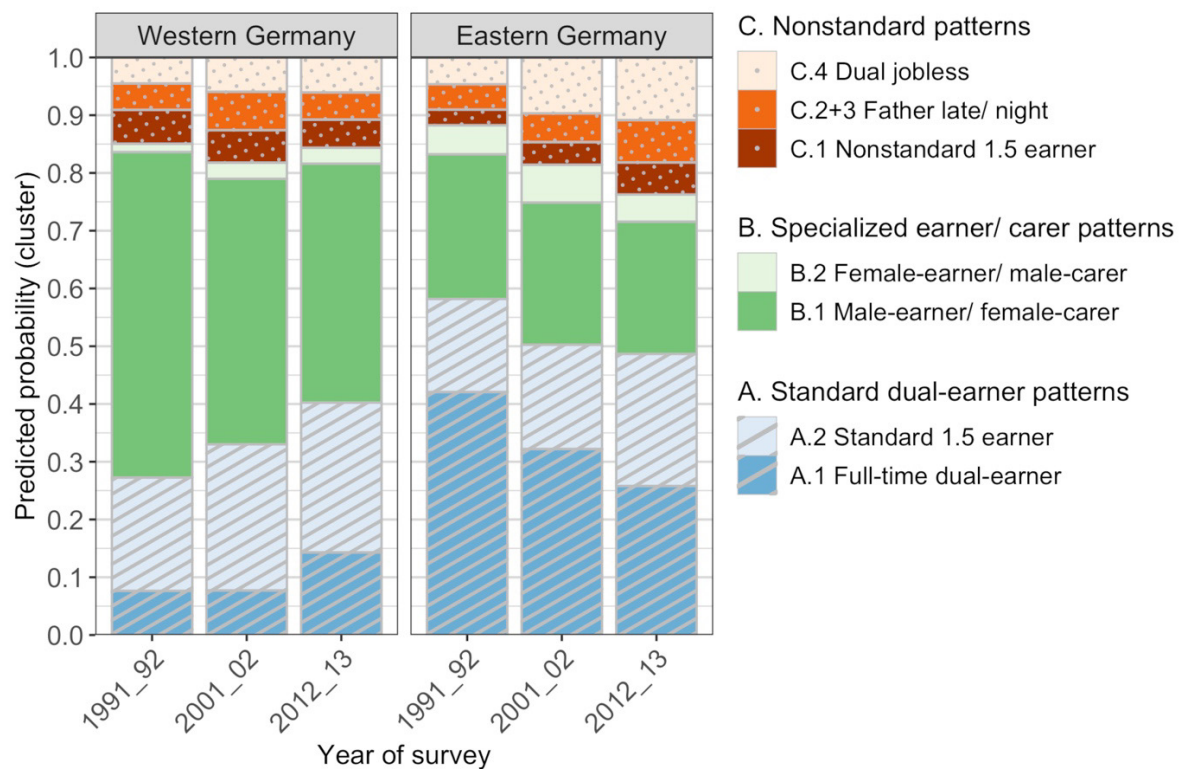
perspective, couples who spend more time on paid work engage in fewer joint unpaid hours working. However, with a range from 5 to 12 hours, variations in joint unpaid work are smaller than in joint paid work. Thus, when both partners work long hours, they have less free time. Couples' joint total working time is highest among standard full-time dual-earner couples, at an average of 24 hours. Accordingly, in the German context the price of gender equality is limited free time.

Changes Across Time and Social Classes

Figure 3 presents the predicted probabilities⁴ of cluster membership by year of survey for western and eastern Germany. The similar clusters C.2 and C.3 are combined due to low case numbers. A model summary is provided in supplementary table 3. In line with expectations (*H1*), in western Germany, the male-earner/female-carer pattern dominated on a typical weekday in the early 1990s but continuously declined over time. At the same time, the prevalence of standard one-and-a-half-earner couples rose with women's increased educational opportunities between 1991/92 and 2001/02 from less than 20% to about 25%. Moreover, confirming expectations, the predicted share of standard full-time dual-earner couples doubled from about 7% to 14% between 2001/02 and 2012/13 following the policy reforms promoting the adult worker model. Yet, contrary to expectations, nonstandard patterns did not increase linearly but had a probability of about 15% in 2012/13, which was the same as in 1991/92.

⁴ To facilitate interpretation of the probabilistic models, I use stacked bar graphs. While these graphs do not allow me to represent confidence intervals, I prefer them to multiple line graphs because they are easier to interpret.

Figure 3: Predicted Probability of Cluster Membership by Year of Survey: Western and Eastern Germany



For eastern Germany, in contrast, findings confirm the dominance of standard full-time dual-earner couples in 1991/92, consistent with its recent socialist past. In line with expectations but in contrast to western Germany, the predicted share of standard full-time dual-earner couples decreased by about 15% but remained substantially higher than in western Germany (with a probability of 25% in 2012/13) (*H2*). At the same time, the predicted share of standard one-and-a-half-earner couples increased in the 2000s. Additionally, the findings reflect eastern Germany's ongoing economic problems. By 2012/2013, the probability of nonstandard patterns had doubled since 1991/92 to almost 25%, with almost half of them being dual-jobless couples. While these changes imply a decline in standard full-time work among eastern German mothers *on weekdays*, their share increased from less than 2% in 2001/02 to about 8% in 2012/13 on *weekend days* (supplementary figure

9A.3). In a context of declining labor market opportunities, eastern German mothers might have preferred switching to weekend work rather than switching to unemployment. In contrast, weekend work remained extremely uncommon among western German mothers, corresponding with the more conservative prevailing gender norms and a comparatively higher income level⁵.

Predicted probabilities by social class are displayed in figures 4 and 5 for western and eastern Germany (findings refer to weekdays). Model summaries are provided in supplementary tables 4 to 7. For western Germany, the findings confirm that the overall rise in standard dual-earner patterns was strongly driven by middle- and upper-class couples (*HI*). While the male-earner/female-carer pattern remained widespread among couples, in which the father was more educated than the mother, middle- and higher-educated mothers (who had up to equally well-educated partners) increasingly combined work and family in a standard dual-earner pattern. In particular, the increase in the prevalence of standard full-time dual-earner couples was driven by these skilled mothers (figure 4A). In contrast, the lowest educational and income groups faced an increasing risk of nonstandard patterns from the 1990s onwards and the prevalence of the male-earner/female-carer pattern remained high among them.

In line with expectations but in contrast to western Germany, in eastern Germany the predicted share of standard full-time dual-earner couples decreased across educational and income groups (figure 5). This decline was accompanied by a rising share of standard one-and-a-half-earner couples among the higher educational and income groups. By contrast, confirming expectations, the prevalence of nonstandard patterns increased more strongly

⁵ Please note that case numbers in the eastern German sample were too low to disaggregate the results for weekend days according to social class. For western Germany, class differences among mothers having a standard full-time work schedule on weekends were not significant (supplementary figure 10, supplementary tables 11 to 12).

among lower-class couples than in western Germany—and the share of patterns that imply late or night work among fathers rose in particular (*C.2+3*) (*H2*). The prevalence of nonstandard patterns even moderately increased among middle-class couples but remained at a stable, low level among the highest educational and income groups⁶. Among low-income couples, dual-jobless couples were predicted to make up almost 35% by 2012/13 in contrast to only 15% in western Germany. Although the greatest increase happened between 1991/92 and 2001/02, neoliberal reforms in the 2000s reinforced this trend.

Discussion

This article set out to explore how mothers' and fathers' daily time use changed across social classes between the early 1990s and the early 2010s in Germany. During this period, Germany became a service-based knowledge economy and its adherence to the male breadwinner model was eroded by the introduction of a set of labor and family policies typical of the adult worker model. While some scholars argue that the adult worker model promotes gender equality and facilitates labor market integration among low-skill groups (Van Kersbergen & Hemerijck, 2012), others emphasize that it reinforces gender and class inequality by neglecting the labor market's gender and class stratification and the gendered allocation of paid and unpaid work (Cooke, 2011; Daly, 2011b). In the current study, I tested these arguments in an empirical case study of post-conservative western and post-socialist eastern Germany, focusing on how work schedules shape the gendered division of labor.

⁶ Cluster probabilities for the relatively small nonstandard patterns should be interpreted with caution for the second and third education group ("mother up to high, father high", "mother high, father up to high"). There were a small number of cases in these groups (see table 4) leading to a low level of statistical power.

Figure 4: Predicted Probability of Cluster Membership by Year of Survey, Education of the Couple (A) and Household Income (B): Western Germany

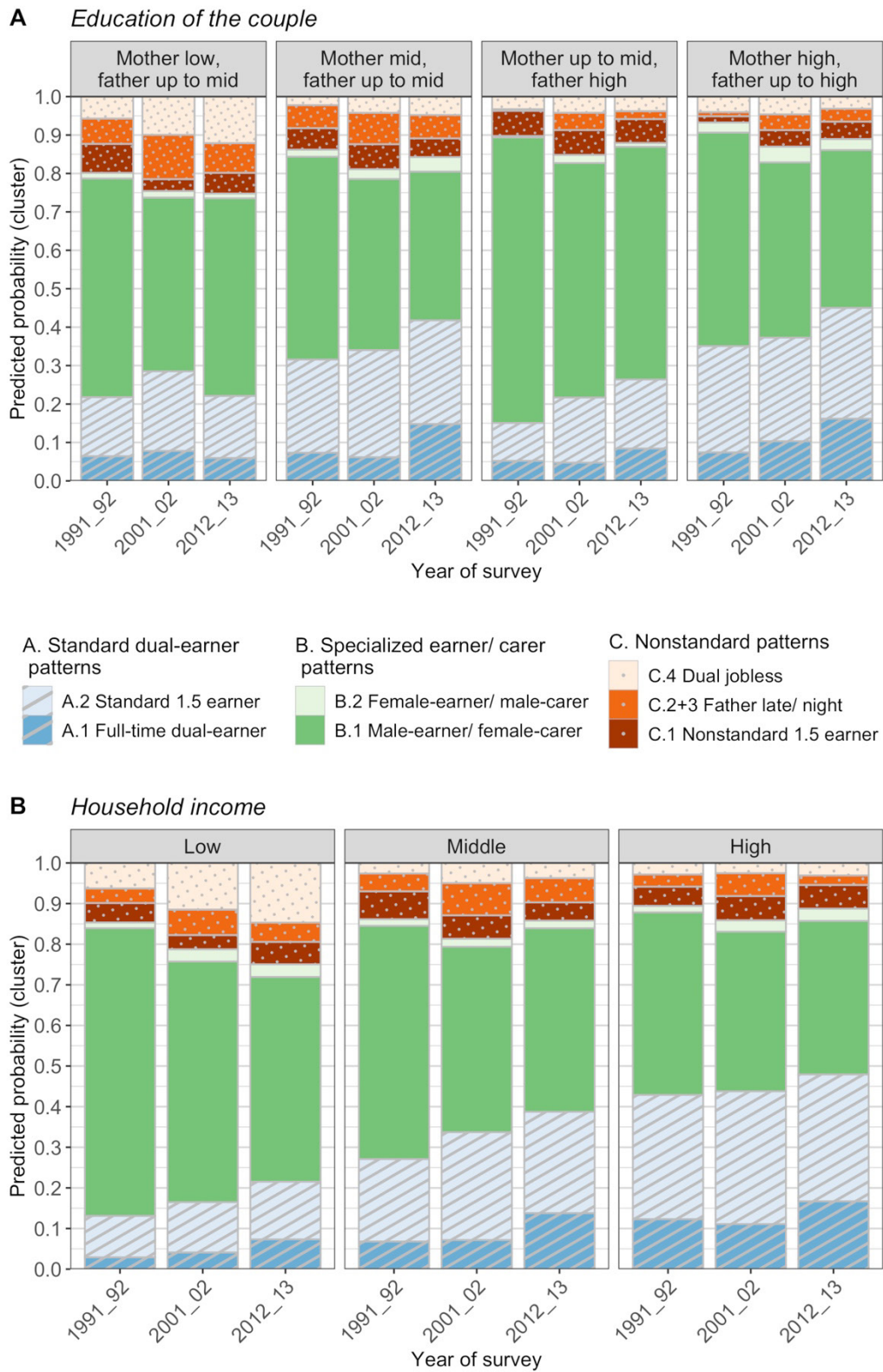
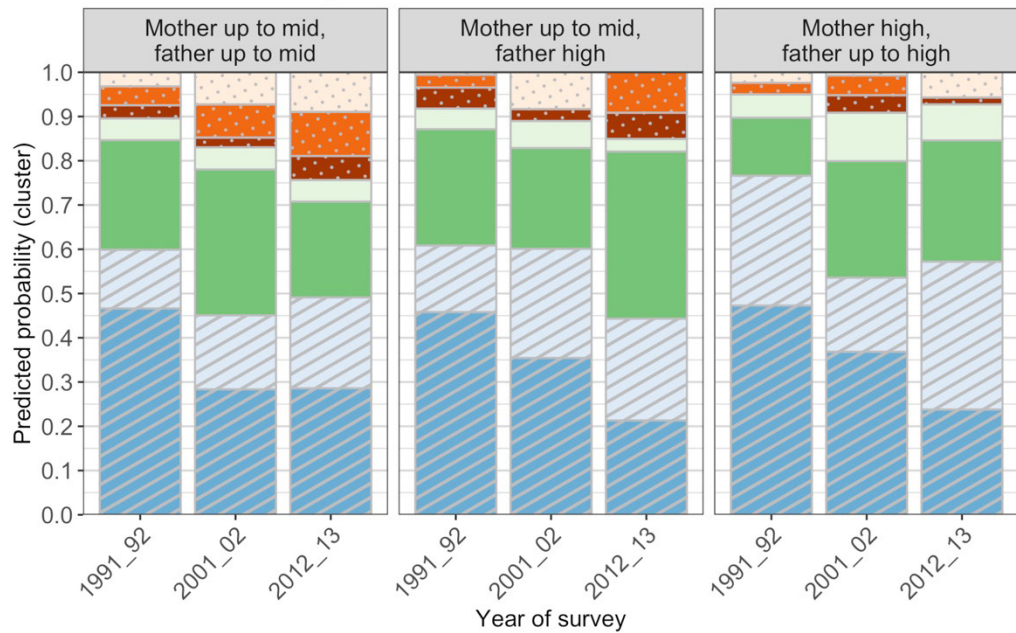


Figure 5: Predicted Probability of Cluster Membership by Year of Survey, Education of the Couple (A) and Household Income (B): Eastern Germany

A *Education of the couple*



A. Standard dual-earner patterns

- A.2 Standard 1.5 earner
- A.1 Full-time dual-earner

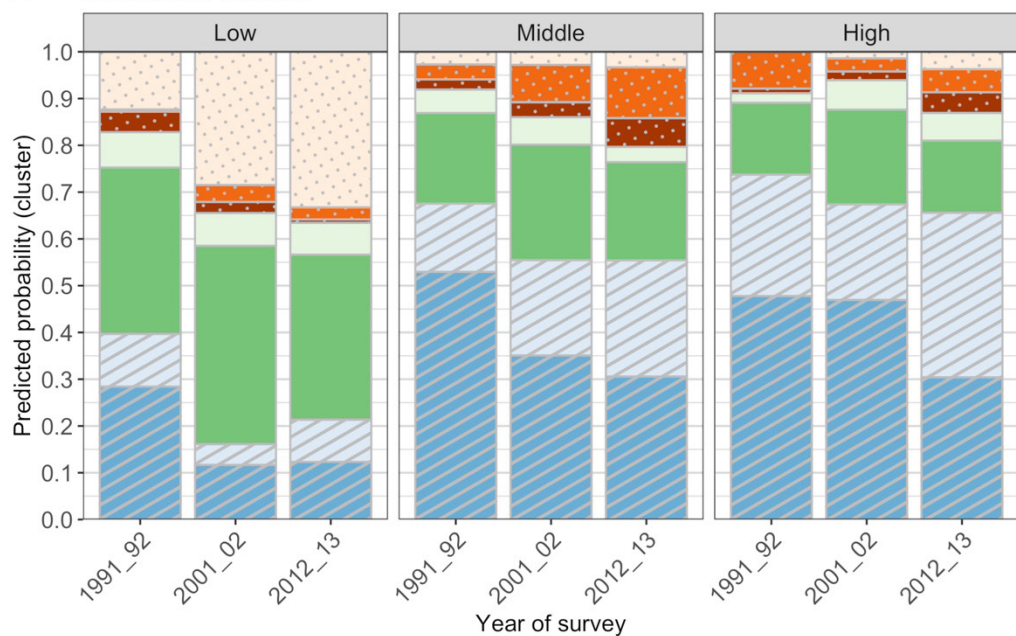
B. Specialized earner/ carer patterns

- B.2 Female-earner/ male-carer
- B.1 Male-earner/ female-carer

C. Nonstandard patterns

- C.4 Dual jobless
- C.2+3 Father late/ night
- C.1 Nonstandard 1.5 earner

B *Household income*



Drawing on the German Time Use Survey, I identified three types of couples' time use patterns: *standard dual-earner patterns*, *specialized earner/carer patterns*, and *nonstandard patterns* characterized by *nonstandard work schedules* or *dual-joblessness*. Gendered responsibilities for paid and unpaid work are reflected across all patterns, providing support for the *doing gender perspective* (West & Zimmerman, 1987). However, gender inequality in the division of labor varies strongly between the patterns. In line with the *economic perspectives* (Becker, 1991; Blood & Wolfe, 1960; Coverman, 1985), spouses' division of paid work closely shapes their division of unpaid work. Gender equality in the division of labor is greatest among *full-time dual-earner couples* with *standard work schedules*. In contrast, fathers' nonstandard schedules restrict their spouses' participation in the labor market. Contrary to prior research from the U.S. (Presser, 2003), the results thus support the theoretical proposition that fathers' nonstandard schedules reinforce gender inequality in the division of labor—at least in gendered contexts, in which fathers' jobs shape mothers' time constraints (Hook, 2006). Moreover, the prominence of *dual-joblessness* highlights that economic contexts can limit adherence to employment norms (Hook, 2010), a point that is often forgotten in debates about the gendered division of labor.

My findings contribute to the debate about how welfare state contexts shape gender-class tradeoffs in paid and unpaid work (Cooke, 2011; Mandel & Shalev, 2009). Western Germany's conservative welfare state traditionally promoted a high level of gender inequality but kept class inequality moderate (Cooke, 2011). Accordingly, I found that the male-earner/female-carer family dominated in the early 1990s. In line with the *economic and cultural perspectives*, the prevalence of standard one-and-a-half-earner couples increased with women's increased educational opportunities since then. Moreover, following the expansion of public childcare and the reformulation of parental leave according to the social-

democratic welfare state model in the 2000s (Lewis, Knijn, et al., 2008), the predicted share of standard full-time dual-earners doubled, making up about 15% by 2012/13. Nevertheless, the policy reforms promoting the adult worker model reduced the time constraints mainly among middle- and upper-class mothers with access to standard work schedules. Among lower-class couples, in contrast, nonstandard work patterns and dual-joblessness have become more common since the 1990s, and the neoliberal reforms in the 2000s reinforced this trend. Simultaneously, the male-earner/female-carer pattern remained dominant among them. In line with expectations, these trends imply that gender equality in the division of labor increased among middle- and upper-class couples but stalled among lower-class couples. Two theoretical mechanisms might explain why lower-class mothers could not benefit from the expansion of childcare. First, increasingly, lower-class fathers had nonstandard work schedules, which limited their spouses' time availability to engage in paid work. Second, from a *cultural perspective*, opportunities and norms shape each other (Hook, 2006). In a deregulated service sector, mothers with limited educations who had little access to jobs with standard schedules that were compatible with their normatively assigned childcare responsibilities might have preferred homemaking rather than paid employment. Maintaining policy incentives for the male breadwinner model that conflicted with the emerging adult worker norm could have reinforced this preference.

Unlike the West German conservative welfare state, socialist East Germany promoted gender and class equality (Cooke, 2011). Accordingly, standard full-time dual-earner couples were dominant right after reunification in the early 1990s. Although economic necessity and cultural norms continued to incentivize the dual full-time model (Rosenfeld et al., 2004), as expected, the share of standard full-time dual-earners declined substantially and across social classes until the 2010s, reflecting mothers' declining labor market opportunities. Meanwhile,

the share of standard one-and-a-half-earner couples increased, but most strongly among upper-class couples. Simultaneously, nonstandard patterns rose more sharply than in western Germany, making up almost 25% by 2012/2013. Lower prosperity levels and more labor market competition in eastern Germany might have amplified the economic necessity of lower- and middle-class couples to accept jobs with nonstandard work schedules. In the context of increasingly gendered labor market opportunities, nonstandard schedules increased particularly among lower- and middle-class fathers, limiting the ability of their spouses to participate in the labor market. Moreover, the neoliberal reforms in the 2000s did not reverse the labor market exclusion of low-income couples, as scholars in favor of labor market activation had predicted (Van Kersbergen & Hemerijck, 2012). Instead, the reforms reinforced it. In line with expectations, but unlike in western Germany, these trends imply that gender inequality in the division of labor increased across classes in post-socialist eastern Germany. Overall, they demonstrate that gendered labor market opportunities on one hand and an overall lack of labor market opportunities on the other hand can prevent adherence to the adult worker norm and reinforce gender inequality in the division of labor.

This study's scope, however, is limited in several respects. First, conceptualizing social class based on education and household income allowed me to predict variations in time use patterns among all couples with children. However, future studies should complement this approach by exploring how the labor market's gender and class segregation shape time use among dual-earner couples. Second, this analysis left out single parents, although they might face the dual challenges of an extremely heavy unpaid workload as well as employment opportunities limited to nonstandard work due to cumulative gender and class disadvantage (Fasang & Jalovaara, 2020). Third, future research should explicitly investigate how preferences and constraints interact at the microlevel in shaping couples' time allocation

by analyzing time use data in conjunction with attitudinal data. Fourth, this study's focus on parents' daily schedules should be complemented by time use research that quantifies unpaid work relative to paid work across societies according to gender, family composition, social class, and age. Increasing the visibility of unpaid work could be a starting point for expanding social policies based on the recognition of unpaid rather than paid work and could contribute to the recent social policy discussion on a universal basic income.

Ultimately, future studies should compare mothers' and fathers' daily time use in diverse contexts. In the United States and the United Kingdom, for example, neoliberal reforms started earlier and were more extensive than in Germany, but family policies remained less generous. Unpaid work has thus been provided by the market rather than by the state, and there has been a related growth of a female-typed, informal, low-paid sector of primarily migrant workers (Kilkey et al., 2010). Gender equality in the division of labor might have risen more strongly among higher educated, resource-rich couples in these contexts than in western Germany, but at the cost of even greater class polarization. In Scandinavian countries, conversely, social-democratic welfare states traditionally promoted generous family policies in conjunction with labor market decommodification (Esping-Andersen, 2009). My findings for eastern Germany suggest that such a model would encourage more gender equality in couples' daily time use than the current German model, which is moving towards social-democratic family policies but combines them with neoliberal labor market commodification.

The intersectional approach adopted in this study demonstrates that the expansion of social-democratic family policies is a necessary but by no means sufficient condition for promoting a more gender equal division of labor in the German context. Paradoxically, in a labor market that still adheres quite rigidly to the conservative welfare state model of well-

paid and secure work in the form of male full-time employment, a gender equal division of labor is attainable only within a full-time dual-earner model. However, this model is primarily realizable for more educated mothers with access to standard full-time work. Moreover, it comes at the cost of a lack of free time. The majority of employed mothers, in contrast, combine part-time paid work with part-time unpaid work. Conservative family policy incentives, which have been strengthened by the neoliberal reforms, still encourage this pattern. Although these mothers have almost the same total work load, they face long-term disadvantages with respect to income and pensions and a high risk of poverty if they divorce (Bröckel & Andreß, 2015). The emerging adult worker model thus reinforces rather than questions the structures and institutions underlying gender and class inequality (Cooke, 2011; Lewis, 2001).

To promote gender equality across social classes, social-democratic family policies should be combined with social-democratic rather than neoliberal labor market policies. In particular, investments in public childcare should be complemented with improvements in *gender and class equality in paid work* and the *valuation of unpaid work* (Lewis, 2001; Saraceno, 2015). As a first step in this direction, both conservative tax and social security policies and the neoliberal promotion of marginal part-time employment could be abandoned in favor of institutional incentives for socially secure and flexible “substantial” part-time work of about 30 hours a week (Gornick & Meyers, 2003). Shifting decisions about schedule flexibility from employers to employees and making part-time work more attractive could promote a gender equal division of paid work across social classes, and relax the time constraints that might encourage fathers to engage in work in the home more equally. A real valuation of unpaid work, moreover, would neither limit the recognition of care work to the first year of life nor tie it to individual success in the paid work system as the current leave

policy does. Instead, it would reflect parents' necessary engagement in unpaid care work throughout their children's life course (Saraceno, 2015). In this way, the emerging adult worker model of social policy could be gradually developed into a dual-earner/dual-carer model (Gornick & Meyers, 2003), in which mothers and fathers share paid and unpaid work symmetrically. Otherwise, the cost of increasing gender equality among more educated mothers with access to standard full-time work might be a further class polarization that penalizes mothers with the fewest privileges most severely.

CHAPTER 3: Divergent Rhythms of Motherhood. Patterns of Paid and Unpaid Work and Domestic Outsourcing Among Mothers in the United Kingdom and Western Germany

Abstract

Objective: This article investigates class differences in mothers' daily organization of paid and unpaid work, and how they are associated with domestic outsourcing in the United Kingdom and western Germany.

Background: Operating hours of schools and daycare facilities often conflict with long working hours in high-skilled jobs and nonstandard working hours in low-skilled jobs. However, little is known on whether advantaged mothers rely on domestic outsourcing to resolve such scheduling conflicts, and how disadvantaged mothers reconcile their daily care responsibilities with paid work, depending on the welfare state context.

Method: The study uses sequence and cluster analyses on time-use data to identify typical patterns of paid and unpaid work ($N=1,947$). Regression models predict how these patterns differ by the mothers' education and household income, and how they are associated with outsourcing housework and childcare.

Results: In both contexts, disadvantaged mothers were more likely to have unpaid workdays rather than nonstandard workdays. However, British advantaged mothers were considerably more likely to outsource childcare to pursue standard workdays. By contrast, the pattern of partial workdays in the morning, combined with more unpaid work allocation, prevailed among western German mothers.

Conclusion: In the United Kingdom, more market-oriented as opposed to conservative family policies, stronger labor market deregulation, and more consistent policy incentives for domestic outsourcing seem more effective than in western Germany in promoting advantaged mothers' careers. However, this comes at the expense of greater class differences in how mothers organize their time.

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*“If there is a good woman behind a great man,
behind every great woman, there’s a good nanny.” (Cheever, 2002, p. 31)*

Introduction

Although many European countries have expanded formal education and care provisions (Daly & Ferragina, 2018), schools and daycare facilities continue to operate during standard work hours, often for partial rather than full days (Parente, 2020). In light of persistent gendered care responsibilities, mothers rather than fathers have to organize childcare outside these hours (Chung & van der Lippe, 2020). For advantaged mothers, their children’s schedules often conflict with long working hours in high-skilled knowledge jobs (Lesnard, 2008). For disadvantaged mothers, they are at odds with the rise of nonstandard work schedules outside the 9-to-5 workday in lower-class jobs (Presser, 2003). Feminist scholars from the U.S. have argued that upper-class mothers are privileged in reconciling work and family because they can hire lower-class, often migrant women for domestic work to pursue their careers (Ehrenreich & Hochschild, 2002). However, across Europe, policies and institutions that regulate employment, household and care work differ in whether they encourage advantaged mothers to outsource domestic work (Morel, 2015), and allow lower-class mothers to reconcile their care responsibilities with paid work (Mandel & Semyonov, 2006).

Nevertheless, little is known about how welfare states shape class differences in mothers’ daily organization of their paid and unpaid work, and their association with domestic outsourcing. There are several reasons for this lack of knowledge. First, the literature on how work schedules affect families has focused on the consequences of nonstandard schedules for work-family conflict (Kelly et al., 2014; Täht & Mills, 2016) and

the organization of childcare (Carillo et al., 2017; Craig & Powell, 2011). However, it has not considered how institutional contexts shape class disparities in mothers' daily organization of paid and unpaid work. Second, while the comparative welfare state literature has developed such an institutional perspective, it has focused on the *duration* of the time spent on each, not on its *scheduling* (Hook, 2015; Lightman & Kevins, 2021; Mandel & Semyonov, 2006). Third, both streams of literature do not address how class differences in women's time use are linked to hiring domestic workers (Gonalons-Pons, 2015; Morel, 2015; Shire, 2015).

To address these gaps, I investigate two research questions from a comparative perspective. First, how do typical patterns of paid and unpaid work differ among mothers by social class? Second, how are these differences associated with domestic outsourcing? I define typical patterns of paid and unpaid work among mothers as prevailing models of how they organize the allocation of their paid and unpaid work during the course of the day. Domestic outsourcing refers to hiring domestic workers for housework or childcare (Sullivan & Gershuny, 2013). I draw on a material concept of class that stresses opportunities and constraints that stem from the organization of the market and the care economy (Hook & Li, 2020). To be able to include both mothers who are employed and those who are not, I use education rather than occupation as the primary proxy for class (Cooke, 2011). Additionally, I use household income as well as mothers' earnings share as proxies for mothers' outsourcing potential (Gonalons-Pons, 2015).

I compare two European welfare state contexts in the mid 2010s: The United Kingdom (UK), which is typically classified as a liberal welfare state, and western Germany, which is rooted in a conservative welfare state (Esping-Andersen, 1990, 1999)⁷. In the mid

⁷ I did not consider eastern Germany because its norms and institutions for work-family reconciliation have been co-produced by its socialist history, which makes it less representative of the (West) German welfare state's trajectory. For more information, see Trappe, H., Pollmann-Schult, M., & Schmitt, C. (2015). The rise and decline

2010s, both of these contexts lacked a comprehensive system of full-day formal education and care for children (Thévenon, 2011). However, the two countries differed a great deal in their broader family, labor and migration policies (Lewis, Knijn, et al., 2008; Morel, 2015). I argue that in the UK, a market-oriented formal childcare system, strong labor market deregulation, and the consistent promotion of an informal domestic service economy through employment, care and migration policies had opposite effects on mothers depending on their social class. While these policies encouraged advantaged mothers to outsource care work to pursue standard workdays, they pushed disadvantaged mothers into unpaid workdays and nonstandard workdays. By contrast, for western Germany, I maintain that a public childcare system, extensive conservative family policies, stronger labor market regulation, and less consistent outsourcing incentives encouraged mothers more irrespective of their social class to combine a partial workday in the morning with household and care work after school or daycare hours.

My empirical analysis uses the latest available time use data—the UK Time Use Survey 2014-15 and the German Time Use Survey 2012-13. The surveys are unique, because they provide time diaries coupled with information on domestic outsourcing. The analyses involve three steps. First, I use sequence and cluster analysis to identify typical patterns of paid and unpaid work among mothers. Second, to investigate how these patterns differ among mothers by social class, multinomial logistic regression models estimate the probability of the mothers' cluster membership by education and household income in the two countries. Third, to explore how these differences are associated with domestic outsourcing, logistic regression models assess how the mothers' probability of outsourcing housework and childcare differs

by cluster, and to what extent this is mediated by their education, household income, and earnings share.

The study introduces a daily time-use perspective to the comparative literature on class divides in the amount of time mothers spend on paid and unpaid work (Hook, 2015; Lightman & Kevins, 2021), and links it to the literature on the regulation of domestic services (Morel, 2015; Shire, 2015). Thereby, it makes two contributions. First, I stress how welfare state contexts shape the theoretical mechanisms that guide mothers' daily reconciliation of paid and unpaid work and its association with domestic outsourcing. I emphasize that in the UK, mothers are incentivized to adjust their care responsibilities to their work schedules. By contrast, for western Germany, I maintain that mothers are encouraged to adjust their work schedules to their care responsibilities. Second, building on methodological advances in time-use research (Lesnard, 2008; Vagni, 2020; Vagni & Cornwell, 2018), I provide descriptive evidence how class differences in mothers' daily organization of paid and unpaid work are associated with domestic outsourcing in the two welfare state contexts.

Micro Dynamics: Work Schedules, Unpaid Work and Domestic Outsourcing

There are two major perspectives in the literature on how work schedules are related to the allocation of unpaid work in the family: the social class perspective and the family perspective. The social class perspective conceptualizes individuals' work schedules as an expression of their labor market opportunities. Scholars tend to assume that the organization of the economy leads to a class divide between individuals in high-skilled professional and managerial jobs who have standard schedules and individuals in low-skilled industrial, service and leisure jobs with nonstandard schedules (Carillo et al., 2017; Lesnard, 2008). Research from this perspective has emphasized the imposed and unpredictable nature of nonstandard schedules, their adverse effects on work-family conflict (Kelly et al., 2014), and

their disruptive consequences for the organization of childcare among lower-class families (Harknett et al., 2022). By contrast, the family perspective holds that nonstandard schedules do not necessarily amplify work-family conflict but can promote a tag-team strategy, in which parents take turns at work and at home (Presser, 2003; Täht & Mills, 2016).

Neither of these perspectives considers that gendered responsibilities for the organization of unpaid work limit mothers' rather than fathers' availability for paid work. In economic terms, the gendered segregation of labor markets continues to incentivize the unequal division of paid and unpaid work between men and women (Becker, 1991; Cooke, 2011). In cultural terms, persistent gender norms hold women rather than men accountable for the organization of the families' household and care work (England, 2010; West & Zimmerman, 1987). Thus, fathers' jobs tend to limit the time they have available for unpaid work, whereas for mothers the opposite logic holds: the organization of their unpaid work affects whether, when and how much they engage in employment (Chung & van der Lippe, 2020). Mothers' work schedules are thus not a direct expression of their labor market opportunities, but of their strategies to combine these opportunities with meeting their unpaid work demands.

However, mothers' opportunities to combine their labor market opportunities with their care demands may differ by class. Thereby, this article theorizes how two mechanisms could contribute to class disparities in mothers' daily reconciliation of paid and unpaid work: a) *the economic mechanism*, in which mothers adjust their unpaid work demands to their work schedules by outsourcing their domestic work, and b) *the cultural mechanism*, in which mothers adjust their work schedules to their unpaid work demands.

Better educated women tend to have access to knowledge-based jobs that often demand standard 9-to-5 or even longer workdays for career progression. However,

employees in these jobs also tend to have control over when and how many hours they work (Lesnard, 2008; Lyness et al., 2012). Standard work schedules facilitate the reconciliation of work and family, because they overlap with the operating hours of schools and childcare facilities (Carillo et al., 2017). Yet, 9-to-5 work schedules often exceed the length of children's school or daycare schedules (Chung & van der Lippe, 2020), and leave little time to engage in housework (Bianchi et al., 2000).

From an economic perspective, better educated mothers with high-income opportunities can resolve these time constraints by hiring domestic workers for household and care work so that they can pursue full-time careers (Gonalons-Pons, 2015; Gupta, 2007; Sullivan & Gershuny, 2013). In economic terms, this is a rational strategy for advantaged mothers, because they can earn well and have thus strong incentives for employment and high opportunity costs of unpaid work (England, 2010). From a cultural perspective, outsourcing childcare rather than housework conflicts with prevailing norms of intensive mothering (Hays, 1996). These norms construct mothers as the central caregivers who spend as much time as possible with their children to support their development and secure their future success in the labor market (Cheung & Lui, 2022; Hays, 1996). Hence, in cultural terms, advantaged mothers may not necessarily outsource childcare to adjust their time allocation to unpaid work to their career demands but may rather adjust their work schedules to their care demands. From this perspective, the ability to control their work schedules that stems from their class advantage enables them to *do gender* (Gerstel & Clawson, 2014; West & Zimmerman, 1987). Thus, for example, advantaged women could choose to work partial days in the morning, a schedule that is compatible with being able to provide childcare after school (Craig & Powell, 2011).

In contrast to better educated women, less well-educated women are faced with more work schedule constraints. Women are concentrated in low-paid service and leisure jobs with nonstandard schedules that are usually set by their employers (Gerstel & Clawson, 2015; Presser, 2003). Nonstandard schedules are incompatible with many care demands, because they imply paid work at times of the day that are usually reserved for childcare, such as school or daycare drop-off and pick-up, homework supervision after school, having the family dinner and putting the children to bed (Carillo et al., 2017; Wight et al., 2008).

From an economic perspective, less well-educated mothers who can earn little lack the financial resources to rely on domestic assistance to resolve these time constraints (Gupta, 2007; Sullivan & Gershuny, 2013). From a cultural perspective, the lack of control over schedule limits working class mothers' ability to adjust their schedules to their care demands (Gerstel & Clawson, 2014). Thereby, mothers who cannot find jobs with work schedules that are compatible with their care responsibilities can seek employment only if their partners are available for childcare, or if they can rely on informal unpaid care such as help from grandparents. However, the lack of work schedule control that both partners have may impede tag-team parenting among lower-class parents (Carillo et al., 2017), and grandparental care is not necessarily available or the norm on a daily full-time basis (Bordone et al., 2016). Despite their higher economic need for employment (England, 2010), many disadvantaged mothers with scheduling conflicts may thus be forced out of employment due to their care responsibilities (Deuflhard, 2023; Gracia et al., 2021).

Welfare State Differences: Social Policies and the Regulation of Domestic Outsourcing

From an institutional perspective, these mechanisms may play out differently, depending on the welfare state context (Esping-Andersen, 1999; Mandel & Shalev, 2009). Thereby, to formulate hypotheses, I consider how the interplay of family policies, the tax and

social security system, the employment system, and the regulation of domestic services may shape class differences in mothers' time organization and its association with outsourcing household and care work in the British liberal welfare state compared to the more conservative welfare state of western Germany (Esping-Andersen, 1990, 1999). Considering the interplay of policies and institutions is crucial in comparative research because many countries—including the UK and Germany—no longer correspond to ideal types of welfare states (Lewis, Knijn, et al., 2008; McGinnity & McManus, 2007). Table 1 summarizes the institutional differences and key policies that were in place in the two countries in the mid 2010s, when the data were collected.

Both the UK and western Germany are characterized by their lack of formal childcare for children below the age of three. Additionally, in both contexts, childcare facilities mainly operate on half-days in the morning, and schools do not run on full-day schedules either (see Table 1 more a more detailed overview) (Daly, 2011a; Parente, 2020; Schober & Stahl, 2014). Hence, the organization of children's schedules encourages long employment interruptions among mothers after childbirth in both contexts, and their re-entry into part-time work through partial workdays in the morning rather than standard workdays. However, the costs for formal childcare are considerably higher in the UK's largely market-based childcare system compared to Germany's public childcare system (Thévenon, 2011). In the UK, 3-and-4-year old preschool children are legally entitled to free public childcare for only 15 hours a week (Daly, 2011a). These limited hours and the high cost of private childcare make it difficult for mothers who have only low-income employment opportunities to work (Daly, 2011a, 2011b).

Table 1: Key Policies and Institutional Characteristics that Influenced Mothers' Organization of Paid and Unpaid Work in the UK Compared to (Western) Germany, mid 2010s

Policy Area	Characteristic	United Kingdom	(Western) Germany
Family policies	Formal childcare provision	Enrollment rates ^a : - below 3 years: 30% - 3 years to school-age: 71%	Enrollment rates ^a : - below 3 years: 24% - 3 years to school-age: 90%
		Operating hours: mainly half-days in the morning	Operating hours: mainly half-days in the morning
		Costs: Largely market-based childcare system with high costs	Costs: Public childcare system with comparatively low costs
	School schedule	9:00 AM to 3:30 PM	8:00 AM to 12:00 PM (primary schools) 8:00 AM to 2:00 PM (secondary schools)
	Parental leave system	Paid leave: 39 weeks of maternity leave (26 weeks at 100% wage replacement followed by a low flat-rate benefit)	Paid leave: 12 months + 2 partner months (14 weeks of maternity leave at 100% wage replacement, followed by parental leave at 67% wage replacement)
		Unpaid leave: up to one year	Unpaid leave: up to three years
Tax and social insurance system	Tax system	Individual system	Family-based splitting system
	Health care system	Universal state health care	Employer-provided; free co-insurance of a non-employed/ marginally employed spouse
Employment system	Institutional regulation of part-time employment	Weak collective and legal regulations	Right to part-time work without losing benefits
		Promotion of low-wage marginal part-time work: jobs with weekly earnings below £110 are free of taxes and social security contributions for both employees and employers	Promotion of low-wage marginal part-time jobs: so-called minijobs with monthly earnings of 450 Euro are free of taxes and social security contributions for employees
	Prevalence of nonstandard work hours	Strong concentration of atypical working hours ^b in lower-status jobs (61%) compared to professional jobs (25%)	Moderate concentration of atypical working hours ^b in lower-status jobs (54%) compared to professional jobs (31%)
Regulation of domestic services	Employment policies	Employers are exempt from social security contributions for hiring domestic workers on an hourly basis	Subsidies and reduced social security contributions for employers who hire domestic workers through minijobs
	Care policies	Cash-for-care schemes	Tax reductions for household and care services
	Migration policies	Managed migration strategy attracts low-waged domestic workers	Restrictive migration strategy suppresses low-waged labor migration

^a Eurostat data (2014) for the UK and Schober and Stahl (2014) for western Germany

^b Eurostat data (2014); atypical working hours refer to evening or night work, weekend work, or shift work according to the definition of the EU-LFS.

Sources: 4 Quality (2014), Cooke (2011), Daly (2011a, 2011 b), Daly and Scheiwe 2010, Lewis et al. (2008), Kilkey (2010), McGinnity and McManus (2007), Palenga-Möllenbeck (2013), Rubery et al. (2022), Stahl and Schober (2014).

In the UK, the lack of a system of full-day formal education and care for children conflicts with policies such as parental leave, and tax and social security system measures that expect mothers to participate fully in the labor market. By contrast, as Table 1 indicates, Germany's social policies promote mothers' specialization in unpaid work more consistently (Cooke, 2011; Lewis, Knijn, et al., 2008). Short paid parental leaves and an unpaid leave period of maximally one year incentivize mothers in the UK to return to work quickly after childbirth, especially if they are high earners (Daly, 2011a, 2011b). Germany's leave system provides more mixed employment incentives. An income-based parental allowance encourages mothers to return to work after one year, whereas unpaid leave of up to three years promotes long employment interruptions (Lewis et al., 2008). With regard to taxation, the UK's individual tax system assumes self-sufficiency through employment. In contrast, the German family-centered tax system rewards unequal earnings among spouses, which incentivizes mothers across social classes to stay home or work part-time (Cooke, 2011). Correspondingly, Germany's employment-based health care system promotes gender specialization through the free co-health insurance of a non-employed or marginally employed spouse, in contrast to the UK's universal health care system (Daly & Scheiwe, 2010; McGinnity & McManus, 2007).

Family policies interact with the regulation of labor markets in shaping class differences in patterns of paid and unpaid work among mothers (Cooke, 2011; Mandel & Shalev, 2009). Despite the lack of full-day formal education and care facilities, skilled mothers with high-income opportunities are incentivized to work full-time in the UK's deregulated labor market. Part-time employment is generally poorly paid, and poorly protected due to weak collective and legal regulations (McGinnity & McManus, 2007; Rubery et al., 2024). In contrast, in Germany's more regulated labor market, the universal

entitlement to work part-time without losing benefits allows for part-time jobs that are integrated into standard employment (Lewis, Knijn, et al., 2008; Rubery et al., 2024). Advantaged mothers in standard jobs are thus encouraged to adjust their work schedules to their care demands by working reduced hours. For less educated mothers, both the UK and Germany promote low-paid, part-time work in a secondary labor market through marginal part-time jobs that are free of tax and social security contributions for employees (Table 1) (Palier & Thelen, 2010; Rubery et al., 2024). Mothers who rely on their partners are thereby incentivized to take such jobs as secondary earners (McGinnity & McManus, 2007). Weaker employment regulations in the UK compared to Germany exacerbate not only the concentration of part-time jobs but also of nonstandard work schedules in lower-status jobs (Table 1), reinforcing lower-class mothers' constraints on combining their care responsibilities with paid work.

The UK and Germany also differ in whether they support domestic outsourcing as a strategy for advantaged mothers to reconcile paid and unpaid work. In the UK, employment, care and migration policies foster a large sector for domestic services more consistently than in Germany. Hiring domestic workers is more affordable and convenient for high-income mothers in the UK because stronger labor market deregulation promotes high earnings inequality and shapes domestic and care work as low-paid, informal employment (Esping-Andersen, 1999; Folbre, 2009; Heisig, 2011). Both the UK and Germany encourage private households to hire domestic workers through marginal part-time jobs. However, whereas Germany has established a subsidy and reduced social security contributions for employers (Shire, 2015), employers are entirely exempt from contributions if workers earn less than £110 per week in the UK (For Quality, 2015). Administrative barriers to hiring domestic workers are also lower in the UK, because, unlike in Germany, employers do not have to

declare occasional workers (For Quality, 2015; Shire, 2015). However, in contrast to the UK, in the 2000s, Germany introduced tax deductions for the hourly use of both household and care services. The UK subsidizes care services through cash-for-care schemes but does not subsidize household services (Morel, 2015).

Next to employment and care regulations, migration policies are crucial in whether rich countries in the global North foster the development of a market for domestic services, because migrant women are often the major suppliers of such services (van Hooren, 2012). In the UK, in 2014, when the data were collected, a managed migration strategy (Kilkey, 2010) still promoted the availability of low-waged migrant domestic workers. By contrast, Germany's restrictive migration policy (Palenga-Möllenberg, 2013) was designed to disincentivize the immigration of low-waged migrant workers to Germany. Following the expansion of the EU in 2004, the UK strongly promoted labor migration from Eastern and Central Europe (A8) to combat labor market shortages in the low-waged sector (van Hooren, 2012). By contrast, Germany did not open its labor market to migrants from Eastern European EU countries until 2011 (Palenga-Möllenberg, 2013).

Overall, for advantaged mothers in the UK, the lack of formal full-day educational and care provisions conflicts with the precariousness of part-time jobs in a deregulated labor market and the country's parental leave policy and tax and social security system that assume individual self-sufficiency. This conflicting institutional setup could reinforce the demand for private care solutions that would allow mothers to pursue full-time careers. By contrast, in western Germany, the lack of full-day educational and care provisions accords with the right to work part-time in a more regulated labor market, and the country's parental leave policy and tax and social security system that promote gender specialization. Thus, in contrast to the UK, in Germany broader institutions and policies economically incentivize the provision of

care by mothers, and normatively reinforce their responsibility for childcare. This could limit the demand for outsourcing care work rather than housework among advantaged mothers. Correspondingly, employment, care and migration policies foster the supply of low-paid, informal domestic workers more consistently in the UK, which should make domestic services comparatively more accessible, affordable and convenient for high-income mothers.

By contrast, disadvantaged mothers face more obstacles in reconciling unpaid work with employment in the UK than in western Germany. The high price of childcare in the UK's market-based rather than public formal childcare system, the lack of availability of lower-class jobs with schedules compatible with childcare, and the lack of collective rights to reduce work hours to meet care demands are all factors in this situation. However, the parental leave policy and the tax and social security system incentivize mothers more strongly to specialize in unpaid work in Germany than in the UK. Overall, both contexts channel lower-class mothers out of full-time employment into marginal part-time employment, which should manifest itself in a large number of unpaid workdays among less educated, and low-income mothers. However, disadvantaged British mothers may be prompted more strongly to work nonstandard schedules than disadvantaged western German mothers due to the greater dependence on employment in a less regulated labor market.

Expectations

In sum, in both contexts, advantaged mothers rather have access to standard workdays by outsourcing housework and childcare, whereas disadvantaged mothers are more strongly channeled into unpaid workdays. However, the British welfare state reinforces the economic mechanism of adjusting care demands to work schedules. In this case, advantaged mothers are more strongly incentivized to outsource care work to pursue standard workdays, whereas disadvantaged mothers are under more pressure to work in jobs with nonstandard work

schedules. By contrast, in western Germany, contextual factors reinforce the cultural mechanism of adjusting work schedules to care demands. In this case, mothers in all social classes are more strongly encouraged to combine a partial workday with maternal care after school or daycare hours. Correspondingly, outsourcing childcare rather than housework may be less normative in western Germany than in the UK, even among advantaged mothers.

Therefore, I expect divergent rhythms of motherhood in both contexts (Expectation 1). Advantaged mothers are more likely to pursue standard workdays (Expectation 1a), whereas disadvantaged mothers are more likely to have unpaid workdays (Expectation 1b).

However, I expect that class differences in mothers' organization of paid and unpaid work will be exacerbated in the UK (Expectation 2). Advantaged British mothers are more likely to have standard workdays (Expectation 2a), whereas disadvantaged mothers are more likely to have nonstandard workdays (Expectation 2b). By contrast, partial workdays in the morning, combined with more unpaid work, will prevail more universally among mothers in western Germany (Expectation 2c).

I also expect that mothers with standard workdays are the most likely to outsource housework and childcare in both contexts, which is mediated by their class advantage rather than by their partner's time use (Expectation 3a). However, the greater prevalence of standard workdays among advantaged mothers in the UK will result from their broader reliance on outsourcing childcare rather than housework (Expectation 3b).

Data and Methods

Data, Sample, and Analytical Strategy

To test my expectations, I combined the latest available data from the United Kingdom Time Use Survey (UKTUS 2014-2015) and the German Time Use Survey (German

TUS 2012-2013). The UKTUS 2014-2015 was conducted by the National Centre for Social Research (NatCen) and the Northern Ireland Statistics and Research Agency (NISRA) on behalf of the Centre for Time Use Research (CTUR). The German TUS was conducted by the German Federal Statistical Office (Destatis). Both surveys provide representative household and individual samples. They contain time diaries of all adult household members as well as data on individual and household characteristics. The participants reported on their activities every 10 minutes (from 4:00 AM to 4:00 AM) on two days (one weekday and one weekend day) in the UKTUS and on three days (two weekdays and one weekend day) in the German TUS.

I limited my sample to mothers who had completed their education, were not yet retired, and had children under 18 years old in the household. I excluded observations from Eastern Germany. The analysis focused on weekdays that were reported as ordinary, meaning the respondent was not on vacation or sick, because children's school and childcare schedules shape the mothers' time allocations on typical weekdays rather than on weekend or vacation days (Wight et al., 2008). A robustness check repeating the analysis for weekend days showed that mothers in all educational and income groups were far less likely to have paid workdays on weekend days (Appendix, pp. 16-23). Following the CTUR's recommendation, poor quality diaries with more than 90 minutes of missing data were excluded. To avoid a nested data structure with non-independent observations for the western German subsample, I selected one random diary day per mother (Table 2).

My analytical strategy involved three steps. First, I used sequence and cluster analyses to identify a typology of patterns of paid and unpaid work among the mothers. Second, I conducted multinomial logistic regression models to investigate how the mothers' representation in these patterns differed by education (Model 1.A) and household income

(Model 1.B) (Research question 1). Third, I used logistic regression models to explore how these differences were associated with outsourcing housework (Model 2) and outsourcing childcare (Model 3) (Research question 2). Missing values in the regression models were deleted listwise. The number of missing values in the models was higher in the UK subsample (Table 2) but their exclusion hardly biased the cluster distribution (Table A5).

Table 2: Overview of stepwise selection of the analytical sample (number of diary days) and of missing values in regression models

	United Kingdom		Western Germany	
	I. Selection of analytical sample			
	<i>N</i>	% excl. ^a	<i>N</i>	% excl. ^a
a) Full sample	16,533		25,657	
b) Mothers with children under 18 years	2,150	87.0	4,407	82.8
c) Not in education or retired	2,098	2.4	4,290	2.7
d) Weekday	1,055	49.7	2,752	35.9
e) Ordinary day	829	21.4	2,009	27.0
f) No poor quality diary ^c	797	3.9	2,005	0.2
g) One random diary day	791	0.8	1,156	42.3
	II. Number of observations in models			
	<i>N</i>	% missing ^b	<i>N</i>	% missing ^b
a) Model 1.A: Cluster membership by education	750	5.2	1,148	0.7
b) Model 1.B: Cluster membership by household income	734	7.2	1,148	0.7
c) Model 2 + 3: Outsourcing housework/ childcare by cluster (stepwise models)	677	14.4	1,142	1.2

Note: The full sample for the United Kingdom consists of 16,533 diary days of 11,421 persons in 4,733 households; The full sample for Germany (including eastern Germany) consists of 32,105 diary days of 12,254 persons in 4,775 households.

^a Percentage of observations excluded at each stage of sample restriction.

^b Percentage of observations of analytical sample that are missing in each model.

^c Poor quality diaries are defined as diaries with more than 90 minutes of missing data.

Sequence and Cluster Analyses: Identifying Patterns of Paid and Unpaid work

I utilized sequence and cluster analysis to identify typical patterns that captured the prevalence, duration, timing and ordering of the mothers' paid and unpaid work over the 24 hours of the day. Sequence states were specified according to *paid work*, *housework*, *care work*, *other* and *missing* based on the main activity. In line with the guidelines of the European Harmonized Time Use Survey (HETUS), *paid work* was defined as income-based work in the labor market, including commuting time to work. *Housework* refers to unpaid household activities such as cooking, cleaning, laundry, shopping and services, gardening, construction and repairs, household management, and related travel. *Care work* involves childcare, care of the elderly, and related travel. *Other* refers to all other activities including leisure and sleep. Time slots in which the respondents did not specify their main activity were coded as *missing*.

Sequence dissimilarity was estimated based on *Hamming matching* to stress the *timing* of paid and unpaid work (Studer & Ritschard, 2016; Vagni & Cornwell, 2018). Substitution costs were derived from observed transition rates between states, considering that housework and care work are more interdependent than the other specified states. I used Ward's cluster analysis to combine the sequences into internally consistent groups that are maximally different from each other. I selected a 4-cluster solution because it was assessed as most appropriate by cluster quality measures (Table A1, Figure A1), and resonated substantively with the patterns of paid and unpaid work that were theoretically anticipated (Aisenbrey & Fasang, 2010). As a sensitivity check, I alternated several cost specifications with broadly consistent findings. The sequence and cluster analyses were performed based on the pooled sample. Country-specific analyses yielded very similar clusters with respect to the scheduling of paid and unpaid work (see Tables A2 to A3, and Figures A2 to A5) but limited

the cross-national comparability between the clusters with respect to the amount of time spent on paid and unpaid work (see Table A4 as well corresponding note). Results are presented as relative frequency sequence plots that display representative individual sequences for each cluster (Fasang & Liao, 2014).

Regression Models: Social Class, Patterns of Paid and Unpaid Work, and Domestic Outsourcing

Stratifying the analysis by country, I used multinomial logistic regression models to assess how the probability of the mothers' cluster membership differed by education (Model 1.A) and household income (Model 1.B) (Tables A8 to A11). These models allowed me to compare class disparities in patterns of paid and unpaid work among mothers in the two welfare state contexts (Expectation 1 and 2). The models were adjusted for number of children, age of the youngest child, type of household (couple/ single parent), and whether the household received unpaid support (household and/or childcare support of a person that does not get paid) because these characteristics affect mothers' allocation of paid and unpaid work but can also differ by class. I did not include control variables related to employment because my conceptual framework assumes that employment conditions, such as control over schedule, will likely be on the causal path between the mothers' social class and their patterns of paid and unpaid work.

Then, I used logistic regression models on outsourcing routine household tasks (cleaning, cooking, shopping) (Model 2) and on outsourcing childcare (Model 3) (Tables A13 to A14) (Gonalons-Pons, 2015; Sullivan & Gershuny, 2013). The analyses proceeded in three steps to investigate how both class disparities and fathers' time use mediate the association between the mothers' patterns of paid and unpaid work and the outsourcing of housework and childcare in the two countries (Expectation 3). The baseline models estimated how the

mothers' probabilities of outsourcing housework (Model 2.A) and childcare (Model 3.A) differed by cluster. They only controlled for the number of children, the age of the youngest child, the type of household, whether the household received unpaid household support, and whether the household received unpaid care support because these characteristics shape the demand for hiring domestic help (Oropesa, 1993; Sullivan & Gershuny, 2013) but can also differ by cluster.

In the second step, I examined whether the mothers' social class mediated the association between the clusters and the outsourcing of housework (Model 2.B) and childcare (Model 3.B). Thereby, I expanded the models by incorporating the mothers' education and household income. I also controlled for the mothers' earnings share at this step of the analysis because my conceptual framework emphasizes the link between mothers' earnings opportunities and their outsourcing decisions. Additionally, prior studies document that domestic outsourcing is more strongly associated with women's earnings than with their partner's earnings (Gupta, 2007; Sullivan & Gershuny, 2013).

In a final step, I explored whether the relationship between the mothers' patterns of paid and unpaid work and the outsourcing of housework and childcare was mediated by their partner's time use (Models 2.C, 3.C). Thereby, I further adjusted the model on outsourcing housework for the partner's daily housework hours (Model 2.C). Correspondingly, I expanded the model on outsourcing childcare by incorporating the partner's daily care work hours (Model 3.C). For single mothers, their partner's hours in housework and care work hours were set to zero. The findings on the partner effects are robust to running the models for partnered mothers only (see Figure A11 as well as Tables A23 and A24).

The independent variables were operationalized as follows. I coded education as "low" [less than an upper secondary education], "middle" [upper secondary general

education and/or vocational training], or “high” [completed tertiary education, including equivalent specialized vocational training], according to the International Standard Classification of Educational (ISCED, 2011). Household income was computed as monthly net equivalized disposable income (including tax credits and state benefits, after any deductions for tax and social insurance), using the square root scale. To emphasize mothers’ relative available economic resources, I measured it in quartiles. In the UK, the income gap between mothers in the lowest and the highest income quartile was larger than in western Germany (Table A6), corresponding with higher macro-level income inequality in the UK. Mothers’ earnings share was defined as the mothers’ earned income as a percentage of the household’s total net disposable income. For mothers with no earnings, it was set to zero. If the mothers’ earnings exceeded the household’s total net disposable income (less than 1 percent), it was set to 100. Table A6 summarizes the distributions and definitions of the independent variables.

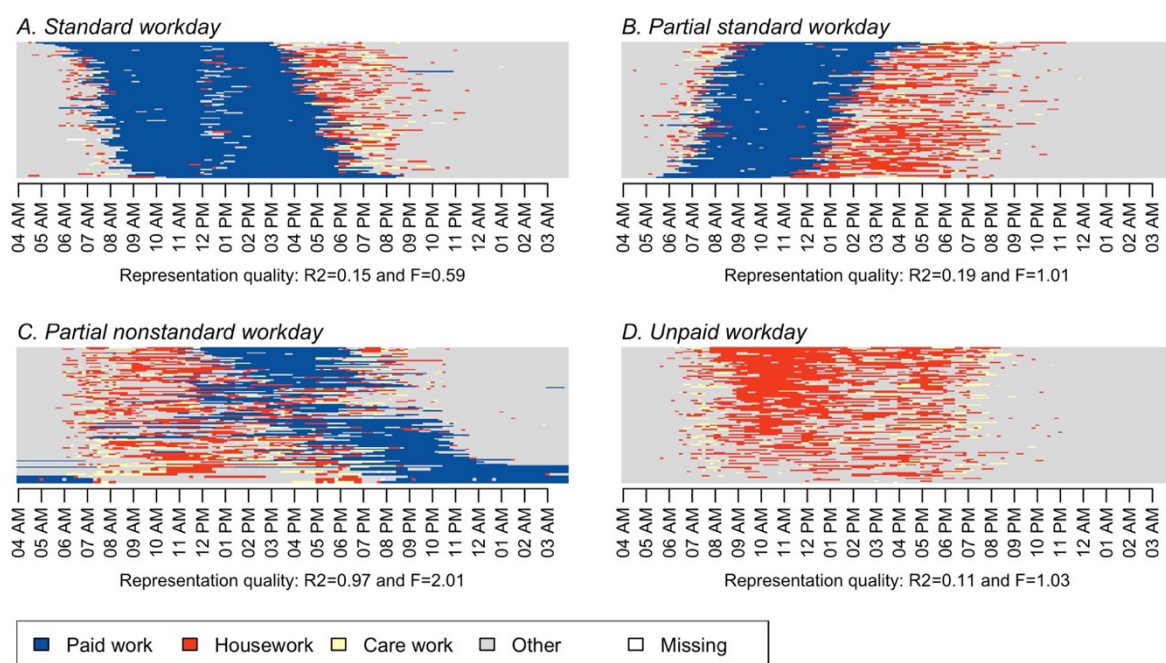
Results

Typical Patterns of Paid and Unpaid Work Among Mothers

Figure 1 illustrates the four identified time-use clusters: *standard workdays* (1-A), *partial standard workdays* (1-B), *partial nonstandard workdays* (1-C) and *unpaid workdays* (1-D). Mothers with *standard workdays* have full-time paid workdays during standard hours from about 8:30 AM to 5:30 PM. As Figure 1 and Table 3 indicate, of the four groups, they spend the most time on paid work and the least time on unpaid household and care work. In line with earlier research on full-time employed mothers (Cooke, 2011), they have the highest total (paid and unpaid) workload. Mothers with *partial standard workdays* combine a partial day of paid work in the morning during core school/childcare facility hours with a partial day

of unpaid work in the afternoon. Mothers with *partial nonstandard workdays* also divide their day between paid and unpaid work, but they do paid work at nonstandard hours in the late afternoon, evening or night. In line with the theoretical discussion, nonstandard work schedules seem to limit the time that mothers can spend on childcare. Mothers with partial nonstandard workdays spend only 1.3 hours (76 minutes) a day on care work, whereas those with partial standard workdays spend 1.6 hours (98 minutes) a day on care work, although both groups have the same mean duration of total unpaid work. Mothers with *unpaid workdays* do not engage in paid work but perform full-day household and care work during standard work hours. Among the four groups, they do by far the most household and care work but also the least total work (Table 3).

Figure 1: Relative Frequency Sequence Plots of the Four Time Use Clusters



Note: Each graph plots 100 representative individual sequences for each cluster; sequences are sorted according to multidimensional scaling; goodness-of-fit measures are shown below the graphs. State distribution plots summarizing the aggregate distribution are displayed in Figure A6.

Among the clusters that include time spent on paid work, standard workdays prevail among mothers in the UK, making up 28.1% of ordinary weekdays, whereas partial standard

workdays are predominant in western Germany at 33.0% (Table 3). Despite the overall prevalence of atypical working hours in both the UK and Germany, partial nonstandard workdays are fairly uncommon among mothers in both contexts, comprising 5% to 6%. By contrast, unpaid workdays, which include the days of mothers who are not employed as well as the days that mothers who work reduced hours have off from work, are the most common cluster in both the UK and western Germany.

Table 3: Descriptive Statistics on the Four Clusters: Distribution by Country and Mean Time (Hours per Day) by Activity

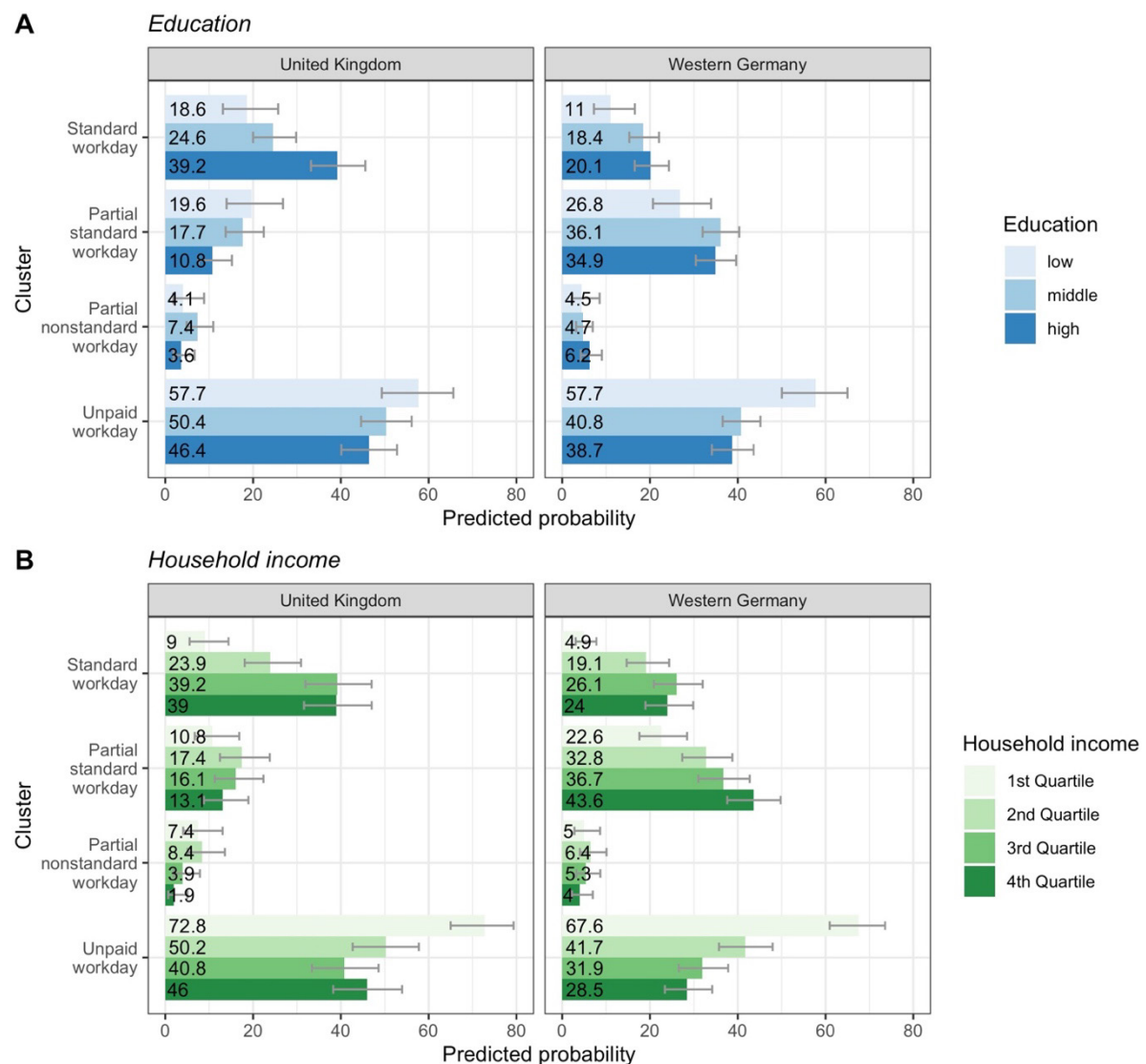
	Standard workday	Partial standard workday	Partial non- standard workday	Unpaid workday	Total
<i>Percentage (%) by country</i>					
United Kingdom	28.1	15.5	5.0	51.4	100.0
Western Germany	18.4	33.0	5.6	43.0	100.0
<i>N by country</i>					
United Kingdom	221	123	40	407	791
Western Germany	212	388	66	490	1,156
<i>Mean time by activity</i>					
Paid work	9.1	5.6	6.0	0.1	3.8
Housework	1.6	3.3	3.6	5.3	3.9
Care work	1.0	1.6	1.3	2.8	2.0
Unpaid work	2.6	4.9	4.9	8.1	5.9
Total work	11.7	10.5	11.0	8.2	9.7

Note: Unpaid work refers to the sum of housework and care work; total work is calculated as the sum of paid and unpaid work. Weighted data considering both the TUS' diary weights, and accounting for the UKTUS' complex survey design (PSUs nested in STRATA); *N* are not weighted.

Social Class and Mothers' Patterns of Paid and Unpaid Work

As the results in Figure 2 indicate, better-educated and high-income mothers are more likely to have standard workdays in both the UK and western Germany, in line with Expectation 1a. By contrast, unpaid workdays are concentrated among less educated and low-income mothers in both contexts, supporting Expectation 1b.

Figure 2: Predicted Probability of Cluster Membership by Education (A) and Household Income (B): United Kingdom and western Germany



Note: Error bars represent 95% confidence intervals. Predicted probabilities by education are calculated from model 1.A (Tables A8 and A9). Predicted probabilities by household income are calculated from model 1.B (Tables A10 and A11).

Beyond these similarities, the findings confirm Expectation 2 that class differences among mothers are exacerbated in the UK. In the UK, mothers with a high level of education are considerably more likely to have standard workdays (39.2%) than in western Germany (20.1%), in line with Expectation 2a (Figure 2-A). Standard workdays are by far the most likely type of paid workday among British mothers with a high level of education. By

contrast, supporting Expectation 2c, partial standard workdays rather than standard workdays are predicted to prevail among western German mothers in all educational groups. In stark contrast to the UK, partial standard workdays are more likely among western German mothers with medium and high levels of education than with a low level of education. Correspondingly, standard workdays are by far the most likely type of paid workday among British mothers in higher-income households. By contrast, in western Germany, partial standard workdays are more likely than standard workdays among mothers in all income groups (Figure 2-B).

Moreover, the findings partially support Expectation 2b that British disadvantaged mothers are more likely to have nonstandard workdays. Mothers' probability to have partial nonstandard workdays does not significantly differ by education in either of the contexts. However, in the UK, partial nonstandard workdays are more likely among mothers in the lowest income quartile (7.4%) and second lowest quartile (8.4%) than among mothers in the highest quartile (1.9%), unlike in western Germany (Figure 2-B). In the UK context of higher aggregate income inequality, mothers in lower-income households may face more economic pressure to accept jobs with nonstandard work schedules.

In sum, in both the UK and western Germany, unpaid workdays rather than nonstandard workdays are concentrated among disadvantaged mothers. However, standard workdays that limit time allocation to unpaid work are the norm among advantaged mothers in the UK. By contrast, partial workdays in the morning, combined with maternal household and care work after school or daycare hours, prevail more universally among mothers in western Germany. Thus, the class gap in unpaid work is wider in the UK, because advantaged mothers spend considerably less time on unpaid work than in western Germany due to longer paid work hours.

Mothers' Patterns of Paid and Unpaid Work and Domestic Outsourcing

Overall, the share of mothers who outsource housework is relatively small in both the UK (10.6%) and western Germany (7.7%), as Table 4 indicates. This resonates with the finding that mothers in all educational and income groups spend a lot of time on housework on weekend days in both countries (Figure A10). By contrast, outsourcing childcare is much more prevalent among British mothers (22.3%) compared to western German mothers (8.6%), which corresponds with the higher prevalence of standard workdays among advantaged British mothers. In both countries, mothers outsource—on average—a considerable amount of childcare of more than 15 hours a week, but less than four hours of housework.

Table 4: Distribution (%) and Intensity of Outsourcing Housework and Childcare: United Kingdom and Western Germany

	United Kingdom		Western Germany	
Type of domestic outsourcing	Outsourcing housework	Outsourcing childcare	Outsourcing housework	Outsourcing childcare
Percentage (%)	10.6	22.3	7.7	8.6
<i>N</i>	81	171	88	99
Mean (se) hours ^a	3.9 (.70)	17.5 (1.3)	3.0 (.21)	18.7 (1.5)

Note: Weighted data considering both the TUS' diary weights, and accounting for the UKTUS' complex survey design (PSUs nested in STRATA).

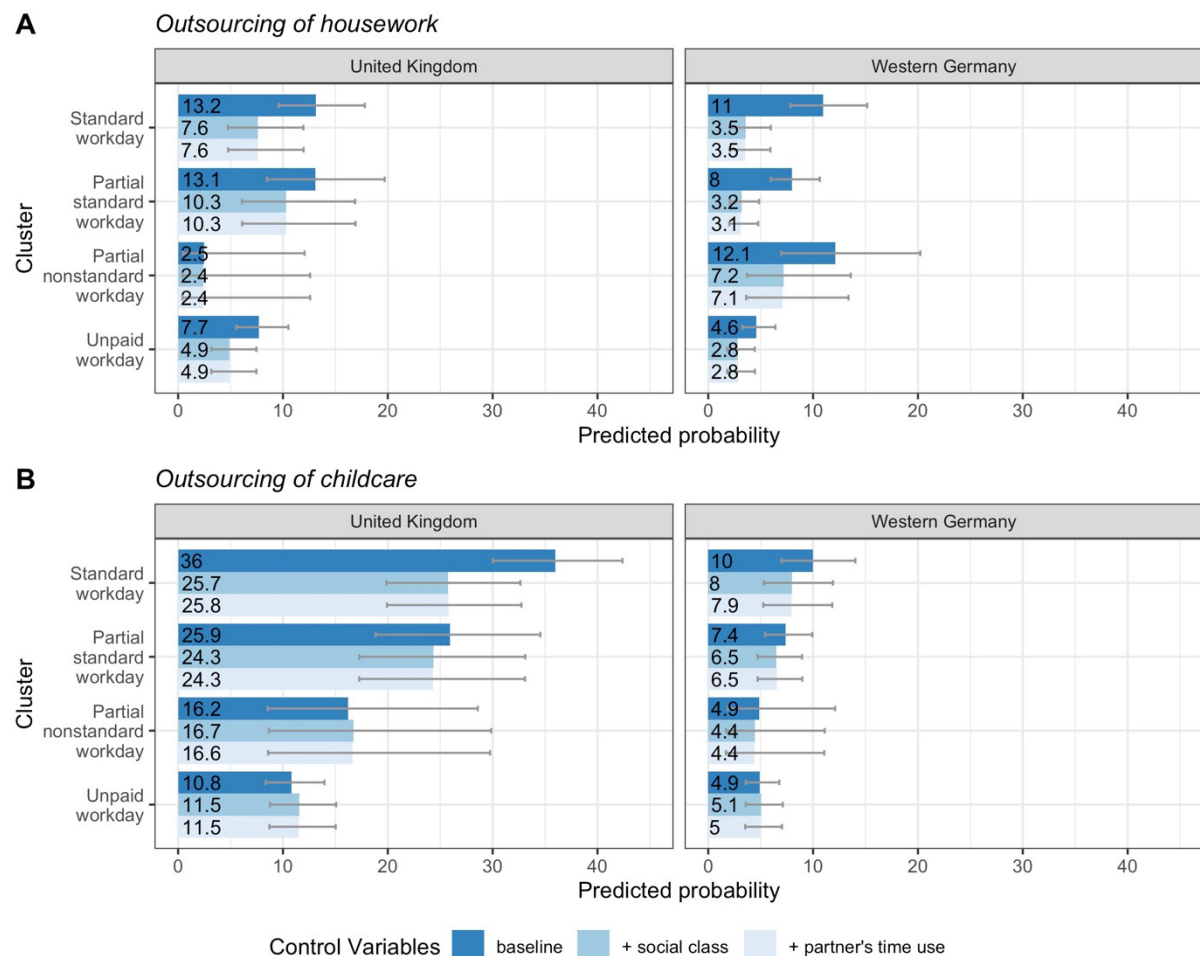
^aWeekly hours of outsourcing among those who outsource.

The mothers' patterns of paid and unpaid work are associated with the outsourcing of housework and childcare in both the UK and western Germany (Figure 3). These associations are mediated by the mothers' social class but are scarcely mediated by their partner's time spent on housework and childcare, supporting Expectation 3a (Figure 3-A and 3-B; “baseline”, “social class”, and “+partner's time use” estimates). Specifically, as expected, mothers with standard workdays are the most likely to outsource childcare in both countries, mediated by their higher social class (Figure 3-B; “baseline” and “+social class” estimates).

Similarly, mothers with standard workdays are more likely to outsource housework than those with unpaid workdays in both contexts, and this difference is mediated by their higher education and household income (Figure 3-A; “baseline” and “+social class” estimates; Table A13). However, surprisingly, in the UK, mothers with partial standard workdays are just as likely as those with standard workdays to outsource housework, despite spending more time on housework and facing a relative class disadvantage. In contrast, in western Germany, mothers with partial nonstandard workdays are even slightly more likely than those with standard workdays to outsource housework, although nonstandard work hours seem to limit the time mothers can spend on childcare rather than housework (Figure 1; Table 3).

Yet, the mothers’ probability of outsourcing housework is comparatively low across all clusters in both countries. For instance, among mothers with standard workdays, 13.2% are predicted to outsource housework in the UK and 11% in western Germany (Figure 3-A; “baseline” estimates). This suggests that outsourcing housework is not a major strategy for mothers aiming to maximize their time for paid work. Because many household tasks, such as cleaning, are flexible, mothers with long paid work hours during the week may compensate for their lack of time for housework by handling these tasks on weekends.

Figure 3: Predicted Probability of Outsourcing Housework (A) and Outsourcing Childcare (B) by Cluster: United Kingdom and Western Germany



Note: Error bars represent 95% confidence intervals. Predicted probabilities for outsourcing housework are calculated from models 2.A to 2.C (Table A13). Predicted probabilities for outsourcing childcare are calculated from models 3.A to 3.C (Table A14). Predicted probabilities for outsourcing housework and childcare for mothers with partial nonstandard workdays should be interpreted with caution. These estimates have a low level of statistical power due to the small number of cases in this group (Table 3).

By contrast, the findings support Expectation 3b that the greater prevalence of standard workdays among advantaged mothers in the UK (Figure 2) results from their broader reliance on outsourcing childcare (Figure 3-B). First, in the UK, the probability of outsourcing childcare not only differs slightly more by cluster but is also considerably higher across clusters (Figure 3-B; “baseline” estimates; Table A14). Thus, in absolute terms, the largest country differences are observed for mothers with standard workdays, who are the

most likely to outsource childcare in both contexts. In the UK, 36% of this group are predicted to hire domestic help for childcare, compared to only 10% in western Germany. In contrast, mothers with unpaid workdays—who are the least likely to outsource childcare in both countries—have a probability of 10.8% to outsource childcare in the UK compared to 4.9% in western Germany. Second, the higher probability of outsourcing childcare among mothers with standard workdays is more strongly mediated by their higher social class in the UK than in western Germany (Figure 3-B; “baseline” and “+social class” estimates). A higher level of educational attainment and a higher earnings share are positively associated with outsourcing childcare in both countries. However, unlike British mothers, western German mothers in high-income households are not more likely to outsource childcare (Table A14).

In sum, in gendered contexts, advantaged mothers seem to either outsource care work to adjust their unpaid work to their employment, or they schedule their employment according to their children’s needs for care. By contrast, fathers do not seem to facilitate mothers’ employment by adjusting their time use to their children’s care needs in response to their partner’s labor market opportunities.

Discussion

Rigid operating hours of schools and daycare facilities often conflict with long working hours in high-skilled jobs and nonstandard work schedules in low-skilled jobs. However, European welfare states differ in whether they encourage advantaged mothers to hire domestic workers to resolve such scheduling conflicts (Morel, 2015), and to what extent they allow lower-class mothers to reconcile their daily care responsibilities with paid work (Mandel & Semyonov, 2006). Against this backdrop, this study investigated class disparities in mothers’ organization of paid and unpaid work and their association with outsourcing housework and childcare in the United Kingdom (2014-2015) and western Germany (2012-

2013). In the mid 2010s, both contexts lacked formal full-day educational and care facilities. However, they differed a great deal in their broader family, labor, and migration policies.

In line with expectations and prior research on class differences in maternal employment (Hook, 2015; Hook & Paek, 2020) and work schedules (Lesnard, 2008; Vagni, 2020), advantaged mothers were more likely to have standard workdays in both the UK and western Germany. In both contexts, mothers with standard workdays were the most likely to outsource childcare and among the most likely to outsource housework. Reflecting the gendered nature of unpaid work, these associations were moderated by their class advantage rather than their partner's time spent on housework and childcare. By contrast, disadvantaged mothers were more likely to have unpaid workdays rather than nonstandard workdays. Although nonstandard work hours are concentrated in lower-status jobs—especially in the UK (Table 1)—, nonstandard workdays were fairly uncommon among mothers in all educational and income groups in both contexts. Thereby, for mothers, work schedules neither seem to be a direct reflection of class-specific labor market opportunities (Carillo et al., 2017; Lesnard, 2008) nor do they seem to facilitate work-family reconciliation through strategies such as tag-team parenting (Presser, 2003). By contrast, disadvantaged mothers seem to have to opt out of employment if they do not have access to jobs with compatible work schedules.

Moreover, the findings showed that outsourcing housework was relatively uncommon among mothers across all patterns of paid and unpaid work in both contexts. However, as expected, advantaged mothers in the UK were considerably more likely than those in western Germany to outsource care work to pursue standard workdays. Furthermore, unlike in western Germany, nonstandard workdays were concentrated among low-income British mothers. By contrast, partial paid workdays in the morning, combined with more unpaid work, prevailed among all western German mothers, regardless of their social class. Overall,

in the UK, market-oriented family policies, strong labor market deregulation, and the consistent promotion of an informal domestic service economy through employment, care and migration policies seemed to have opposite effects on the mothers depending on their social class. While these policies incentivized the advantaged mothers to outsource care work to pursue standard workdays, they pushed disadvantaged mothers into unpaid work—and to some extent—nonstandard work (the economic mechanism). By contrast, the public provision of formal childcare, extensive conservative family policies, stronger labor market regulation, and less consistent policy incentives for domestic outsourcing might have encouraged mothers more universally to adjust their work schedules to the institutional organization of education and care (the cultural mechanism). Importantly, in western Germany, the smaller class differences between the mothers do not imply that disadvantaged mothers were better integrated into paid work but that care responsibilities limited most mothers' labor market opportunities.

By discussing how the interplay of family, labor and migration policies shapes patterns of paid and unpaid work among mothers and their association with domestic outsourcing, this study links the comparative literature on class differences in the amount of time mothers spend on paid and unpaid work (Hook, 2015; Lightman & Kevins, 2021) with the emerging literature on the gender and class stratification of daily time-use (Lesnard, 2008; Vagni, 2020). Thereby, it expands prior research on how macro-level earnings inequality drives class differences in maternal employment (Hook & Paek, 2020) and the allocation of unpaid work (Heisig, 2011; Schneider & Hastings, 2017). The findings resonate with the perspective that liberal welfare states are effective in promoting advantaged women's careers but at the expense of the labor market marginalization of lower-class women, while conservative welfare states limit class inequality among women, but at the expense of

limiting their career opportunities across social classes (Folbre, 2009; Mandel & Semyonov, 2006). In contrast to liberal and conservative welfare states, the Nordic social-democratic welfare states combine strong labor market regulations that limit the prevalence of nonstandard work schedules in lower-class jobs (Gracia et al., 2021) with a comprehensive system of full-day public education and care, which may crowd out the demand for domestic outsourcing (Esping-Andersen, 1999; Lightman, 2021; van Hooren, 2012). More universal access to both compatible work schedules and formal education and care could jointly alleviate class differences among mothers by supporting comparatively long paid work hours among most mothers (Hook, 2015).

In addition to its contributions, this study has several limitations. First, this study focused on mothers and was limited to analyzing two institutional contexts. Future research should compare class differences in mothers' time organization in various contexts, and investigate how they are linked to gender inequalities in time allocation among couples. Crucially, future comparative studies should include countries in the global South, in particular in Latin America and the Caribbean as well as the Middle East, where hiring domestic workers is most prevalent globally (International Labor Organization (ILO), 2013).

Second, drawing on cross-sectional time-use data, this study built on a descriptive approach to map class differences in mothers' time use and their association with domestic outsourcing. However, it could not fully capture the mechanisms that lead to these differences. Future research should investigate with longitudinal data, for example, how control over work schedule shapes women's movements in and out of employment throughout their family life course. Nonstandard work schedules might be uncommon among lower-educated mothers, for example, because women who have jobs with externally imposed schedules drop out of employment for longer periods after childbirth to circumvent

scheduling conflicts between employment and care demands. Future studies should also explore how mechanisms that hinder mothers from outsourcing childcare, such as trust problems (Abraham et al., 2023; Ruijter & Lippe, 2009) or quality concerns (Raz-Yurovich, 2014), differ across welfare state contexts. In western Germany, for example, mothers might be more reluctant to outsource childcare than in the UK because they have lower trust in in-house child minders and are more concerned about their ability to support their children's development due to more conservative prevailing gender norms.

Third, the surveys used in this study were outdated. This is a common problem when dealing with time use data, which is complex to prepare. With the passage of Brexit, the UK shifted to a restrictive migration policy, which could lead to substantial long-term shortages in the low-waged care sector. As a consequence, middle- and upper-class mothers may have to leave their full-time jobs, because the market may no longer be able to meet the demand for both formal care provision and informal domestic services. Finally, the most glaring limitation is that the lack of available data did not allow me to consider ethnic inequalities in the allocation of the mothers' time. Future research should explore how race intersects with gender and class in shaping the daily organization of paid and unpaid work in families within and across regional boundaries. Making care work more visible is as an important precondition for its political acknowledgment—both through policies that value mothers' care work in the family, and through working standards for those that provide it as a basis of maternal employment.

CHAPTER 4: Who Can Work When, and Why Do We Have to Care?

Education, Care Demands, and the Gendered Division of Work Schedules in France and Germany

Abstract

Objective: This article investigates how education, and the presence and age of children, shape gendered work schedule arrangements among couples in France and Germany.

Background: Despite the prevalence of nonstandard work schedules, schools and daycare facilities typically operate during standard work hours. Nevertheless, little is known on the gendered division of work schedules. Both France and Germany have shifted towards labor market deregulation, favoring the concentration of nonstandard schedules in lower-class jobs. However, France provides full-day public education and care. In Germany, public childcare is less comprehensive, and daycare and school hours are considerably shorter.

Method: The study uses sequence and cluster analysis on time-use data (N=11,268 days) to identify typical work schedules. Multinomial logistic regressions assess how education, and the presence and age of children, are associated with men's and women's types of days.

Results: In both countries, less-educated men were more likely to work shifts, whereas less-educated women were more likely to not be employed. However, standard work schedules prevailed among better-educated French men *and* women, whereas partial workdays and non-workdays predominated among German women.

Conclusion: In both labor market contexts, less-educated partnered women rather than men seem to opt out of employment due to scheduling conflicts between work and care. However, more work-facilitating family policies allow for more gender-equal schedules among better-educated men and women in France.

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Introduction

In many Western knowledge economies, women now achieve higher educational attainments than men, and two-earner couples outnumber male-breadwinner families (Esping-Andersen, 2009). Whereas these changes hold out the promise for more gender equality in employment, care demands continue to channel women rather than men out of employment or into part-time rather than full-time employment (Hook & Paek, 2020). Moreover, post-industrial countries have witnessed a rise in nonstandard work schedules outside the Monday-to-Friday 9-to-5 workweek, particularly in lower-class jobs (Kalleberg & Vallas, 2018). In contrast to the “24/7 economy” (Presser, 2003), children’s schedules continue to be organized according to a rigid “industrial” logic. Schools and childcare facilities mainly operate during standard work hours and often run for partial rather than full days (Parente, 2020).

Despite this conflicting institutional arrangement for reconciling work and family life, little is known about how different-sex couples (couples) combine their work schedules, in terms of if, when, and how many hours each partner works. The work-family literature stresses that couples’ paid work arrangements express gendered opportunities and norms for employment and the division of unpaid work (Lewis, Campbell, et al., 2008). In contrast to men, women adjust their employment to care demands, with considerable variations by class and the broader welfare state context (Hook, 2015; Pettit & Hook, 2005). However, this literature has focused on the duration of paid work. On the other hand, the literature on work schedules lacks a gender perspective due to three shortcomings. First, research has either focused on the class stratification of work schedules (Lesnard, 2008; Lyness et al., 2012) or on their compatibility with care demands (Gracia & Kalmijn, 2016; Täht & Mills, 2016). Second, studies rarely address how labor market regulations and family policies shape the

stratification of work schedules (Bünning & Pollmann-Schult, 2016; Mills & Taiji, 2020).

Third, few studies comprehensively describe work schedules considering both the duration and timing of paid work (Hepburn, 2018; Lesnard, 2008).

To address these gaps, this article investigates two research questions. How do education, and the presence and age of children, shape gendered work schedule arrangements among couples? And how does this vary by context? Education proxies for class so that we can include both employed and not-employed individuals (Hook, 2015). The presence and age of children proxies for care demands to account for higher care demands for younger children. We compare France and Germany as two formerly conservative welfare states with similar labor market regulations but distinct family policies (Esping-Andersen, 1990). In both countries, core economic sectors remain highly regulated but neoliberal labor market reforms in the 2000s have favored the concentration of nonstandard schedules in lower-class jobs (Gracia et al., 2021; Palier & Thelen, 2010). Family policies continue to incentivize the male-breadwinner model in both cases through cash benefits, and the tax and social security system. However, in France, full-day public education and care and the 35-hour week simultaneously encourage the dual-earner model. By contrast, working-time policies, less comprehensive public childcare, and shorter daycare and school hours promote the one-and-a-half-earner model in Germany (Lewis, Knijn, et al., 2008).

The study makes two contributions. First, it introduces an intersectional perspective on how gender and class shape work schedule arrangements. We argue that, unlike better-educated men, better-educated women use their class advantage to select into work schedules that are compatible with their children's schedules. By contrast, we propose that less-educated women rather than men can be forced out of employment due to the incompatibility of work schedules with care responsibilities in lower-class jobs. Second, the research adds a

work schedule lens to the literature on how social policies shape educational differences in work-family arrangements (Cooke, 2011; Hook, 2015). Focusing on an in-depth comparison of two cases allows us to discuss the interplay of labor market and family policies. Against the backdrop of neoliberal labor market restructuring in both countries, but with more work-facilitating family policies in France, we argue that work schedule arrangements are more gender-equal in France but at the cost of greater polarization among couples.

The empirical analysis uses sequence and cluster analyses to classify work schedules comprehensively. We go beyond similar studies (Lesnard, 2008; Sautory & Zilloniz, 2015) by considering two-earner *and* one-earner couples to fully capture the gendered nature of work schedule arrangements. We use the latest French (2013) and German (2010) Time Use surveys on 11,268 individual days. The findings confirmed that in France work schedule arrangements polarized into standard dual-earner couples, and male-breadwinner couples, in which the men worked shifts and the women were not employed. In contrast, one-and-a-half-earner and male-breadwinner couples prevailed in Germany. Multinomial logistic regressions showed that in both countries, less-educated men were more likely to work shifts, whereas less-educated women were more likely to not be employed. However, in France, standard schedules prevailed among better-educated men *and* women, whereas in Germany care demands tended to channel women into partial workdays and out of employment irrespective of their education. We conclude that less-educated women rather than men seem to opt out of employment due to scheduling conflicts between work and care in both labor market contexts. However, in France, more work-facilitating family policies allow for more gender-equal schedules among better-educated men and women.

Theoretical Background

The Gendered Division of Work Schedules

The work-family literature stresses that gender inequalities in paid work are linked to the division of unpaid household and care work among couples. From an economic perspective, women spend less time on paid work and more time on unpaid work than men due to their lower profitability in the labor market (Becker, 1965), or their weaker bargaining power resulting from their relatively lower earnings (Blood & Wolfe, 1960). By contrast, the “doing gender” approach (West & Zimmerman, 1987) holds that women are encouraged to work less professionally to conform to gender expectations for the provision of unpaid work to which they are (held) accountable. From this perspective, long work hours have become the basis of the “ideal worker norm,” which is inherently masculine (Davies & Frink, 2014).

Both economic incentives and norms for the gendered allocation of paid work are embedded in broader structural and institutional contexts. Across most postindustrial Western economies, two-earner couples now outnumber male-breadwinner couples as a consequence of greater gender equality in education and women’s inflow into employment (Esping-Andersen, 2009). However, time spent on paid work has converged more among better-educated men and women than among less-educated men and women (Cooke, 2011; Gershuny, 2000). Thus, increased gender equality in employment has been accompanied by greater working time inequality among couples (Esping-Andersen, 2009). Moreover, regardless of education, men continue to spend more time on paid work than women, particularly in couples (Cooke, 2011). In line with the doing-gender perspective, persistent gender essentialist norms assign the responsibility for care work to women despite more gender-equal labor market opportunities (England, 2010).

Given the need to meet care demands, *when* each partner works matters as much—if not more—as for *how long*. There are two major perspectives on work schedule arrangements. The class-centered perspective emphasizes that work schedules stem from individual occupational conditions, and due to social homogamy, inequalities are exacerbated at the couple level (Carillo et al., 2017; Lesnard, 2008). From this perspective, some scholars classified work schedules comprehensively differentiating, for example, between standard workdays (roughly 9 a.m. to 5 p.m.), long schedules (roughly 8 a.m. to 7 p.m.), partial workdays (8 a.m. to 12 p.m. for instance), and shifts—i.e., 8 to 12 hours of work either early in the morning (morning shift), late in the evening (evening shift) or at night (night shift)—or fragmented workdays (Lesnard, 2008; Sautory & Zilloniz, 2015). Focusing on two-earner couples in France, Lesnard (2008) found that upper-class couples were more likely to have control over their work hours and to “choose” to work standard and/or long schedules. In contrast, working-class couples were more likely to have no control over their work hours and to have desynchronized schedules with one shift working partner. The second perspective, the family-centered perspective, analyzes how work schedules are associated with parent-child interactions and the division of unpaid work among couples (Gracia & Kalmijn, 2016; Täht & Mills, 2016). This approach relies on a “majority rule” and typically classifies work schedules as either “standard” (at least half the hours are worked inside an 8 a.m. to 4 or 5 p.m. workday) or “nonstandard” (at least half the hours are worked outside of that window) (Presser, 2003). From this perspective, some scholars found that nonstandard work schedules promote a more gender-equal division of labor, in which parents split shifts at home and at work (Presser, 2003; Täht & Mills, 2016).

Both perspectives seem to overlook the gendered nature of couples’ scheduling arrangements. Work schedule arrangements can become a zero-sum game in which women

(have to) adjust their work schedules more so than men, either by self-selecting into work schedules that are compatible with their children's schedules or by opting out of paid work if this is not possible (Deuflhard, 2023). By focusing on two-earner couples, this tradeoff is necessarily left out of the equation. By focusing on the binary classification of standard versus nonstandard schedules, neither the breadth of combinations of working and non-working days within couples can be examined—nor how they vary by gender. In this paper, we conceptualize work schedule arrangements as practices of how men and women *do gender* in combining their daily schedules to reconcile work and family. We argue that these practices are informed by educational inequalities in “choice of” or “access to” work schedules that arise from the class stratification of the labor market. On the other hand, we propose that they imply gendered adjustments to care demands irrespective of education.

The Role of Education, and the Presence and Age of Children

Across postindustrial Western economies, better-educated men and women both have longer paid work hours than less-educated men and women (Gershuny, 2000). At both ends of the social spectrum, men work more than women. Yet, most men work full-time, regardless of their education (Cooke, 2011). In contrast, less-educated women are more likely than better-educated women to not be employed or to work very few hours (Cooke, 2011; Hook, 2015). Due to educational homogamy, working time inequalities are exacerbated at the couple level (Esping-Andersen, 2009). In Europe and the United States, better-educated couples typically follow a two-earner model—either a dual-earner model, where both partners work full-time, or a one-and-a-half earner model, where the woman works part-time. The male-breadwinner model is more prevalent among less-educated couples (Hook, 2015).

These differences in the duration of paid work could be encouraged by how educational inequalities intersect with gendered care responsibilities in shaping work

schedule arrangements among couples. Upper-class managerial and professional jobs often demand long work hours for career progression. Still, employees in such jobs tend to have some control over when and how many hours they work (Gerstel & Clawson, 2015; Lyness et al., 2012). Thereby, better-educated men and women could have different schedules for two reasons. First, anticipating scheduling conflicts between long work hours and their children's schedules, better-educated women could self-select into occupations that allow for compatible work schedules, unlike better-educated men (Murray & Cutcher, 2012). Second, when having autonomy over their work schedules, better-educated men and women could use it differently (Ganault, 2022; Gerstel & Clawson, 2014). Being backed up by a partner handling childcare, better-educated men could devote themselves to their careers by working standard or long schedules. By contrast, better-educated women could (have to) prioritize caregiving responsibilities when choosing when and how many hours they work.

Disadvantaged couples face more conflicts between labor market and care demands. Lower-class industrial, service, and leisure jobs often involve imposed and unpredictable shift schedules, including weekends, which are diametrical to children's schedules (Carillo et al., 2017; Lesnard, 2008). Having a partner who takes on the bulk of childcare duties could allow less-educated men to adjust their schedules to their employers' flexibility demands. However, a two-earner model is not necessarily compatible with care responsibilities outside the rigid hours of children's schedules if both partners' work schedules are externally imposed. Having the flexibility to plan their workdays or take days off when their children are sick allows women to stay attached to the labor market in the first place. Thereby, when faced with a lack of choice of compatible schedules, less-educated men could remain in shift schedules, whereas less-educated women could be forced out of employment (Deuflhard, 2023).

Irrespective of education, gender inequality in the time spent on paid work is greater among couples with young children. In contrast to men, women adjust their employment to round-the-clock care needs while they have young children—for instance, by (temporarily) leaving paid work—and often work reduced hours once care demands decrease as their children get older (Bianchi, 2000; Lewis, Campbell, et al., 2008). In terms of work schedules, women with (young) children could not only spend fewer hours in paid work than men but also (have to) prioritize schedules that facilitate work-family articulation. For instance, part-time jobs could allow mothers to work partial days in the morning to be available for daycare and school drop-offs and pick-ups (Craig & Powell, 2011), unlike long workdays, or even standard workdays, depending on how extended operating hours are.

Shift schedules, on the other hand, generally interfere with young children's need for stable family routines, and conflict with the times usually reserved for care and family activities, such as homework supervision or family dinner (Gracia & Kalmijn, 2016; Wight et al., 2008). Thus, mothers rather than fathers will have to avoid such schedules, particularly while they have young children. Irrespective of education, mothers could also be more likely than fathers to take days off when their children are sick (Blair-Loy, 2003). Conversely, fathers' days could be structured by the opportunities and constraints that their jobs imply, even if they are incompatible with care demands. Although the age of children impacts women's work schedules and their employment altogether, throughout Europe men's schedules are insensitive to the age of their children (Gracia et al., 2021).

Gendered Work Schedule Arrangements in Context

The work-family literature stresses that not only economic contexts but also social policies guide the allocation of paid work among couples. From an intersectional perspective, scholars have emphasized that both labor market and family policies structure gender and

class inequalities in couples' paid work arrangements (Folbre, 2009). Considering that labor market regulations can exacerbate or alleviate class differences in employment opportunities, family policies do not necessarily impact all women in the same way (Shalev, 2008). In this paper, we add a work schedule lens to this literature by theorizing how the interplay of labor market policies and family policies shapes couples' work schedule arrangements. Labor market policies impact educational differences in "access to" work schedules. Family policies influence which work schedules are compatible with care demands.

France and Germany are two countries with similar labor market regulations but distinct family policies. Historically, both countries are rooted in conservative welfare states (Esping-Andersen, 1990). In conservative welfare states, strong employment regulations that secure male standard employment and generous family policies that value the provision of care by mothers encourage a male-breadwinner model across social classes (Cooke, 2011). However, many European countries no longer fit ideal types of welfare states due to labor market deregulation, and social investments in formal education and care (Hemerijck, 2015). Both France and Germany have restructured their labor markets in the direction of the liberal welfare state model. Research indicates that labor market deregulation is associated with a greater prevalence of nonstandard work schedules and heightens class inequalities in such schedules (Gracia et al., 2021; Kalleberg & Vallas, 2018). In both countries, core economic sectors continue to be highly regulated. However, neoliberal reforms in the 2000s introduced more means-tested unemployment benefits and stricter requirements for the unemployed to accept jobs. Thereby, class cleavages in work schedules and employment protections, that had developed since the 1980s, have been exacerbated (Hassel, 2010; Palier & Thelen, 2010). Atypical work schedules, defined as evening or night work, weekend work, or shift work in the EU-LFS, are concentrated to a similar degree among lower-status employees in France

(50%) and Germany (53%). In contrast, they are less prevalent among professionals (33% in France and 31% in Germany) (Eurostat statistics; data from 2013).

On the other hand, male-breadwinner policies have been complemented by family policies typical of social-democratic welfare states in both countries, but more so in France (see Table 1). France has institutionalized policies that encourage a dual-earner model since the 1950s, mainly but not exclusively through expanding full-day public education and care (Lewis, Knijn, et al., 2008). In contrast, Germany only gradually expanded policies that support a one-and-a-half-earner model since the 1990s (Lewis, Knijn, et al., 2008; Zoch & Hondralis, 2017). However, great differences remain between western and eastern Germany (the former West and East Germany), as norms and institutions for work-family reconciliation in eastern Germany continue to be partially shaped by its socialist past between 1949 and 1990, in which the dual-earner model was supported (Zoch & Hondralis, 2017). In 2013, maternal employment rates were similar in France at 69% and Germany at 70%, but in France, most mothers worked full-time, unlike in Germany (Eurostat statistics). Children's schedules in schools and daycare facilities are compatible with standard schedules in France but correspond with partial workdays in Germany, particularly in the former West.

Against this backdrop, France and Germany could differ in how education shapes gendered work schedule arrangements. For better-educated men and women, the dual-earner family policies could allow for more gender-equal schedules in France than the one-and-a-half-earner policies in Germany. In France, full-day education and care and the 35-hour statutory workweek encourage "short" standard schedules among men *and* women (Lewis, Knijn, et al., 2008), although exceptions to the reform could lead better-educated men rather than women to work long hours. By contrast, there are no policies in place in Germany allowing full-time workers to reduce their work hours despite the part-time nature of

children's schedules (Rubery et al., 2024). Thereby, better-educated men are actively encouraged to work long hours. Conversely, and in contrast to France, better-educated women may (have to) take up the right to work part-time—which is established in both countries (Rubery et al., 2024)—to be able to reconcile paid work with care responsibilities outside the operating hours of schools and care facilities.

For less-educated men and women, on the other hand, labor market constraints could prevent access to gender-equal schedule arrangements in both countries. By strengthening employers' authority over work schedules, neoliberal labor market policies reinforce the pressure on less-educated men to accept jobs with flexible and unpredictable shifts. The same job conditions can force less-educated women out of employment due to their incompatibility with care responsibilities outside the rigid structure of children's schedules. Thereby, less-educated couples' economic well-being may depend on the male-breadwinner policies—such as the generous cash benefits for families, a very similar joint tax system that rewards unequal earnings among spouses (Baclet et al., 2005), and the free co-insurance of a non-employed spouse (Cooke, 2011). In contrast to better-educated women—who could be responsive to the shorter income-based parental leaves in both countries—less-educated women may also need longer low-paid leaves (France) or unpaid leaves (Germany) due to scheduling conflicts between work and care (Table 1). However, full-day education and care may attenuate the conflict between shift schedules and children's schedules for French women. By contrast, partial workdays may be available as an alternative to non-employment or shift work for less-educated German women. In France, part-time contracts have to be for at least 20 hours. In contrast, Germany promotes low-wage marginal employment among less-educated women in a “modified” male-breadwinner model through mini-jobs that are free of taxes and social security deductions (Hassel, 2010) (Table 1).

Table 1: Family Policies in France (2010) and Germany (2013) by Policy Field and Family Policy Model (Male-Breadwinner – One-and-a-Half-Earner – Dual-Earner)

Policy field	France	Germany
Working time policies	35-hour week	Maximum 48-hour week
	Right to work part-time 20-hour minimum for part-time contracts (24 hours since 2014), except for workers with benefits	Right to work part-time Mini-jobs (with an income of 450 euros) that are free of tax and social security deductions
Cash benefits	Generous cash benefits for families, favoring families with at least three children	Generous cash benefits for families, more independent of the number of children
Tax system	Joint taxation of partnered couples	Joint taxation of married couples
Health system	Free co-insurance of a non-employed partner	Free co-insurance of a non-employed married partner
Parental leave system	Maternity leave: 16 weeks at 100% wage replacement (26 weeks from third child); Paternity leave: 25 days	Maternity leave: 14 weeks at 100% wage replacement; Parental leave at 67% wage replacement for up to 12 months + 2 partner months
	Parental leave at a low flat-rate compensation of between six months (one child) and three years (two or more children)	Unpaid parental leave for up to three years
Organization of public childcare	Enrollment rates, children under 3 years: 39% (mainly full-day care)	Enrollment rates, children under 3 years: 27% (mainly half-day care)
	Preschool (école maternelle) is compulsory from age 3	Enrollment rates from 3 to below 6 years (mainly half-day care): 90%
Organization of education and care for school-aged children	School schedule: 08.30 a.m. to 04.00 p.m. with Wednesday afternoons off	School schedule: 08.00 a.m. to 12.00 p.m. (primary schools), 08.00 a.m. to 02.00 p.m. (secondary schools)
	Before & after-school care: partially available at low costs	After-school care: partially available at medium costs

Sources: Eurostat, Baclet, Dell, and Wrohlich (2005), Cooke (2011), Lewis et al. (2008), Palier and Thelen (2010), Parente (2020), Rubery et al. (2022), Zoch and Hondralis (2017).

Note: All data in the table refers to 2013. Income-based paid leaves are classified as promoting the dual-earner model in France but the one-and-a-half earner model in Germany, based on their expected interplay with working-time regulations and the institutional organization of childcare.

Irrespective of education, care responsibilities could exacerbate gender inequalities in work schedule arrangements in Germany compared to France. Public childcare coverage for children below the age of three is not comprehensive in either context. Thereby, women opt out of employment after childbirth in both countries, unlike men. In both countries, women

rather than men with young children could also (have to) avoid shift schedules to adjust to high care demands. However, in France, the organization of children's schedules allows for standard work schedules, even among mothers with young children (see Table 1).

Compulsory school starts at the age of three, and schools operate on a full-day schedule, partially flanked by low-cost care at school (*garderie*) (Lewis, Knijn, et al., 2008). By contrast, in Germany, less available early childcare channels more mothers with young children out of employment, and shorter daycare and school hours allow for partial workdays rather than standard, long or shift schedules, even among mothers with older children. In Germany, even in 2013, childcare facilities and schools still operated mainly only half days in the morning (Zoch & Hondralis, 2017). There are care facilities after school (*Hort*) but they are fewer and more costly in western than in eastern Germany (Kreyenfeld & Geisler, 2006).

Expectations

To sum up, we argue that work schedule arrangements are more gender-equal in France than in Germany but at the cost of greater polarization among couples. In France, we posit a predominance of standard dual-earner couples at one end, and male-breadwinner couples in which the men work shifts and the women are not employed at the other end (H1a). In contrast, one-and-a-half-earner and male-breadwinner couples may prevail in Germany (H1b). These differences could be driven by how education, and the presence and age of children, shape men's and women's types of days in the two countries. In both countries, less-educated men are more likely than better-educated men to work shifts, whereas less-educated women are more likely than better-educated women to not be employed (H2a). However, in France, standard work schedules prevail among better-educated men *and* women, unlike in Germany (H2b). In both countries, men's types of days

are not responsive to care demands, unlike women's types of days (H3a). However, in Germany, women with young children are more likely to not be employed, and—unlike in France—partial rather than standard, long or shift workdays predominate among mothers irrespective of the age of their children (H3b).

Data and Methods

Data, Sample and Analytical Strategy

The empirical analysis uses the French Time Use Survey (EDT 2009-2010), conducted by the National Institute of Statistics and Economic Studies, and the German Time Use Survey (German TUS 2012-2013), conducted by the Federal Statistical Office. Time use data is an ideal source to study work schedules comprehensively because time diaries capture both the timing and duration of daily paid work hours (Lesnard, 2004). Moreover, the French and German time use surveys are unique in providing diaries of both members of a couple. Both surveys consist of representative samples of individuals and households. Activities were reported in 10-minute time slots on two days (one weekday, one weekend day) from 12:00 a.m. to 12:00 a.m. in the EDT and on three days (two weekdays, one weekend day) from 4:00 a.m. to 4:00 a.m. in the German TUS. Despite the outdated nature of the surveys, the findings should still be relevant because both the prevalence of atypical work schedules and the average weekly work hours among men and women remained relatively stable in France and Germany since the data were collected (Eurostat data of the EU-LFS; available on request).

We restrict the full sample of individual diary days ($N=27,903$ for France and $N=32,105$ for Germany) to different-sex couples who live without children or with at least one child below the age of 18 in the household ($N=16,226$ for France and $N=14,368$ for Germany). We exclude couples in which the female partner is 55 years or older ($N=9,392$ for

France and N=9,950 for Germany) to avoid the possibility of oversampling couples whose children have already moved out among couples without children, and due to the prevalence of early retirement in both countries. To emphasize how partners adjust to each other's work schedules, we focus on diary days of one-earner and two-earner couples, in which at least one partner engages in paid work (N=6,406 for France and N=6,440 for Germany) and is classified as working according to the sequence and cluster analysis, as specified below. We include both full-time and part-time workers. The final samples are made up of 5,448 individual days corresponding to 2,724 days of couples in France, and 5,820 individual days corresponding to 2,910 days of couples in Germany.

The analytical strategy involves two steps. The first is a sequence and cluster analysis to identify types of work schedules for France and Germany. Descriptive statistics are used to show gender differences in partnered men's and women's types of days at the individual and couple level in the two countries (H1a, H1b). The second is multinomial logistic regression models to test similarities (H2a, H3a) and differences (H2b, H3b) in how education, and the presence and age of children, are associated with men's and women's types of days in the two countries. All analyses are stratified by country.

Step 1: Identification and Description of Work Schedule Arrangements

We conduct a sequence and cluster analysis for paid workdays (N=3,963 for France, N=4,522 for Germany) to identify the typical work schedules (Lesnard, 2004). We differentiate two sequence states, *paid work* and *other activities*. Paid work refers to income-based market work, according to the guidelines of the Harmonized European Time Use Survey. It consists of paid working time (including training and short breaks) in the main or second job, and activities related to employment that are not paid for (time spent at work before starting or after ending work, and time spent on job seeking). Unlike studies that

conceptualize work schedules in terms of the actual working time (Lesnard, 2008; Sautory & Zilloniz, 2015), we consider commuting time as part of paid work due to the study's focus on how care responsibilities constrain women's rather than men's available working time.

Sequences are classified as similar/dissimilar based on Dynamic Hamming matching, with substitution costs inversely proportional to transition frequencies between states, to stress the timing of paid work (Lesnard, 2004; Studer & Ritschard, 2016). The sequence analyses are weighted to account for the diary day. To group the sequences, we conduct a mixed classification analysis. We perform a K-means analysis on the distance matrix, identifying 15 typical medoids, and classify the medoids based on beta-flexible aggregation, which performs well in the presence of noise and outliers (Lesnard, 2008). We then summarize the medoids into seven work schedule clusters, using both the classification of the medoids and the chronograms and descriptive statistics for each medoid (see Supplementary Tables 1 and 2 as well as the corresponding note). An eighth cluster is composed of days with very little paid work (N=644 for France and N=406 for Germany, at 26 and 28 minutes of paid work on average, respectively), which are considered days in which individuals are "not working" in the rest of the analysis. We ran more classifications on men and women separately as sensitivity checks, with substantively robust findings.

We classify all diary days in the analytical sample by *type of day*. Among paid workdays, we define *type of day* according to the work schedule cluster. Among non-workdays, we distinguish between not working, referring to days in which employed individuals had a day off/took a day off, or barely did any paid work, and not employed, comprising non-workdays of individuals who were out of the labor force or unemployed. Weighted descriptive statistics show how men's and women's types of days differ at the individual level, and how couples align their days at the household level in the two countries.

Step 2: Multinomial Logistic Regression: Education, and the Presence and Age of Children

Multinomial logistic regressions estimate the probability of men's and women's types of days by education, and the presence and age of children. The models are conducted on partnered individuals rather than couples to emphasize how both partners' educational opportunities and gendered care responsibilities shape work schedule arrangements. Since we expect opposite gender effects for both dimensions, the models are fit with two-way interactions between a) gender and educational level and b) gender, and the presence and age of children. The models are adjusted for age (5-year intervals), day of the week (weekday/ weekend day), and marital status (married/ not married), because these characteristics may affect the type of day and can also vary by education and care demands. Education is operationalized according to the International Standard Classification of Education (ISCED 2011) into three categories: low [less than upper secondary education], middle [upper secondary general education and/or vocation training] and high [completed tertiary education]. Presence and age of children is classified into three categories ["no children", "under 6 years", and "6-17 years"]. Supplementary Table 3 displays the distribution of the independent variables by gender. Robustness checks confirm the stability of the models with respect to the construction of the dependent variable (Supplementary Tables 6 and 7).

Results*Step 1: Identification and Description of Work Schedule Arrangements*

In line with prior research (Lesnard, 2008; Sautory & Zilloniz, 2015), in both countries, we identified seven comparable work schedule clusters that can be divided into three types: 1) full standard workdays with a core 9-to-5 workday, 2) partial workdays, with a

duration of about half the standard working time during standard work hours, and 3) full shift workdays with core nonstandard work hours outside the 9-to-5 workday (Figures 1 and 2).

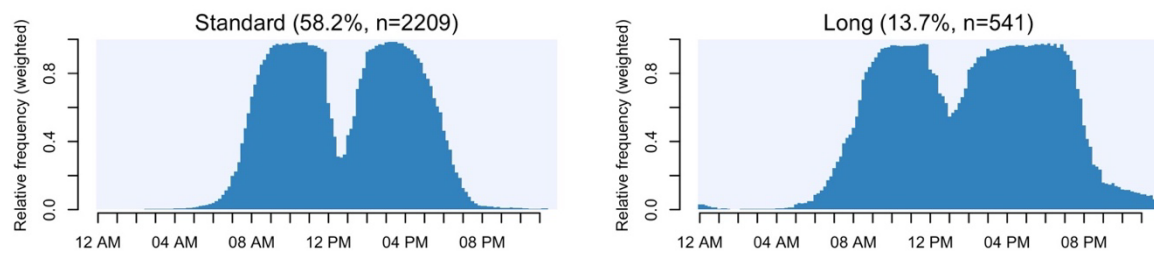
Full standard workdays—composed of about 9-hour standard and 11-hour long schedules—were overrepresented among men in both France (62%) and Germany (52%) (Table 2). These schedules were associated with greater schedule control, consistent with research showing that, unlike women, men typically use schedule control to work longer hours (Ganault, 2022). Full shift workdays, either early in the morning, late in the afternoon and evening, or at night, were also more prevalent for men in France (18%) and Germany (13%). Only 10% of French women and 7% of German women worked these schedules. In both countries, shift schedules were mainly externally imposed and much more often combined with weekend work than full standard workdays. Hence, the gender differences speak to their incompatibility with care demands. On the contrary, women were drastically overrepresented in non-workdays in both countries, at around 40% compared to less than 20% for men.

We observed greater gender equality in France, where standard employment was the norm for both men and women. Indeed, 43% of French women worked standard schedules compared to only 23% of German women. More strikingly, women were only 1.7 times less likely than men to work long days in France, and five times less likely in Germany. On the contrary, partial workdays—mostly in the morning—prevailed for employed women in Germany (26%), unlike in France (6%). Furthermore, weekend work was much more common for partial workdays in France (23%) than in Germany (10%). Additional analyses showed that men's and women's types of days were more gender-equal in eastern Germany, mainly due to schedule differences among western and eastern German women. Specifically, being not employed was less prevalent among eastern German women (14.7% vs. 24.2%),

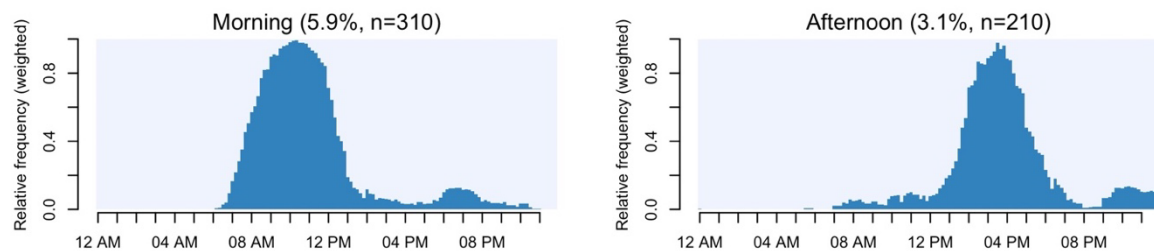
whereas working standard schedules was more common (23.4% vs. 18.7%), as was shift work (12.4% vs. 5.8%).

Figure 1: State Distribution Plots of the Seven Work Schedule Clusters: France

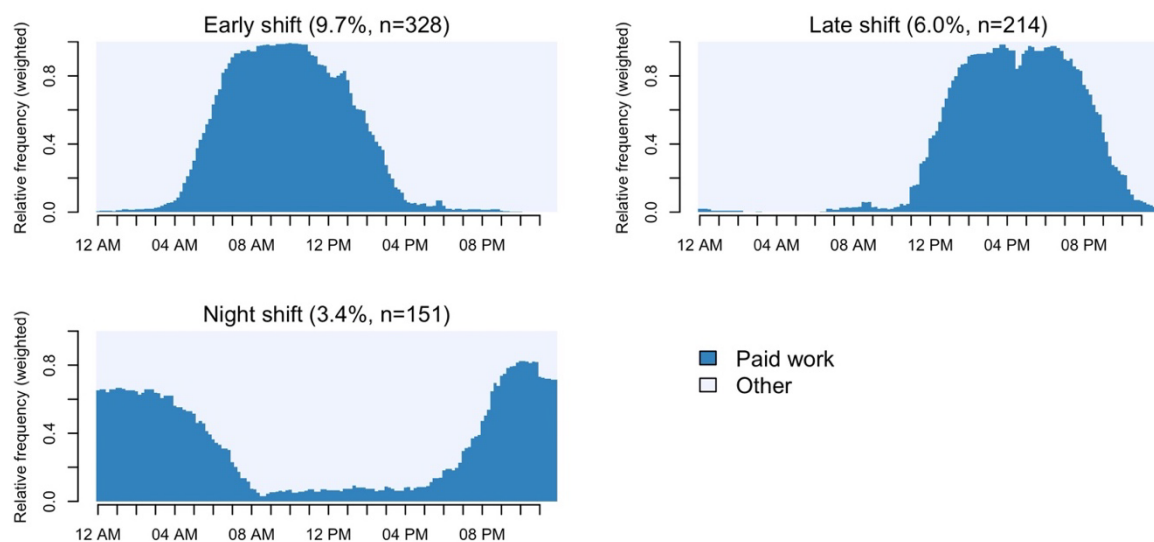
Full standard workdays (71.9%)



Partial workdays (9.0%)



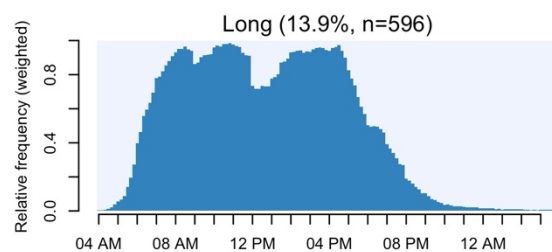
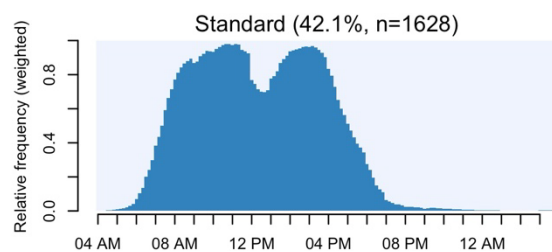
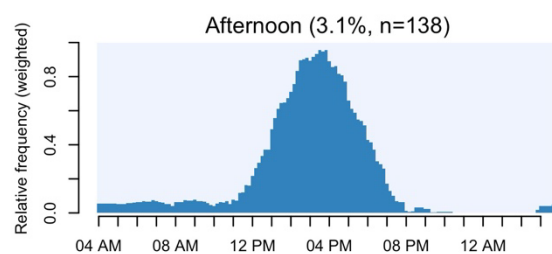
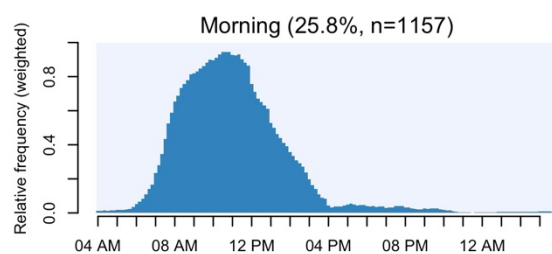
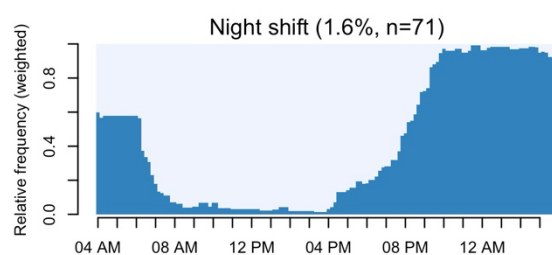
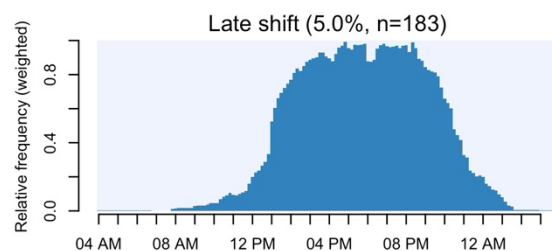
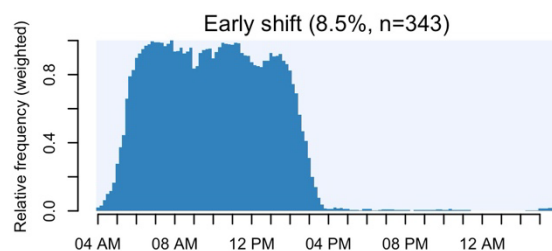
Full shift workdays (19.1%)



Source: EDT 2009-2010; $N=3,963$ individual diary days.

Note: The plot summarizes the aggregate distribution of paid work at each time slot. A relative frequency sequence plot that shows representative individual time sequences for each cluster is displayed in Supplementary Figure 1.

Figure 2: State Distribution Plot of the Seven Work Schedule Clusters: Germany

Full standard workdays (55.9%)*Partial workdays (28.9%)**Full shift workdays (15.1%)*

■ Paid work
□ Other

Source: German TUS 2012-2013; $N=4,522$ individual diary days.

Note: The plot summarizes the aggregate distribution of paid work at each time slot. A relative frequency sequence plot that shows representative individual time sequences for each cluster is displayed in Supplementary Figure 2.

Table 2: Descriptive Statistics for the Nine Types of Days: France and Germany

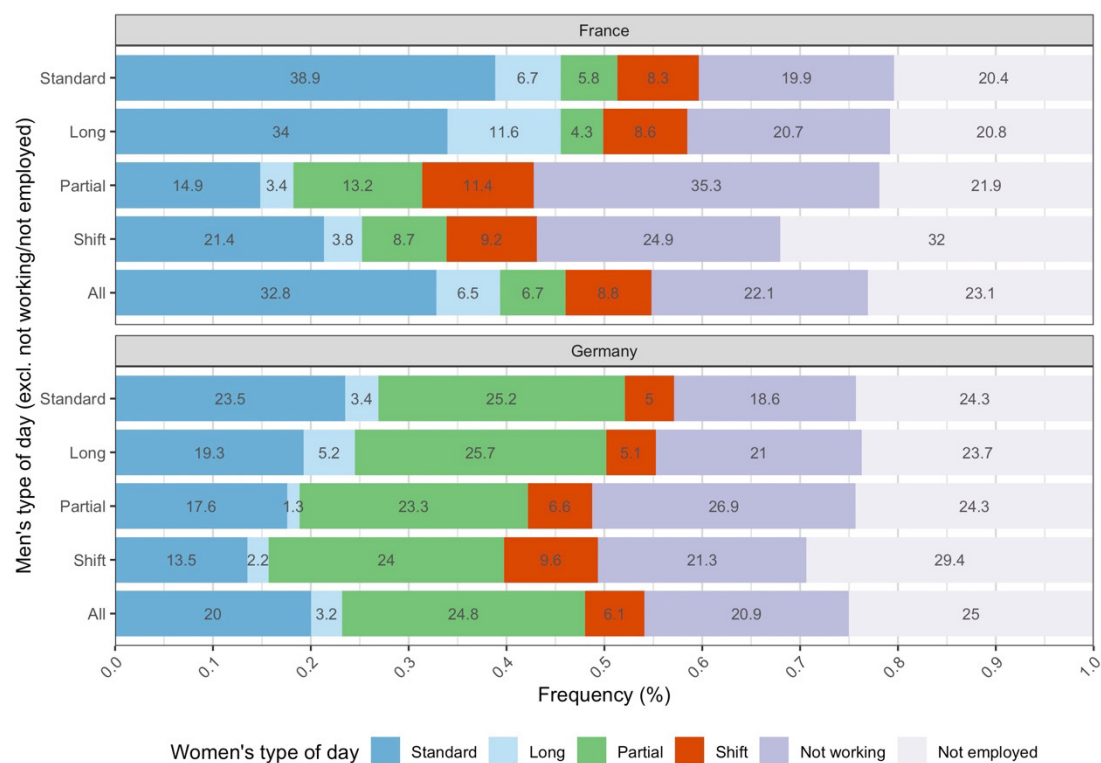
Type of day	Men (%)	Women (%)	Weekend days (%)	No schedule control (%)	Median duration of paid work (hr:min)	Median beginning time of paid work	Median end time of paid work
<i>France</i>							
<i>Full workdays</i>	62.34	43.11					
Standard	49.62	35.84	3.74	51.16	09:10	08:00 a.m.	06:00 p.m.
Long	12.72	7.27	7.35	34.42	11:30	08:10 a.m.	08:10 p.m.
<i>Partial Workdays</i>	5.30	8.16					
Morning	3.66	5.18	22.58	50.96	04:50	08:00 a.m.	01:00 p.m.
Afternoon	1.64	2.98	24.58	54.34	03:50	01:20 p.m.	05:40 p.m.
<i>Shift workdays</i>	17.95	9.84					
Early shift	9.71	4.37	12.26	72.82	08:30	05:50 a.m.	02:40 p.m.
Late shift	4.82	3.95	21.01	77.68	08:30	12:10 p.m.	09:00 p.m.
Night shift	3.42	1.52	25.06	81.36	08:10	08:40 p.m.	04:10 a.m.
<i>No workdays</i>	14.40	38.89					
Not working	7.99	19.02	25.02				
Not employed	6.41	19.87	8.73				
<i>Germany</i>							
<i>Full workdays</i>	52.27	22.95					
Standard	37.24	19.63	2.55	40.25	09:20	07:30 a.m.	05:20 p.m.
Long	15.53	3.32	3.28	36.85	11:20	06:30 a.m.	07:00 p.m.
<i>Partial workdays</i>	13.24	25.85					
Morning	11.80	23.13	10.37	45.85	05:50	07:50 a.m.	02:00 p.m.
Afternoon	1.44	2.72	19.69	58.30	04:50	12:40 p.m.	06:00 p.m.
<i>Shift workdays</i>	13.34	7.13					
Early shift	7.18	4.36	9.06	61.59	09:00	05:40 a.m.	02:50 p.m.
Late shift	4.70	2.12	17.35	73.03	09:20	01:10 p.m.	10:30 p.m.
Night shift	1.46	0.65	22.04	94.89	09:20	08:50 p.m.	06:30 a.m.
<i>No workdays</i>	20.64	44.06					
Not working	14.07	21.72	23.01				
Not employed	6.57	22.34	5.91				

Source: EDT 2009-2010 and German TUS 2012-2013; $N=5,448$ individual diary days in France and $N=5,820$ individual diary days in Germany.

Note: All descriptive statistics were weighted. Both in France and Germany, gender differences in types of days were statistically significant at the 0.1% threshold, according to χ^2 tests. Cells that were significantly different from a random distribution are in bold.

On the couple level, in both countries, at least 40% of men had a partner who was not working or not employed, regardless of their schedule (Figure 3). Men who worked shifts were the most likely to be partnered with women who were not employed, at around 30% in both countries, highlighting the difficulties of reconciling shift work and care work in a two-earner model. Men working partial days were the most likely to have a not working partner, especially in France, possibly due to the high prevalence of weekend work in these schedules.

Figure 3: Women's Type of Day by Men's Type of Day: France and Germany



Source: EDT 2009-2010 and German TUS 2012-2013; $N=2,269$ couple days in France and $N=2,512$ couple days in Germany.

Note: Partial workdays and shifts were pooled to account for small sample sizes.

However, around 45% of French men who worked full standard days were partnered with women who worked similar schedules. In France, work schedule arrangements polarized into standard dual-earner couples and couples in which the men worked shifts and the women was not employed, confirming H1a. By contrast, in Germany, men in two-earner couples

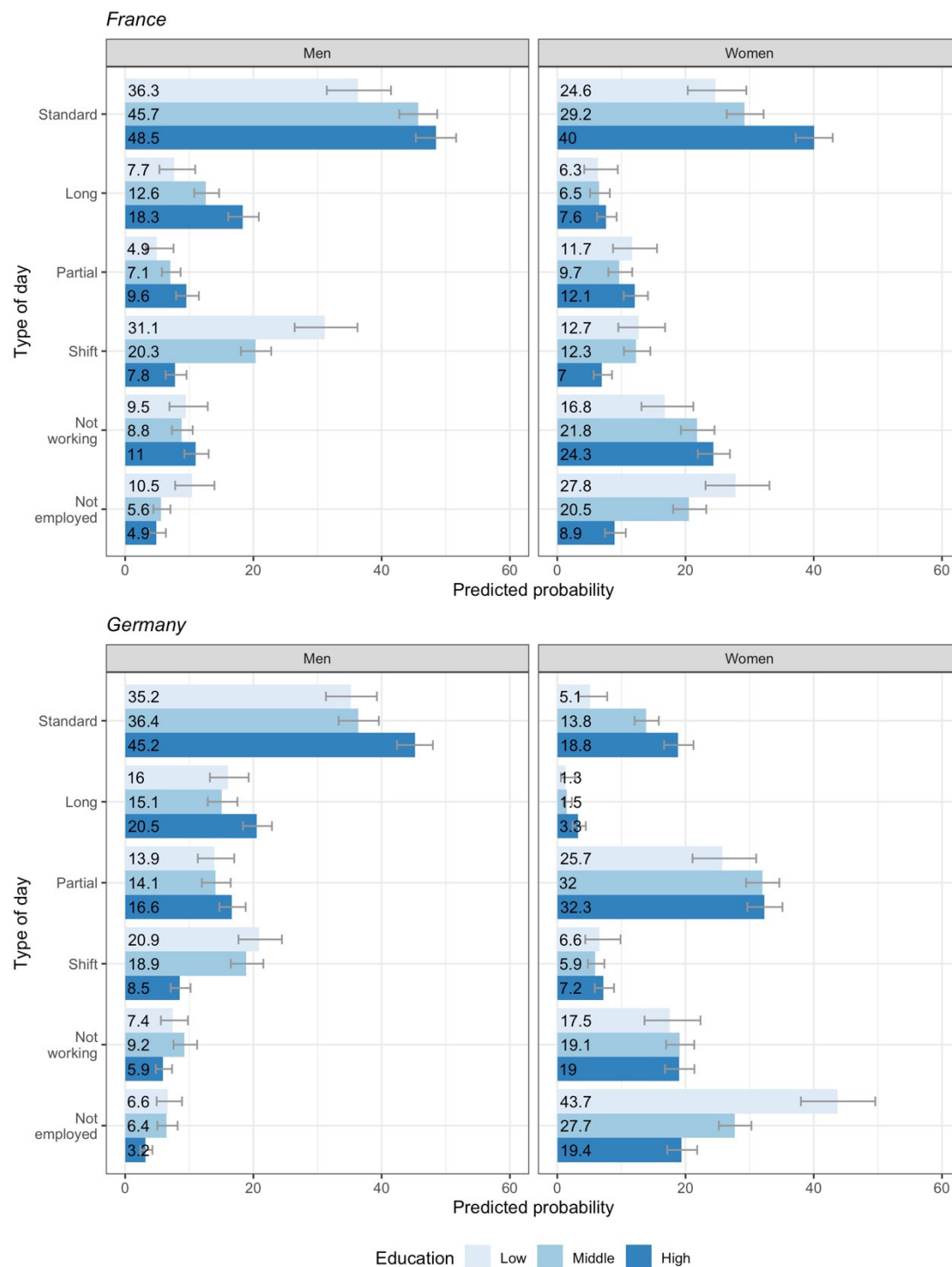
were mainly partnered with women who worked partial days, regardless of their schedule. In stark contrast to France, even men working standard or long schedules were more often partnered with women who were not employed than with women working similar schedules. In line with H1b, one-and-a-half-earner and male-breadwinner couples prevailed in Germany.

Step 2: Multinomial Logistic Regression: Education, and the Presence and Age of Children

Figure 4 shows that in both countries, as expected, less-educated men were significantly more likely than better-educated men to work shifts and less likely to work full standard days. Less-educated women were also less likely to work standard days than better-educated women in both countries and much more likely to not be employed. Specifically, 28% of low-educated women in France and 44% in Germany were predicted to not be employed, compared to only 9% and 19% of high-educated women, respectively (H2a). Thus, in both countries, the lack of access to compatible work schedules among less-educated men and women appears to contribute to gender-unequal schedules.

On the other hand, standard workdays prevailed among high-educated men (49%) and women (40%) in France. In contrast, in Germany, 45% of high-educated men were predicted to work standard days, compared to only 19% of high-educated women. Correspondingly, gender differences in long schedules among the high-educated were significantly larger in Germany than in France. In Germany, high-educated women were most likely to have partial workdays (32%) and were as likely to not be employed (19%) as to work standard days (19%). This supports our expectation of greater gender equality among better-educated men and women in France compared to Germany (H2b), where male-dominated schedules are less compatible with care demands. Multivariate T^2 statistics confirmed that the differences between high-educated men and women were three times stronger in Germany than in France (Supplementary Table 8).

Figure 4: Predicted Probability of Type of Day by Gender and Education: France and Germany



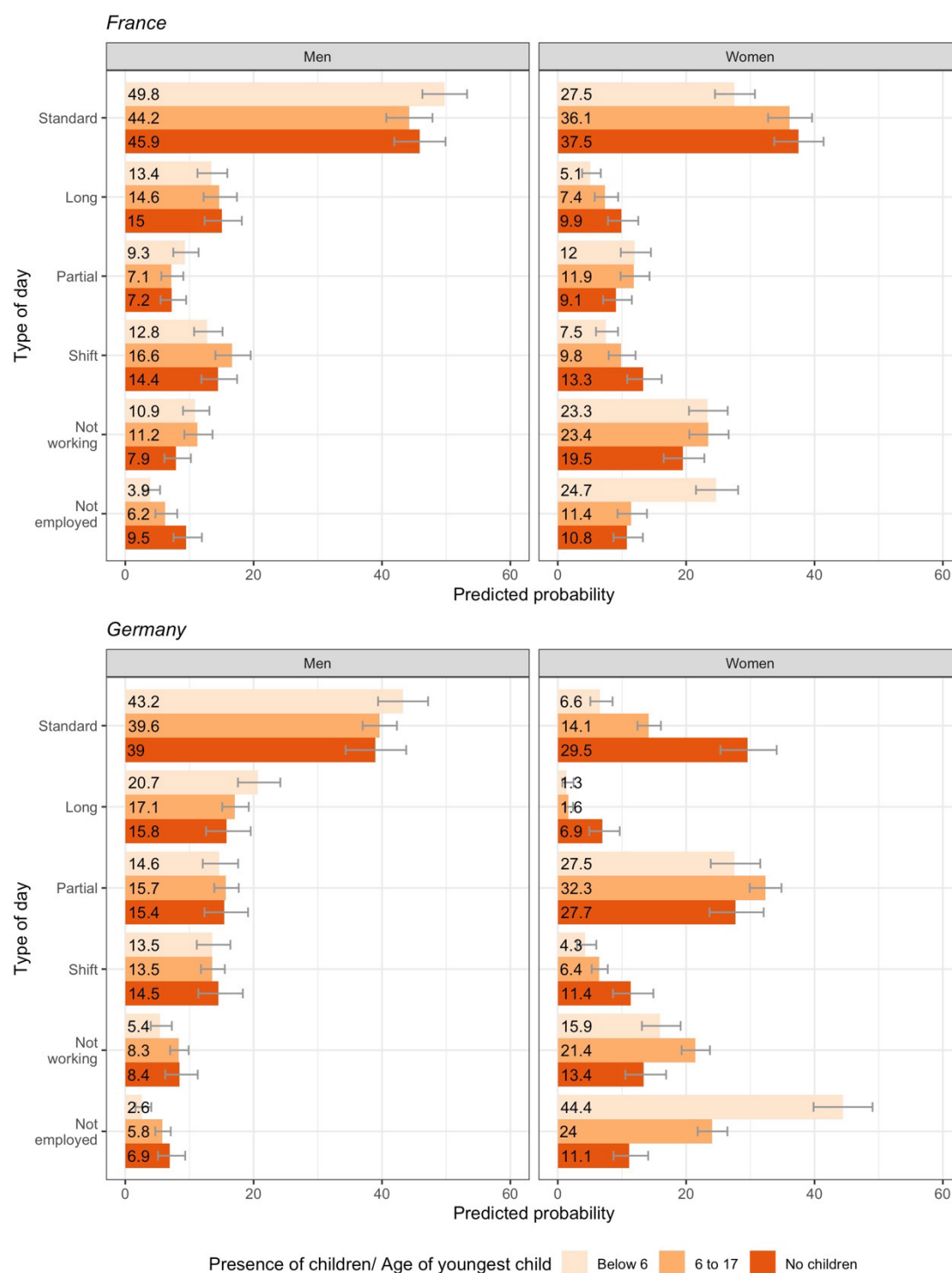
Source: EDT 2009-2010 and German TUS 2012-2013; $N=5,448$ individual diary days in France and $N=5,820$ individual diary days in Germany.

Note: Error bars represent 95% confidence intervals. Partial workdays and shifts were pooled due to small sample sizes. The full models are provided in Supplementary Tables 4 and 5. Additional pairwise t-tests were conducted to test for significant differences between predicted probabilities. Any comparison that is commented on is significant at the 5% level.

In both countries, gender differences in work schedules were larger in the presence of (young) children (Figure 5). Compared to women without children, women with children under the age of 6 were significantly less likely to work standard, long, or shift schedules, and much more likely not to be employed. On the other hand, men's types of days were not responsive to the presence and age of children in either country, in line with expectation H3a. As displayed in Supplementary Table 8, there were no significant overall differences between men without children and men with older children in both countries nor between men with young children and men with older children in France. By contrast, differences across all schedules were stronger between mothers and fathers of young children than for any other pairwise comparison, especially in Germany.

In France, mothers with children over the age of 6 were not significantly less likely than women without children to have standard or long work schedules (Figure 5). Conversely, German mothers were considerably less likely than women without children to have standard, long, or shift schedules, regardless of their children's age. Surprisingly, there was no significant difference in shift schedules between mothers of young children and older children. However, more finely graded models indicated that in Germany, having children under 12 significantly decreased women's probability of working shifts compared to having children aged 12 to 17. This was not the case in France, where full-day early education and care may not offset, but reduce the conflict between shift work and young children's schedules. Correspondingly, 44% of mothers with children under 6 were predicted not to be employed and 28% to work partial days in Germany, compared to only 25% and 12% in France. We can confirm that in Germany, women with young children are more likely to not be employed, and—unlike in France—partial workdays rather than standard, long, or shift schedules predominate among mothers irrespective of the age of their children (H3b).

Figure 5: Predicted Probability of Type of Day by Gender, and Presence and Age of Children: France and Germany



Source: EDT 2009-2010 and German TUS 2012-2013. $N=5,448$ individual diary days in France and $N=5,820$ individual diary days in Germany.

Note: Error bars represent 95% confidence intervals. Partial workdays and shifts were pooled due to small sample sizes. The full models are provided in Supplementary Tables 4 and 5. Any comparison that is commented on is significant at the 5% level.

Discussion

This study integrated the literature on the class stratification of work schedules and their in(compatibility) with care demands into the literature on the gendered division of labor. We investigated how education, and the presence and age of children, shape gendered work schedule arrangements among couples in France (2010) and Germany (2013) as two countries with similar labor market regulations but different family policies. The findings resonate with our argument that in both countries, labor market constraints, that have been exacerbated by neoliberal restructuring, tend to push less-educated men into imposed shift schedules. By contrast, less-educated women seem to have to opt out of employment due to scheduling conflicts between work and care. However, in France, dual-earner model family policies—such as the 35-hour week and full-day public education and childcare—allow for more gender-equal standard schedules among better-educated men and women. By contrast, in Germany, more gender-traditional working time policies, the limited availability of public childcare, and shorter daycare and school hours channel women with young children more universally out of employment and allow for partial rather than standard, long, or shift workdays among women with older children. Thus, more gender-equal schedules in France imply a polarization of standard dual-earner couples and male shift/female not-employed couples, whereas one-and-a-half-earner and male-breadwinner couples prevail in Germany.

By shifting the perspective from gender and class inequalities in the duration of paid work to its daily scheduling, this study has important implications for work-family research. Its focus on educational divides in the gendered division of work schedules can help understand why better-educated women have been the drivers of the “gender revolution” (England, 2010). The findings for both countries show that, unlike men, women in couples tend to select into work schedules that are compatible with their children’s schedules—such as

standard workdays in France and partial workdays in Germany—, and seem to be forced out of employment if this is not possible. Thus, the imposed nature of shift schedules in lower-class jobs—that has been aggravated through trends towards labor market deregulation in many Western countries—could be an important mechanism that explains why less-educated women can not necessarily “combine” childcare with paid work despite their higher economic need for employment. In other words, educational inequalities in access to compatible work schedules could contribute to more gender-unequal work-care arrangements among lower-class couples within and beyond France and Germany.

The findings also add a work schedule perspective to the comparative literature on educational differences in work-family arrangements (Cooke, 2011; Hook, 2015; Pettit & Hook, 2005). On the one hand, the more gender-equal work schedules in France than in Germany are consistent with research indicating that full-day public childcare is an important precondition for more gender equality in employment, as it enables women with (young) children to stay attached to (full-time) employment (Pettit & Hook, 2005). On the other hand, the findings do not support the claim that, unlike costly market care, public education and care benefit all women equally (Hook, 2015). In contrast, they correspond with research showing that the expansion of public childcare has privileged class-advantaged women in formerly conservative countries, unlike in the Scandinavian countries (Ferragina & Magalini, 2023). In sum, “social-democratic family policies” promote gender equality in employment but seem to favor better-educated women with access to compatible work schedules in formerly conservative welfare states with recent shifts towards deregulation. Hence, more gender equality can come at the cost of greater inequalities among couples in such countries.

This study has four main limitations that point to avenues for future research. *First*, whereas we emphasized structural and institutional factors in shaping gender and educational

inequalities in work schedule arrangements, we cannot preclude other explanations. For instance, some scholars argue that better-educated couples have a more gender-equal division of paid work because they hold more gender-egalitarian attitudes (Davis & Greenstein, 2009). Future research should integrate these perspectives by analyzing how gender norms are associated with educational differences in partnered men's and women's schedules, depending on the institutional context. *Second*, to shed light on the daily scheduling of paid work, we differentiated between full workdays, partial workdays, and non-workdays rather than between full-time and part-time workers. Future work should consider these groups separately to get a better understanding of how gender differences in work schedules on a given day are linked to gender differences in the weekly number of hours worked.

Third, the study did not investigate the interdependency of work schedules among couples beyond the descriptive stage for two reasons. The first was limitations based on the size of the sample. The second was because "explaining" individual schedules by partner schedules with an econometric model could introduce reverse causality. Future longitudinal research should investigate work schedule trajectories at the couple level throughout the life course. A longitudinal approach would also limit other potential reverse causality biases. For instance, it could discern whether mothers are under-represented in shift schedules because they avoid them or because such schedules delay or limit fertility intentions (Lambert et al., 2023). Nonstandard schedules could also be underrepresented among couples because they are associated with a higher risk of relationship dissolution (Täht & Mills, 2016). *Finally*, the study was limited to two European countries in the 2010s. Future studies should examine more countries with more recent data.

Countries with more labor market deregulation but fewer family policies, such as the United States, could align with the French polarization model. However, education may

operate along different pathways in the U.S. than in France. In the U.S., high levels of income inequality could allow privileged couples to afford private childcare to realize the standard dual-earner model, despite the lack of public childcare (Hook & Paek, 2020). By contrast, less privileged couples may be forced into a male shift/female not-employed arrangement despite fewer redistributive policies and cash benefits for families. The greater unpredictability of work schedules in lower-class jobs and the lack of affordable childcare could make a two-earner model even less compatible with care demands. In contrast, in the Scandinavian countries that combine more labor market regulation with family policies that promote a dual-earner model more consistently than France, dual-earner couples prevail across educational groups (Hook, 2015). This could be facilitated by lower educational inequalities in access to standard work schedules (Gracia et al., 2021), and by public childcare systems that partially consider nonstandard schedules by operating on a 24/7 schedule.

In closing, we want to emphasize the social policy implications of this study. Since the 2010s, Germany has shifted towards a more French family policy mix by investing in public childcare for children under the age of three, and expanding full-day schools (Zoch & Hondralis, 2017). The findings for France indicate that these measures could lead to greater gender equality in employment but by enabling better-educated women, rather than less-educated women, to work standard schedules instead of partial days. The results also imply that abandoning conservative family policies in France and Germany—such as generous cash benefits for families and long parental leaves—will not necessarily “incentivize employment” among less-educated mothers, although researchers and policy makers often make this claim (Böhmer et al., 2014). To be more inclusive, redesigning conservative family policies should be complemented by introducing labor market policies that empower all employees to adjust

their work schedules to the institutional organization of children's schedules. Otherwise, the least privileged women and their children may be penalized by such reforms. Lastly, the findings imply that public education and care can reduce but not offset gender differences in working time regardless of education. Therefore, to support more gender equality, family policies should encourage a more gender-equal division of both paid and unpaid work.

CHAPTER 5: Discussion and Conclusion

Contributions and Main Findings

Although market economies operate on a 24/7 schedule in economically advanced Western countries, children's schedules in schools and daycare facilities continue to be governed by rigid and often limited operating hours during standard working hours (Carillo et al., 2017). Despite this contradictory institutional arrangement, existing research on how mothers and fathers organize their daily time to reconcile work and family remains incomplete. Previous historical and comparative research on work-family arrangements has shown that, despite trends toward gender convergence in educational attainment and labor force participation since the 1960s, women—unlike men—continue to adjust their employment to their care responsibilities, with considerable variations by class, family policy context, and the broader welfare state context (Cooke, 2011; Hook, 2015; Hook & Paek, 2020; Kan et al., 2022). However, most of this literature has focused on the amount of time spent on paid and unpaid work, while research on the scheduling of paid and unpaid work has primarily examined the class stratification of work schedules and their consequences for families, or how work schedules are associated with the gendered allocation of unpaid work (Lesnard, 2008; Presser, 2003; Täht & Mills, 2016). Moreover, little research provided a historical and comparative perspective (Gracia et al., 2021), most studies looked at employed individuals only (Hook & Wolfe, 2013), and few studies analyzed time use comprehensively in terms of whether, when, and how much time parents spend on different activities (Vagni, 2020).

Against this backdrop, this dissertation aimed to understand better how gender and class inequalities in paid and unpaid work allocation unfold in the organization of daily time.

Considering both the amount and scheduling of paid and unpaid work, I conceptualized and empirically assessed how parents organize their daily time throughout the day. Conceptually, I integrated class-centered and family-centered approaches on how work schedules are associated with the allocation of unpaid work into economic and cultural theories on the gendered division of labor. Thereby, I developed an intersectional theoretical perspective on how gender and class shape parents' organization of daily time. Moreover, drawing on the comparative welfare state literature, I argued that the interplay of social policies that regulate paid and unpaid work can exacerbate or alleviate gender and class inequalities in everyday work and family lives. Empirically, three targeted small-N studies combined sequence and cluster analyses with regression models on data from the German Time Use Survey (1991-1992, 2001-2002, 2012-13), the United Kingdom Time Use Survey (2014-2015), and the French Time Use Survey (2009-2010), to uncover gender and class inequalities in trends and patterns of paid and unpaid work in distinct historical and institutional contexts. Jointly, the three studies advance an intersectional, historical, and comparative perspective on gender and class inequalities in parents' daily organization of paid and unpaid work.

Study 1, presented in Chapter 2, investigated how mothers' and fathers' daily time use patterns changed across social classes in historically conservative western Germany and formerly socialist eastern Germany between 1990 and 2013. In the 2000s, Germany introduced policy reforms typical of the adult worker model by combining labor market deregulation with the expansion of "social-democratic" family policies. I showed that time-use patterns became more gender-equal among middle- and upper-class couples in western Germany but less gender-equal across classes in eastern Germany. In western Germany, the expansion of public childcare and the introduction of an income-based parental allowance benefited advantaged mothers with access to standard work schedules. However, among

lower-class couples, gender specialization remained more dominant, and nonstandard patterns increased, particularly dual joblessness. In eastern Germany, the prevalence of standard dual-earner couples declined across social classes in the context of the economic crisis after reunification and neoliberal labor market reforms in the 2000s, despite better childcare coverage. Moreover, nonstandard patterns with a shift working father and a home-centered mother and dual-joblessness rose more starkly than in western Germany, particularly among lower-class couples.

Study 2, presented in Chapter 3, shifted the research focus to class disparities in patterns of paid and unpaid work among mothers and their reliance on domestic workers for housework and childcare. Moreover, it expanded the comparative scope by contrasting western Germany (2013) with the United Kingdom (2015) as a liberal welfare state. While both contexts lacked comprehensive full-day education and care in the mid 2010s, they greatly differed in their broader family, labor, and migration policies. In the UK, a market-oriented childcare system with high costs, strong labor market deregulation, and the consistent promotion of an informal domestic service economy through employment, care and migration policies seemed to exacerbate class differences among mothers. While these policies incentivized advantaged mothers to outsource childcare to pursue standard workdays, they pushed disadvantaged mothers into unpaid work—and to some extent—nonstandard workdays. In western Germany, unpaid workdays were also dominant among disadvantaged mothers. However, unlike in the UK, most mothers—regardless of social class—adjusted their work schedules to their children’s schedules, consistent with Germany’s public formal childcare system, extensive conservative family policies, stronger labor market regulation, and more limited incentives for domestic outsourcing. This pattern aligned with the dominance of the standard one-and-half-earner model observed in Study 1.

Study 3, presented in Chapter 4, examined how education, and the presence and age of children, shaped work schedule arrangements among different-sex couples. While focusing exclusively on paid work schedules, the study combined individual and couple-level analyses, going beyond Studies 1 and 2. Further expanding this dissertation's comparative scope, it contrasted Germany (2013) with France (2010)—two countries with similar labor market regulations but distinct family policies. We showed that work schedule arrangements were more gender equal in France, where better-educated women tend to have access to male-dominated work schedules. In both countries, labor market constraints seemed to push less-educated men into imposed shift schedules but force less-educated women out of employment due to scheduling conflicts between work and care. However, in France, dual-earner model family policies—such as the 35-hour workweek and full-day public education and childcare—allowed for standard work schedules among better-educated men *and* women. By contrast, in Germany, more gender-traditional working time policies, more limited available childcare, and shorter daycare and school hours channeled women with young children more universally out of employment and allowed for partial rather than standard, long, or shift workdays among women with older children—in line with Studies 1 and 2. Thus, more gender-equal schedules in France came at the cost of a polarization into standard dual-earner couples and male shift/female not-employed couples. By contrast, consistent with Study 1, one-and-a-half-earner and male-breadwinner couples prevailed in Germany.

Implications for Theory, Research, and Social Policy

The findings have important implications for theory, research, and social policy. They demonstrate that neither class-centered nor family-centered theoretical approaches to how work schedules relate to the allocation of unpaid work fully capture the gendered nature of everyday work and family life. *A class-centered perspective* has overlooked that, unlike

men's work schedules, women's work schedules are not a direct reflection of their labor market opportunities but of how they combine these opportunities with their family responsibilities (Carillo et al., 2017; Lesnard, 2008; Presser, 2003). Consistent with the class-centered perspective, I found that men's work schedules are shaped by their education rather than by the presence and age of their children (Study 3). Their work schedules structure their available time for unpaid work (Study 1). By contrast, for women, the opposite logic seems to hold. In the presence of children, time constraints that stem from family responsibilities not only limit *how many hours* women can spend on paid work but also *when* they can work these hours (Study 1, Study 2, Study 3)—corroborating previous research on the persistence of gendered responsibilities for unpaid work (England et al., 2020; Kan et al., 2022).

A family-centered perspective, arguing that nonstandard work schedules promote a more gender-equal division of unpaid work (Presser, 2003; Täht & Mills, 2016), has overlooked that the incompatibility of nonstandard work schedules with care responsibilities tends to marginalize mothers from the labor market. Consistent with the family-centered perspective, I found that schedule desynchronization can be a strategy for parents to cope with nonstandard work schedules (Study 1). However, in contrast to the assumption that tag-team parenting allows for a more gender-equal division of labor, I showed that the division of paid and unpaid work was most gender-equal if both partners worked standard schedules (Study 1, Study 3), that mothers with a nonstandard working partner spend comparatively few time on paid work (Study 1, Study 3) but stem the bulk of unpaid work (Study 1), and that mothers rather than fathers tend to avoid nonstandard work schedules (Study 1, Study 2, Study 3), even if the tradeoff is full economic dependency on their partners in a male-breadwinner/female-caregiver model (Study 1, Study 3).

Moving beyond class-centered and family-centered approaches on the scheduling of paid and unpaid work, the findings support the intersectional theoretical approach adopted in this dissertation. In doing so, they contribute a daily time-use perspective to the broader work-family literature on intersectional inequalities by gender and class (Chung & van der Horst, 2020; England, 2010; Gonalons-Pons, 2015). Women, unlike men, adjust their work schedules to accommodate family responsibilities regardless of social class (Study 1, Study 3). However, class advantages enable mothers to navigate work and family demands through two key mechanisms. First, consistent with greater control over work schedules in high-skilled jobs (Gerstel & Clawson, 2015; Lyness et al., 2012) and existing research on the gendered use of flexibility (Chung & van der Lippe, 2020; Gerstel & Clawson, 2014), the findings for Germany and France show that advantaged mothers align their work schedules with their children's schedules, unlike their male counterparts (Study 1, Study 3). This allows them to maintain employment while adhering to normative ideals of "intensive mothering" (Hays, 1996). Second, in contexts like the UK, class advantage enables mothers to resolve conflicts between long working hours and the part-time nature of children's schedules by outsourcing care work (Study 2). In this case, advantaged mothers tend to adjust their care responsibilities to their work schedules, as suggested by economic theories (Gonalons-Pons, 2015). By contrast, lower-class jobs with rigid work schedules seem to push fathers into nonstandard hours but can marginalize mothers from access to the labor market due to their incompatibility with family responsibilities (Study 1, Study 3).

Shifting the focus from gender inequalities in the time spent on paid and unpaid work to the daily scheduling of these activities sheds light on why the "gender revolution" has been "incomplete" (Esping-Andersen, 2009). Across different countries, my findings show that unlike fathers' everyday lives—mothers' everyday lives tend to be structured through rigid

family routines that are organized around children's needs for care (Study 1, Study 2, Study 3). These findings are consistent with the view that, despite progress in gender equality across Western countries through more gender-equal educational opportunities and formal labor market access, these liberal achievements will not translate into gender-equal employment opportunities, as long as caregiving continues to be primarily assigned to women, socially devaluated, and largely invisible as a precondition for economic productivity (England, 2010; Folbre, 2004). As long as a male conception of the economy as a market economy prevails, many women will pay a high price for parenthood—ranging from (old-age) poverty in cases of relationship dissolution (Mortelmans, 2020) to being unable to leave violent relationships due to economic dependence on a male partner (Dhungel et al., 2017).

A scheduling perspective also helps explain why better-educated women have led the “gender revolution” (England, 2010). From an economic perspective, family scholars typically argue that better-educated women now spend more time on paid work than less-educated across Western countries because their higher opportunity costs for unpaid work outweigh their lower economic need—often considering that they are partnered with high-earning men (England, 2010; Hook & Paek, 2020). Culturally, a more gender-equal division of labor among better-educated couples has been attributed to more gender-egalitarian attitudes (Davis & Greenstein, 2009). However, structural constraints in access to compatible work schedules may explain why less-educated mothers are more frequently out of the labor force despite their greater economic need. Unlike better-educated women, less-educated women do not necessarily have the flexibility and resources to “reconcile work and family” (Study 1, Study 2, Study 3). Moreover, the externally imposed nature of work schedules in lower-class jobs hampers access to a two-earner model among disadvantaged couples, limiting strategies like tag-team parenting (Study 1, Study 3).

Consistent with the comparative approach adopted in this thesis, the findings point to the crucial role of social policies in mediating gender and class inequalities in the daily reconciliation of paid and unpaid work. In times of a European shift towards labor market deregulation but greater social investments in education and care, they inform current debates on how the interplay of labor market and family policies structures gender and class inequalities in work and family lives (Fasang et al., 2024; Nelson et al., 2022). *First*, my historical analyses of western Germany (Study 1) and my comparative analyses of France and Germany (Study 3) support the perspective that investments in state-subsidized public education and care promote more gender-equal employment patterns by enabling mothers to expand the time they spend on paid work (Hemerijck, 2015). However, they also show that mothers' rather than fathers' available time for paid work is constrained by family responsibilities, even in contexts that shift a great deal of unpaid work to the state, such as France. Thereby, they echo critiques of the social investment paradigm highlighting that even comprehensive full-day state-subsidized public education and care cannot alter gendered responsibilities for unpaid work within the family (Jenson, 2009; Saraceno, 2015).

Second, my comparative findings for the United Kingdom and western Germany are consistent with the view that social investments in market-based rather than public childcare systems favor advantaged mothers (Daly, 2011a; Thévenon, 2011). In the UK (2014), limited operating hours of schools and daycare facilities were combined with high private childcare costs, weak labor market regulations protecting part-time and nonstandard workers, migration policies designed to actively attract domestic workers, and employment and care policies that shaped informal domestic services as low-paid, precarious work. In such a welfare state context, strong class divisions among mothers are not simply a consequence of market forces, as suggested by conventional welfare state theory (Esping-Andersen, 1999). Rather, they

seem to reflect an integrated policy strategy that primarily aims to include the most economically valuable mothers fully in the labor market. Meanwhile, in line with comparative research on conservative versus liberal welfare states (Aisenbrey & Fasang, 2017; Mandel & Semyonov, 2006), when part-time public education and care systems are integrated into greater labor market regulations and extensive conservative family policies, such as in western Germany, class division in patterns of paid and unpaid work among mothers are less pronounced. However, in this case, the tradeoff is that care responsibilities limit most mothers' available time for paid work, consistent with a more gendered division of labor regardless of social class.

Nevertheless, my findings also question the assumption that, unlike costly market care, free or low-cost full-day public education and care can alleviate gender inequalities in employment patterns regardless of social class and welfare state context (Hook, 2015). By contrast, they propose that social investments in public education and care also disproportionately benefit better-educated women when combined with trends toward labor market deregulation, such as in Germany and France (Study 1, Study 3). By constraining access to compatible work schedules among less-educated women, neoliberal labor market restructuring seems to counteract the potential of state-subsidized full-day public education and care to enable most mothers' economic independence through full-time employment, such as in social-democratic welfare states (Ferragina & Magalini, 2023). Adding a gender and family lens to research showing that labor market deregulation pushes lower-class individuals into nonstandard work schedules (Gracia et al., 2021), my findings suggest that the same labor market constraints pushing lower-class fathers into nonstandard schedules may force lower-class mothers out of employment (Study 1, Study 3). Thus, in contexts where market risks are increasingly individualized, the tradeoff for achieving greater gender

equality through social investments in public education and care can be greater class inequality among women (Cooke, 2011)—favoring a divide into highly educated, resource-rich households with long standard working hours and less-educated, less affluent households with shorter nonstandard working hours and a more gender-unequal division of labor.

Finally, the findings propose that the effect of national social policies can depend on the regional economic context (Study 1). In particular, the opposing historical trends toward more gender-equal time-use patterns in western Germany but less gender-equal patterns in eastern Germany show that family policies intending to promote more gender equality can be more effective in economically stable contexts. More specifically, the eastern German trend shows that labor market instability can lead to a more gendered division of labor among couples with children, regardless of social class, even if better public childcare is available (Study 1). This is consistent with materialist feminist economic approaches emphasizing the particular labor market vulnerability of mothers in economic crises (Grunow & Aisenbrey, 2016; Simeral, 1978). Moreover, trends toward labor market deregulation seem to constrain mothers' access to the labor market more strongly in economically unstable contexts, where employers are in a more powerful position to select employees who can fully adjust to their flexibility demands.

Overarching Limitations and Avenues for Future Research

This dissertation has four overarching limitations that point to avenues for future research. *First*, relying on cross-sectional time-use data, I employed a theoretically driven descriptive empirical approach to examine gender and class inequalities in trends and patterns of paid and unpaid work. Therefore, I could not fully test the mechanisms underlying these group differences. For example, I could not directly determine whether advantaged mothers in the British welfare state context outsourced care work to pursue standard workdays due to

economic incentives, while mothers in western Germany adjusted their work schedules to their children's schedules to align with conservative gender norms, as discussed in Study 2. Future research should study how the interplay of economic incentives, norms, and structural constraints shapes gender and class inequalities in patterns of paid and unpaid work, depending on the economic and institutional context. Targeted small-N comparisons could be complemented by large-N studies linking harmonized time-use surveys, such as the *Multinational Time Use Study*, to meso- and macro-level data on gender norms, institutional regulations, and economic inequalities. Additionally, a longitudinal approach could shed light on the underlying mechanisms. For instance, future research could use longitudinal data to examine how control over work schedules influences men's and women's movements in and out of the labor force following the transition to parenthood. Such an approach would allow for a more causal investigation into whether mothers depend on a certain degree of work schedule flexibility to maintain their employment, as suggested by my theoretical framework and the empirical findings.

Second, conceptually and empirically, this dissertation primarily focused on work-family reconciliation among different-sex couples, without addressing the impact of family structure on the daily organization of time. Future research should compare patterns of paid and unpaid work among different-sex couples with other family forms, such as single parents, same-sex and queer couples. Single parenthood, in particular, is more common among lower-class individuals, and single mothers are especially vulnerable to cumulative disadvantages resulting from both labor market constraints and caregiving responsibilities, with considerable variations across welfare states (Chzhen & Bradshaw, 2012; Fasang & Jalovaara, 2020). Therefore, even more so than partnered mothers' employment, single mothers' employment could depend on institutional conditions that enable them to adjust

their work schedules to their children's schedules and to prioritize care demands when necessary, such as when a child is sick. Moreover, a life course perspective could expand this dissertation's primary focus on living arrangements with children. For instance, young people without children could be more flexible in accepting jobs with nonstandard work schedules regardless of gender, given that unpaid work responsibilities are lower before family formation (Anxo et al., 2011) and are not necessarily tied to specific time slots. However, working on a nonstandard schedule may also constrain fertility intentions, particularly among women (Lambert et al., 2023).

Third, this dissertation's historical and comparative scope was limited to three European countries between 1990 and 2015. Future research should expand this scope by investigating historical changes in the daily organization of paid and unpaid work across multiple countries. Despite frequent assumptions in academic discourse about the increasing prevalence of nonstandard work schedules in Western industrialized nations (Anttila et al., 2015; Presser, 2003), historical research on work schedules remains limited compared to research on total work hours, as discussed in the introduction. It is therefore unclear whether this trend has been universal or whether it primarily applies to countries that have facilitated the rise of nonstandard work schedules through labor market deregulation or unstable labor market conditions. For instance, the proportion of workers with nonstandard schedules varies significantly across Europe, from only 20 percent in Denmark to nearly 60 percent in Greece (Gracia et al., 2021). Moreover, across European regions, the educational gradient in nonstandard work schedules is smallest in Scandinavia (Gracia et al., 2021).

Unlike in Germany, France, and the United Kingdom, Scandinavian countries exhibit high full-time employment rates among fathers and mothers across educational groups (Hook, 2015). In such countries, stronger labor market regulations combined with

comprehensive full-day public education and care may enable most parents to align their caregiving responsibilities with standard work schedules. Moreover, in the Scandinavian countries—particularly in Finland—institutional childcare is partially provided during nonstandard hours (Rönkä et al., 2019). By contrast, in the United States—often regarded as a forerunner of neoliberalism (Harvey, 2007)—greater work schedule unpredictability in lower-class jobs and the high costs for market-priced childcare may hinder lower-educated mothers from maintaining stable employment (Henly & Lambert, 2014). Although the economic necessity of maternal employment is particularly strong in the US, given the absence of generous cash benefits comparable to those in France and Germany, only about 40 percent of mothers with up to lower secondary education are employed in all three countries (OECD data from 2021). Conversely, an even greater share of advantaged mothers in the US may rely on domestic workers to work long days compared to their UK counterparts, given the even higher costs for formal childcare, lack of paid maternity leave and universal health care, and the historically larger low-wage, informal labor market for domestic services (Ruppanner, 2020; Wolfe et al., 2020).

Fourth, this dissertation did not address how gender and class intersect with race, ethnicity, and migration background in shaping everyday work and family lives. Previous research highlights that systems of work and care are increasingly globally intertwined through transnational caregiving arrangements (Isaksen et al., 2008; Kilkey & Merla, 2014). Qualitative studies have documented how global care chains emerge from economic inequalities between countries, with advantaged women in wealthier nations delegating caregiving responsibilities to female migrant domestic workers, who often leave their own children behind and arrange alternative informal care (Ehrenreich & Hochschild, 2002; Parreñas, 2015). An emerging European discourse further examines how national labor, care,

and migration policies shape these care chains and affect the labor conditions of both (migrant) formal care workers and informal domestic workers (Brennan et al., 2012; Lightman, 2021). Future research should integrate these perspectives conceptually into the established welfare state literature on gender and class inequalities in paid and unpaid work (Hook & Li, 2020). Additionally, while much of the existing scholarship on transnational caregiving is qualitative, future research should employ quantitative methods to examine how intersectional inequalities in paid and unpaid work, shaped by gender, class, and race, manifest in different national institutional contexts across various world regions. Just as employment structures in the labor market are systematically analyzed, it is crucial to quantify the structure and scale of care work—both paid and unpaid, formal and informal—within and beyond families. By doing so, research can help make care work more visible, not only as the foundation of global market economies but also as a key driver of social inequalities based on gender, class, and race.

Pathways Toward Greater Gender and Class Equality in Everyday Work and Family Lives

To conclude, I want to discuss how social policies can foster greater gender and class equality in paid and unpaid work. Greater equality in the distribution of paid and unpaid work is neither a priority for contemporary elected governments nor necessarily the ideal of the majority population in my comparison countries. Yet, it remains an important normative goal that guides critical research and political activism—and could ultimately help advance the democratic ideal of universal social participation. My findings support the view that full-day public education can facilitate more gender-equal patterns of paid work by shifting care responsibilities from mothers to the state (Hemerijck, 2015; Lohmann & Zagel, 2015). While researchers and policymakers often focus on expanding state-subsidized early childhood

education and care (Hook & Paek, 2020), extending school operating hours could equally facilitate longer working hours among mothers (Ruppanner, 2020)—especially in countries like Germany and the United Kingdom where most schools do not run full-time. Investments in full-day public education and care could also reduce demand for an informal market of domestic services, where care work is undervalued as low-paid, low-skilled labor and disproportionately shifted from more advantaged to less advantaged, often migrant, women (Lightman, 2021; van Hooren, 2012).

However, expanding state-subsidized education and care alone does not change gendered responsibilities for unpaid work within the family (Lewis & Giullari, 2005). Therefore, governments should complement social investments in education and care with family policies that actively encourage a gender-equal division of unpaid work (Orloff, 2009; Saraceno, 2015). For instance, in Germany, where full-day public education and care remain incomplete, existing parental leave policies that aim to increase fathers' involvement in early childcare should be complemented by working time policies that encourage both parents to reduce their working hours equally—advancing current discussions on the four-day week (Lott & Windscheid, 2023). Additionally, Germany and the UK should move away from promoting marginal part-time work for women and instead encourage substantial part-time opportunities for both men and women (Gornick & Meyers, 2003). Enhancing legal and social protections for part-time workers is especially important in the UK, where most part-time jobs are poorly regulated and low-paid, unlike in Germany (Rubery et al., 2024). Likewise, conservative family policies, such as Germany's and France's tax-splitting system, should be restructured to encourage a gender-equal division of labor rather than reinforcing gender specialization. A dual-earner/dual-carer model—wherein mothers and fathers share paid and unpaid work

symmetrically—can only emerge if social policies fully recognize parents’ caregiving responsibilities throughout their children’s lives (Gornick & Meyers, 2003; Saraceno, 2015).

Finally, to ensure that social investments in education and care benefit all women equally, institutional solutions must address the mismatch between nonstandard schedules and children’s schedules. Broadly, there are two pathways to aligning work schedules with care responsibilities. The “neoliberal pathway” restructures care services to match labor market demands by extending daycare hours beyond the standard work week (Lambert et al., 2023; Presser, 2003). However, this approach conflicts with young children’s need for stable, predictable routines (Kaiser et al., 2017; Strazdins et al., 2006). It may also hinder efforts to address childcare worker shortages, as many of these workers are themselves mothers and may prioritize their children’s well-being over their employers’ flexibility demands. Additionally, this model is not well-suited for school-aged children.

An alternative “social-democratic pathway” restructures labor markets to accommodate caregiving needs. This approach emphasizes legal protections that empower all employees—not just those in high-skilled jobs—to adjust their work schedules to the institutional organization of education and care. A key measure could be legal entitlements to flexible working arrangements, particularly flexitime options that allow employees to choose when to start and end work (Chung & van der Horst, 2018). Ideally, such rights should apply universally to prevent discrimination against mothers (Presser, 2003). Shifting work schedule flexibility from a class privilege to a universal right could ensure that the least advantaged women gain equal access to reconciling their work and family lives. Without such regulations, continued trends toward labor market deregulation risk further exacerbating class inequalities, with only better-educated, resource-rich households fully benefiting from the social investment turn.

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Appendix

Supplementary Material Chapter 2

Supplementary Tables and Figures

Supplementary Table 1: Coding of activities

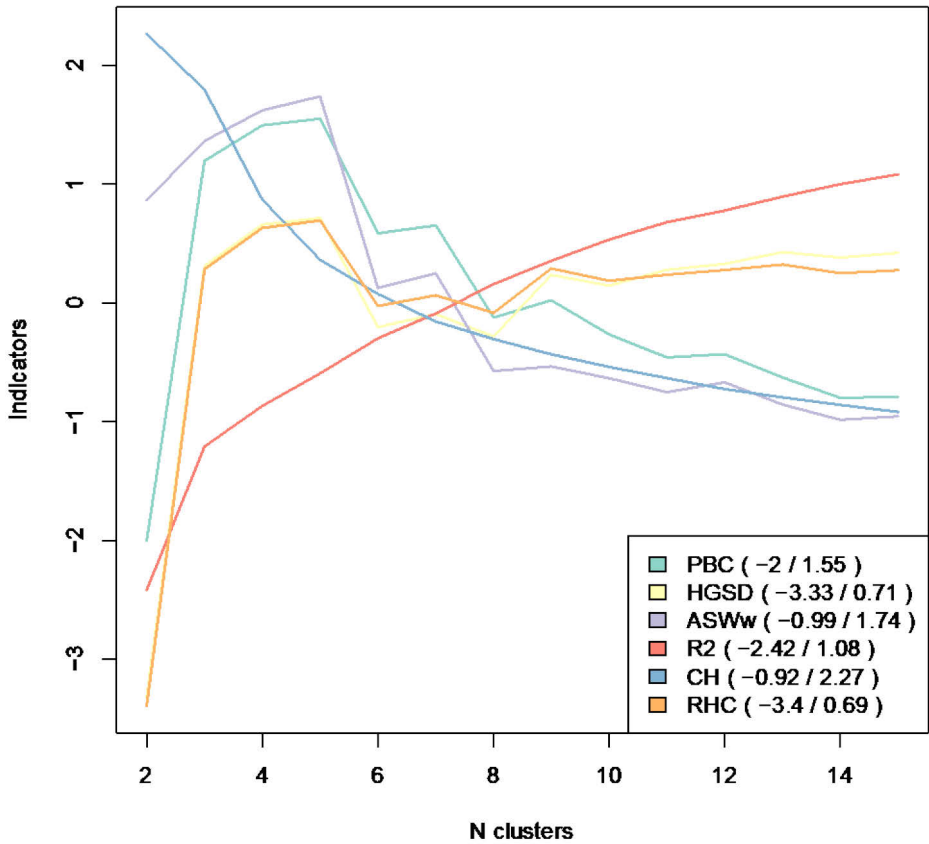
Paid Work	Main and second job, activities related to employment, breaks and travel during work, job seeking activities, commuting to/from work
Unpaid Work	Housework (e.g. cooking, cleaning and laundry), child and adult care, gardening and pet care, construction and repairs, shopping and services, household management, travel related to unpaid work
Personal Care	Sleep, eating, washing, dressing, personal hygiene
Free Time	All other activities and related travel: volunteer work, informal help to other households, participatory activities (e.g. religious activities), social life and entertainment, resting, sports, hobbies, games and computing, mass media (e.g. reading, watching TV, radio and music)

Note: The coding of activities follows guidelines of the European Harmonized Time Use Survey (HETUS). Activities dedicated to society (e.g., volunteer work) are classified as free time rather than unpaid work to stress the obligatory character of household and care work in the family in contrast to the discretionary character of other unpaid activities.

Supplementary Table 2: Cluster quality measures of Ward cluster analysis

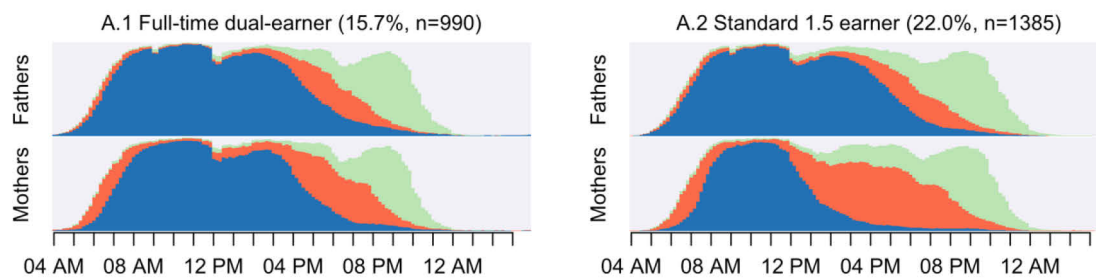
	PBC	HG	HGSD	ASW	ASWw	CH	R2	CHsq	R2sq	HC
2 Clusters	0.19	0.26	0.26	0.11	0.11	444.51	0.07	801.72	0.11	0.38
3 Clusters	0.47	0.59	0.59	0.13	0.13	395.24	0.11	808.09	0.20	0.18
4 Clusters	0.50	0.63	0.62	0.14	0.14	298.31	0.12	632.17	0.23	0.17
5 Clusters	0.50	0.63	0.63	0.14	0.14	245.09	0.13	537.94	0.25	0.16
6 Clusters	0.42	0.55	0.54	0.08	0.08	215.01	0.15	466.74	0.27	0.20
7 Clusters	0.42	0.56	0.55	0.09	0.09	190.67	0.15	419.92	0.29	0.20
8 Clusters	0.36	0.54	0.54	0.05	0.06	175.17	0.16	387.00	0.30	0.20
9 Clusters	0.37	0.59	0.58	0.06	0.06	161.68	0.17	358.54	0.31	0.18
10 Clusters	0.34	0.58	0.58	0.05	0.05	150.60	0.18	334.26	0.32	0.19
11 Clusters	0.33	0.59	0.59	0.05	0.05	140.70	0.18	312.97	0.33	0.19
12 Clusters	0.33	0.60	0.59	0.05	0.05	131.06	0.19	294.52	0.34	0.18
13 Clusters	0.31	0.60	0.60	0.04	0.04	123.62	0.19	277.98	0.35	0.18
14 Clusters	0.30	0.60	0.60	0.04	0.04	117.04	0.19	263.06	0.35	0.19
15 Clusters	0.30	0.60	0.60	0.04	0.04	110.82	0.20	249.91	0.36	0.18

Supplementary Figure 1: Standardized cluster quality measures of Ward cluster analysis

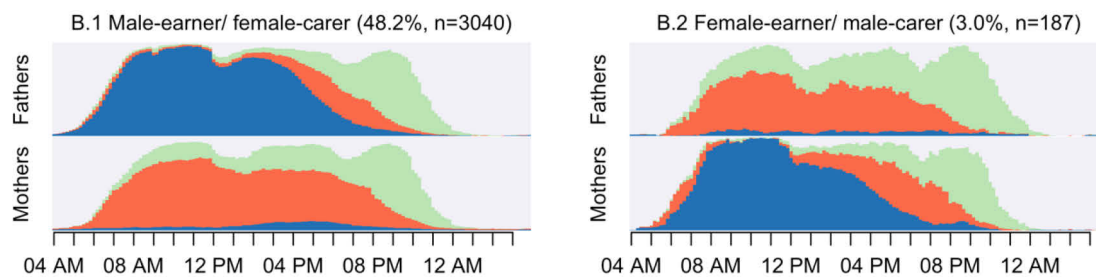


Supplementary Figure 2: Couples' time use patterns on an ordinary day: State distribution plots of seven clusters derived from multichannel sequence analysis

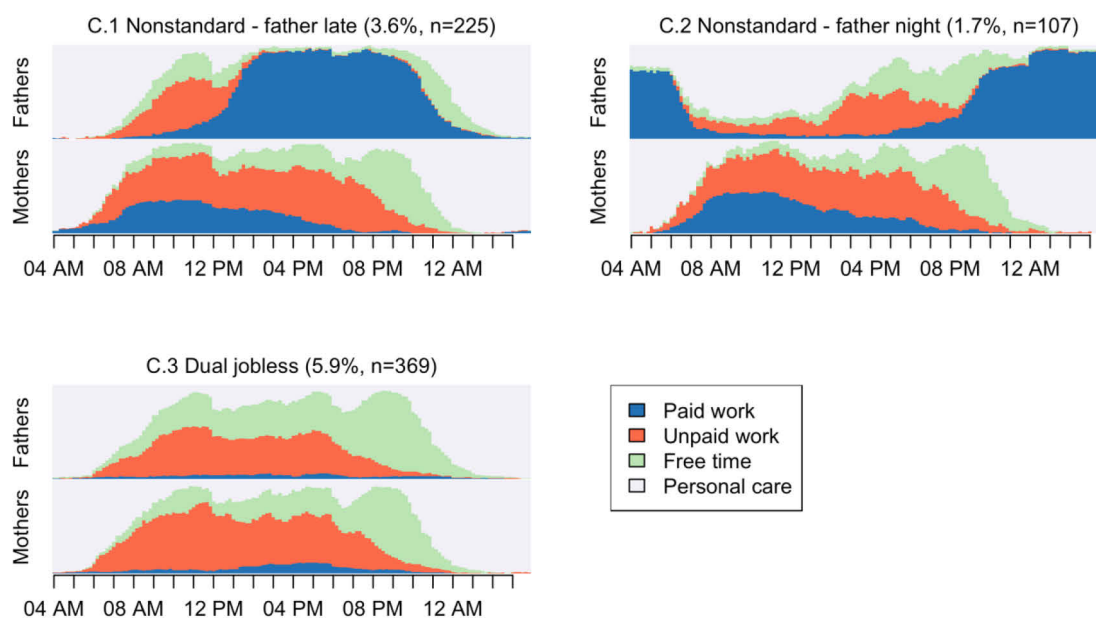
A *Standard dual-earner patterns (37.7%)*



B *Specialized earner/ carer patterns (51.2%)*

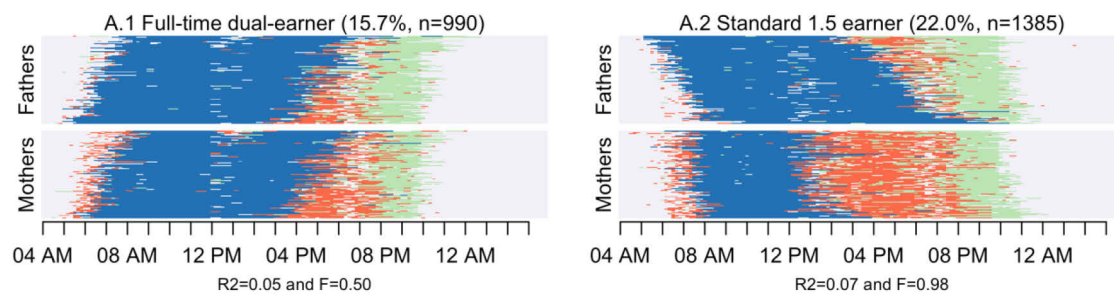


C *Nonstandard patterns (11.1%)*

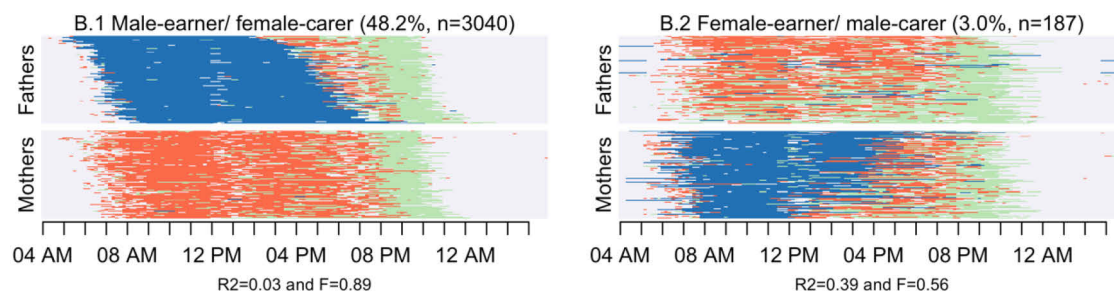


Supplementary Figure 3: Couples' time use patterns on an ordinary day: Relative frequency sequence plots of seven clusters derived from multichannel sequence analysis

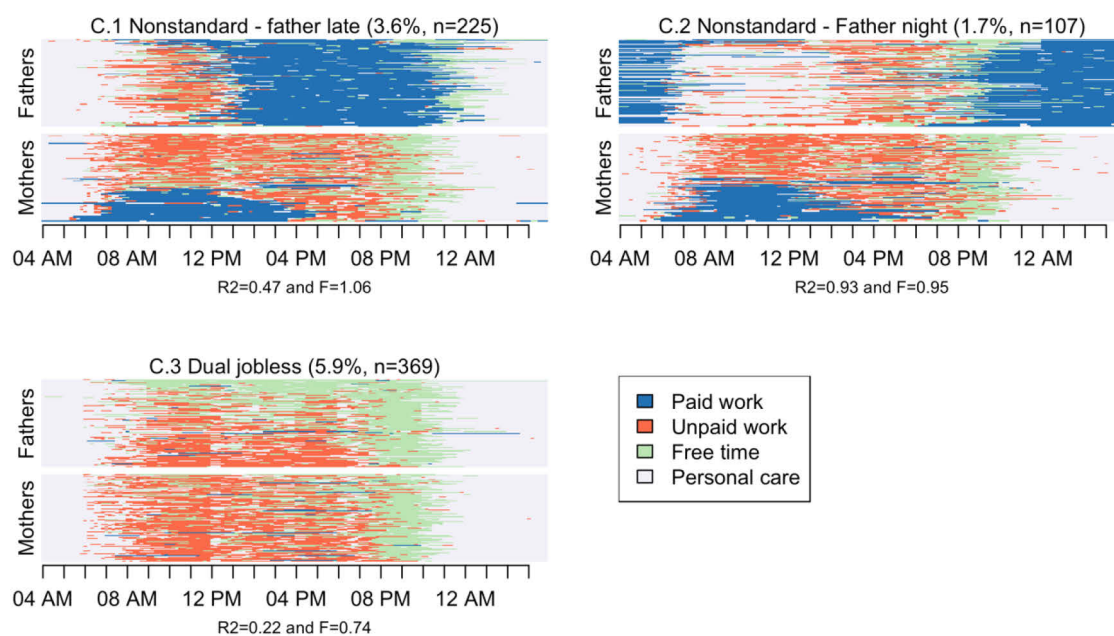
A *Standard dual-earner patterns (37.7%)*



B *Specialized earner/ carer patterns (51.2%)*

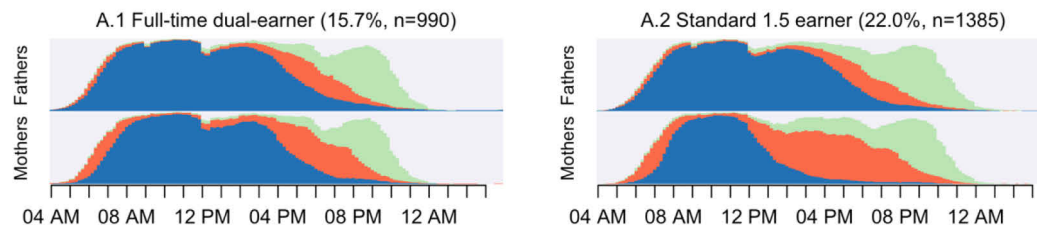


C *Nonstandard patterns (11.1%)*

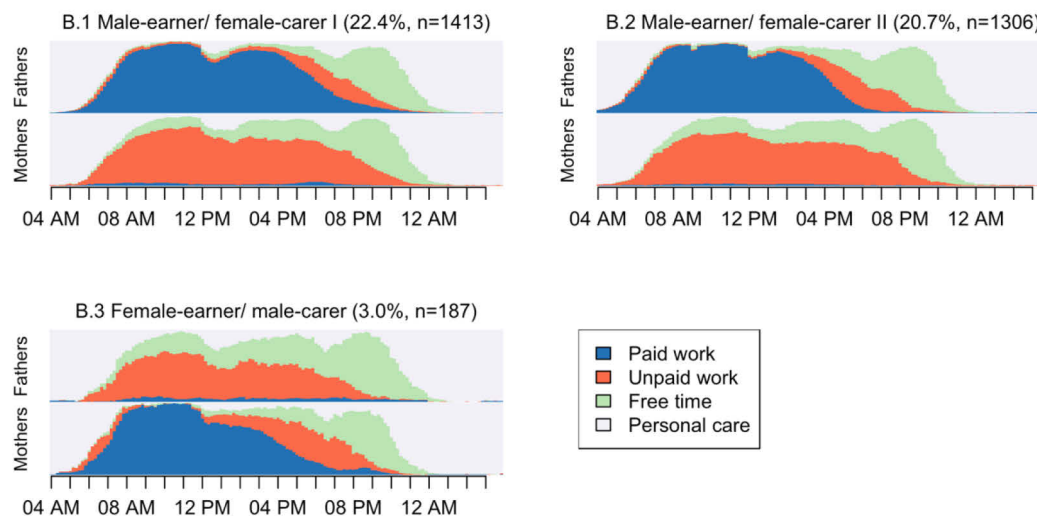


Supplementary Figure 4: Couples' time use patterns on an ordinary day: State distribution plots of nine clusters derived from multichannel sequence analysis

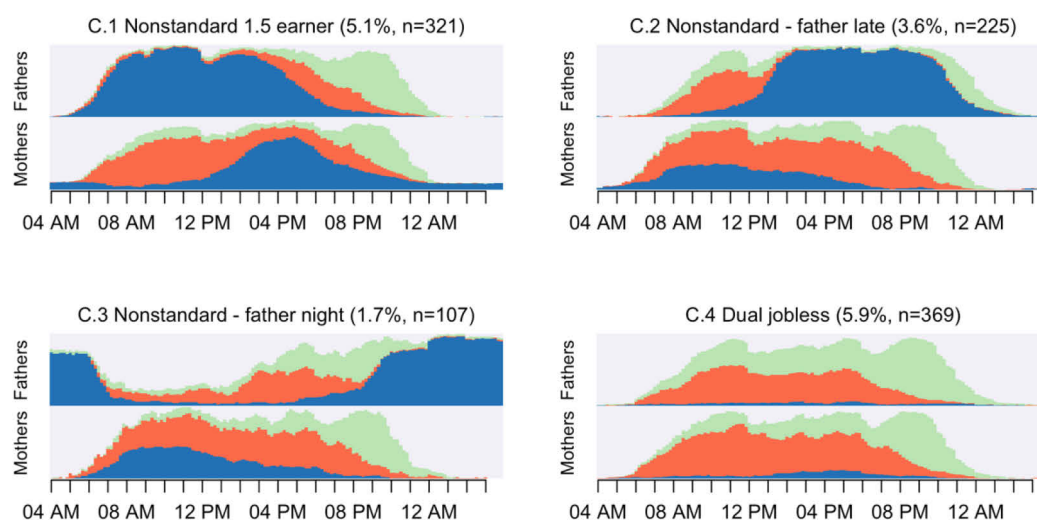
A *Standard dual-earner patterns (37.7%)*



B *Specialized earner/ carer patterns (46.1%)*

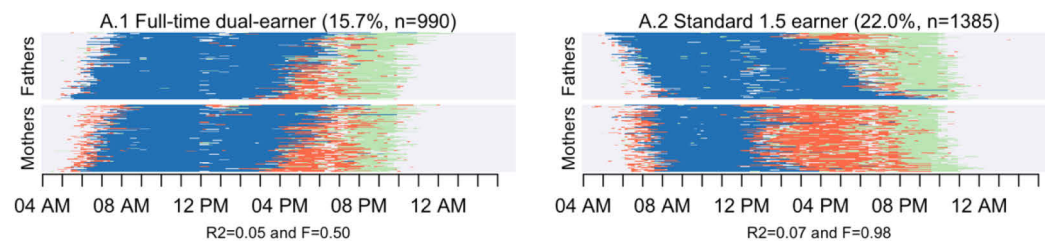


C *Nonstandard patterns (16.2%)*

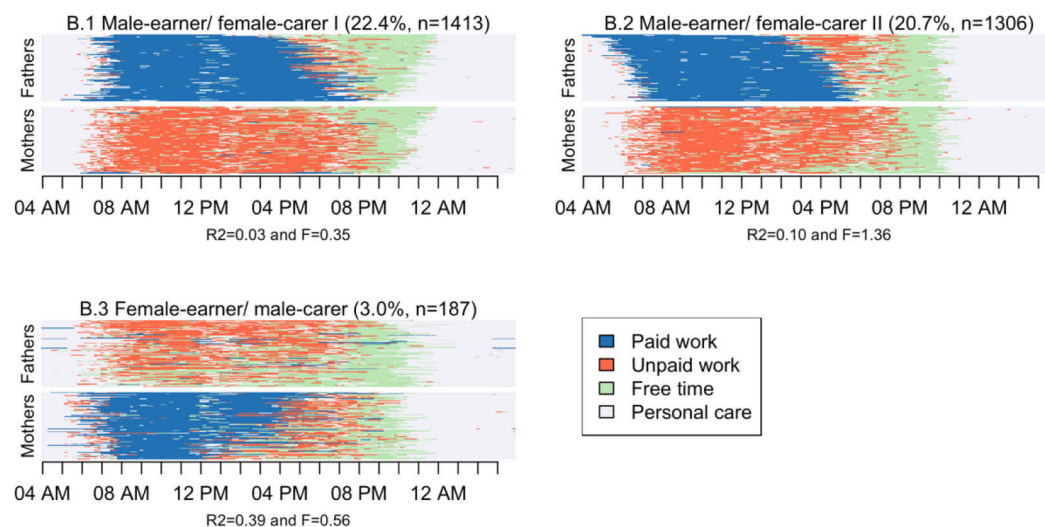


Supplementary Figure 5: Couples' time use patterns on an ordinary day: Relative frequency sequence plots of nine clusters derived from multichannel sequence analysis

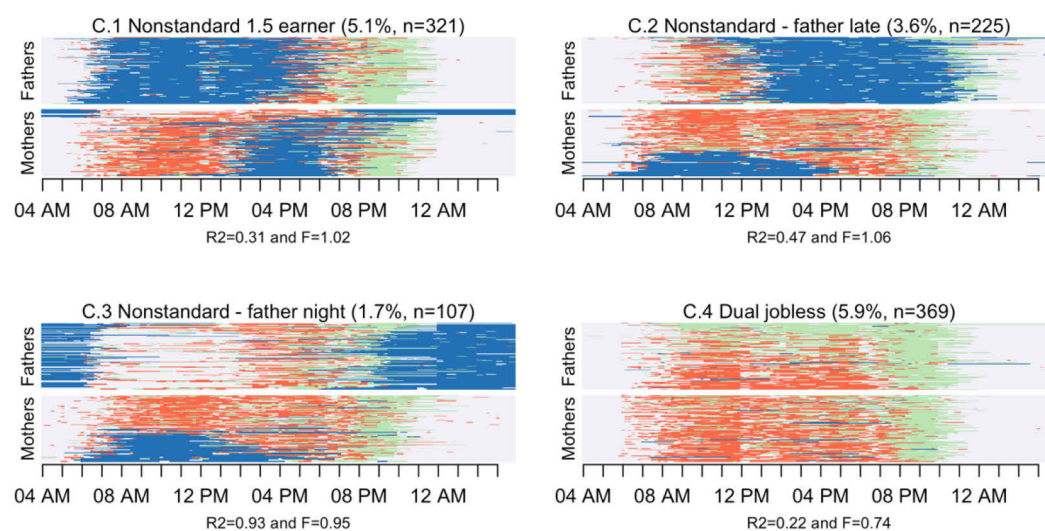
A *Standard dual-earner patterns (37.7%)*



B *Specialized earner/ carer patterns (46.1%)*



C *Nonstandard patterns (16.2%)*



Note: Supplementary figures 2 to 5 present the 7- and the 9-cluster solutions. In the 9-cluster solution, the *male-earner/female-carer pattern* (Figure 2, Figure 3: B.1) was split into three clusters: two versions of the *male-earner/female-carer pattern* (Figure 4, Figure 5: B.1 and B.2) and what I called a *nonstandard one-and-a-half earner pattern* (Figure 4, Figure 5: C.1) with fathers engaging in early full-time paid work and mothers engaging in a part-time afternoon/night paid work shift complemented by a part-time morning unpaid work shift. It would be conceptually misleading to group *nonstandard one-and-a-half earner couples* under the *male-earner/female-carer pattern* according to the 7-cluster solution. The two versions of the *male-earner/female-carer pattern* yielded by the 9-cluster solution, however, both follow a clear specialization pattern and are very similar with respect to fathers' mean paid working time (9.9 and 9.0 hours in cluster B.1 and B.2, respectively), fathers' mean unpaid working time (1.7 and 1.9 hours in cluster B.1 and B.2, respectively) and mothers' mean unpaid working time (9.0 and 8.3 hours in cluster B.1 and B.2, respectively). To reduce redundancy, they were thus summarized into one cluster. Accordingly, 8 clusters are presented in the results.

Supplementary Table 3: Results of multinomial logistic regression of year of survey and region (western/ eastern Germany) on cluster membership

	Cluster Number					
	A.2	B.1	B.2	C.1	C.2+3	C.4
Eastern Germany	0.15*** (0.14)	0.08*** (0.13)	0.64*** (0.27)	0.08*** (0.26)	0.17*** (0.22)	0.19*** (0.22)
2001/02	1.28 (0.14)	0.81 (0.13)	1.92 (0.27)	0.95 (0.19)	1.44 (0.19)	1.30 (0.19)
2012/13 (ref: 1991/92)	0.71*** (0.13)	0.39*** (0.12)	1.02** (0.28)	0.44*** (0.19)	0.55*** (0.20)	0.72*** (0.19)
Eastern Germany * 2001/02	1.15** (0.23)	1.59** (0.21)	0.89 (0.39)	2.00 (0.40)	1.03 (0.36)	2.09 (0.32)
Eastern Germany * 2012/13	3.28* (0.23)	3.80** (0.22)	1.49 (0.42)	7.59 (0.39)	4.93 (0.35)	5.31 (0.33)
Constant	2.57*** (0.10)	7.38*** (0.09)	0.19*** (0.21)	0.77*** (0.12)	0.60*** (0.13)	0.59*** (0.13)
Akaike Inf. Crit.	18,941.86	18,941.86	18,941.86	18,941.86	18,941.86	18,941.86

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 6303; ref = Cluster A.1

Supplementary Table 4: Results of multinomial logistic regression of education of the couple (mother/ father) and year of survey on cluster membership: Western Germany (adjusted for household income, number of children and age of youngest child)

	Cluster Number					
	A.2	B.1	B.2	C.1	C.2+3	C.4
2001/02	1.11*** (0.30)	0.66*** (0.28)	0.95*** (0.61)	0.34*** (0.45)	1.44*** (0.35)	1.43*** (0.35)
2012/13 (ref: 1991/92)	1.14 (0.44)	0.98 (0.40)	0.90 (0.87)	0.77 (0.54)	1.27 (0.51)	2.28 (0.45)
education (mid/<=mid)	1.39*** (0.26)	0.81*** (0.24)	1.10 (0.51)	0.65** (0.33)	0.79** (0.33)	0.34* (0.38)
education (<=mid/high)	0.79** (0.34)	1.61** (0.30)	0.31 (1.10)	1.07* (0.40)	0.08 (1.05)	0.71 (0.50)
education (high/<=high)	1.56 (0.34)	0.85 (0.32)	1.56 (0.65)	0.19 (0.67)	0.14 (0.79)	0.61 (0.52)
income (middle)	1.01** (0.18)	0.42** (0.17)	0.38 (0.29)	0.66* (0.23)	0.64* (0.22)	0.19* (0.21)
income (high)	0.91*** (0.20)	0.24*** (0.19)	0.34*** (0.35)	0.41*** (0.28)	0.27*** (0.30)	0.10*** (0.29)
2001/02 * educ. (mid/<=mid)	1.23 (0.40)	1.52 (0.38)	1.73 (0.78)	4.05 (0.56)	1.12 (0.48)	1.57 (0.53)
2012/13 * educ. (mid/<=mid)	0.48 (0.49)	0.37 (0.45)	1.13 (0.97)	0.55 (0.63)	0.40 (0.59)	0.46 (0.58)
2001/02 * educ. (<=mid/high)	1.71 (0.49)	1.38* (0.45)	6.73 (1.29)	3.20 (0.65)	8.46 (1.15)	0.98 (0.70)
2012/13 * educ. (<=mid/high)	0.99 (0.58)	0.52 (0.52)	1.83 (1.53)	0.76 (0.72)	2.47 (1.27)	0.31 (0.77)
2001/02 * educ. (high/<=high)	0.63 (0.45)	0.90 (0.44)	1.18 (0.87)	5.59 (0.84)	1.93 (0.90)	0.57 (0.67)
2012/13 * educ. (high/<=high)	0.42* (0.54)	0.35* (0.51)	0.55 (1.07)	1.64 (0.88)	1.14 (0.97)	0.16 (0.75)
Constant	1.51*** (0.31)	26.20*** (0.28)	0.56** (0.53)	1.53*** (0.39)	3.07*** (0.36)	6.37*** (0.35)
Akaike Inf. Crit.	12,015	12,015	12,015	12,015	12,015	12,015

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 4366; coefficients for age/number children omitted

Supplementary Table 5: Results of multinomial logistic regression of household income and year of survey on cluster membership: Western Germany (adjusted for education of the couple (mother/ father), number of children and age of youngest child)

	Cluster Number					
	A.2	B.1	B.2	C.1	C.2+3	C.4
2001/02	0.86*** (0.43)	0.59*** (0.39)	1.52*** (0.63)	0.52*** (0.53)	1.24*** (0.48)	1.30*** (0.44)
2012/13 (ref: 1991/92)	0.55 (0.39)	0.28 (0.36)	0.88 (0.61)	0.45 (0.47)	0.52 (0.47)	0.93 (0.41)
income (middle)	0.85** (0.35)	0.35** (0.32)	0.50 (0.59)	0.61* (0.41)	0.52* (0.41)	0.17* (0.41)
income (high)	0.71* (0.36)	0.15** (0.34)	0.26 (0.67)	0.23* (0.46)	0.20 (0.50)	0.11* (0.47)
education (mid/<=mid)	1.23* (0.17)	0.76* (0.16)	1.39 (0.33)	0.83 (0.23)	0.64 (0.21)	0.35 (0.22)
education (<=mid/high)	1.06* (0.22)	1.70* (0.20)	0.93 (0.47)	1.43 (0.28)	0.34 (0.33)	0.55 (0.31)
education (high/<=high)	1.05*** (0.20)	0.64*** (0.19)	1.29*** (0.40)	0.43*** (0.31)	0.23*** (0.31)	0.30*** (0.29)
2001/02 * income (middle)	1.45 (0.48)	1.28 (0.44)	0.74 (0.76)	1.56 (0.60)	1.38 (0.55)	1.41 (0.55)
2012/13 * income (middle)	1.11 (0.44)	1.38* (0.40)	0.63 (0.74)	0.71 (0.55)	1.29 (0.54)	0.77 (0.53)
2001/02 * income (high)	1.38 (0.49)	1.64* (0.46)	1.31 (0.84)	2.71 (0.65)	1.68 (0.66)	0.76 (0.67)
2012/13 * income (high)	1.37 (0.46)	2.20 (0.43)	1.62 (0.82)	1.99 (0.61)	1.11 (0.74)	0.86 (0.64)
Constant	1.98*** (0.39)	36.09*** (0.35)	0.46** (0.63)	1.65*** (0.46)	4.10*** (0.43)	7.89*** (0.41)
Akaike Inf. Crit.	12,016.92	12,016.92	12,016.92	12,016.92	12,016.92	12,016.92

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 4366; coefficients for age/number children omitted

Supplementary Table 6: Results of multinomial logistic regression of education of the couple (mother/ father) and year of survey on cluster membership: Eastern Germany (adjusted for household income, number of children and age of youngest child)

	Cluster Number					
	A.2	B.1	B.2	C.1	C.2+3	C.4
2001/02	2.07*** (0.29)	2.19*** (0.25)	1.69*** (0.45)	1.20** (0.55)	2.90*** (0.39)	3.73*** (0.36)
2012/13 (ref: 1991/92)	2.52 (0.25)	1.43 (0.24)	1.63 (0.41)	2.93 (0.40)	3.83 (0.34)	4.57 (0.33)
education (<=middle/high)	1.16* (0.35)	1.08* (0.31)	0.97 (0.58)	1.61 (0.59)	0.68 (0.64)	0.19 (1.05)
education (high/<=high)	2.18*** (0.25)	0.52*** (0.29)	1.06* (0.47)	0.00* (0.42)	0.61 (0.52)	0.73* (0.51)
income (middle)	0.94*** (0.24)	0.26*** (0.19)	0.30** (0.30)	0.55** (0.37)	1.59* (0.46)	0.06*** (0.29)
income (high)	1.35 (0.26)	0.19* (0.23)	0.24 (0.38)	0.32 (0.50)	1.78 (0.50)	0.03 (0.55)
2001/02 * education (<=mid/high)	1.02 (0.55)	0.51 (0.54)	1.00 (0.93)	0.61 (1.06)	0.00*** (0.00)	4.91 (1.19)
2012/13 * education (<=mid/high)	1.30 (0.61)	2.17 (0.57)	0.80 (1.25)	0.91 (0.94)	1.80 (0.92)	0.01 (184.83)
2001/02 * education (high/<=high)	0.35 (0.43)	1.18 (0.44)	1.57 (0.69)	371,51 (0.56)	0.75 (0.75)	0.11 (1.18)
2012/13 * education (high/<=high)	0.90** (0.45)	2.91** (0.50)	1.88 (0.77)	91,66 (0.75)	0.00*** (0.00)	1.05 (0.78)
Constant	0.24 (0.35)	3.18 (0.27)	0.31 (0.48)	0.06 (0.83)	0.05 (0.61)	0.81 (0.42)
Akaike Inf. Crit.	4,425.80	4,425.80	4,425.80	4,425.80	4,425.80	4,425.80

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 1454; coefficients for age/number children omitted

Supplementary Table 7: Results of multinomial logistic regression of household income and year of survey on cluster membership: Eastern Germany (adjusted for education of the couple (mother/ father), number of children and age of youngest child)

	Cluster Number					
	A.2	B.1	B.2	C.1	C.2+3	C.4
2001/02	0.96*	2.90***	2.26*	1.32	19.08	5.62**
	(0.64)	(0.40)	(0.60)	(0.76)	(1.21)	(0.45)
2012/13 (ref: 1991/92)	1.85	2.29	2.08	0.39	12.88	6.21
	(0.53)	(0.39)	(0.59)	(1.10)	(1.27)	(0.44)
income (middle)	0.70**	0.29***	0.36*	0.26	3.73	0.12*
	(0.31)	(0.24)	(0.40)	(0.51)	(1.05)	(0.40)
income (high)	1.37***	0.26***	0.16	0.13	10.12	0.00
	(0.33)	(0.30)	(0.62)	(0.82)	(1.06)	(56.89)
education (<=middle/high)	1.25***	1.06***	0.95*	1.19*	0.52*	0.52*
	(0.23)	(0.22)	(0.42)	(0.41)	(0.43)	(0.43)
education (high/<=high)	1.59*	0.72*	1.42	0.59	0.45	0.43
	(0.19)	(0.19)	(0.30)	(0.45)	(0.36)	(0.36)
2001/02 * income (middle)	2.20	0.66	0.77	1.71	0.20	0.27
	(0.69)	(0.47)	(0.73)	(0.91)	(1.27)	(0.71)
2012/13 * income (middle)	1.60	0.82	0.54	12.57	0.45	0.34
	(0.59)	(0.47)	(0.79)	(1.19)	(1.33)	(0.68)
2001/02 * income (high)	0.84	0.46	1.37	1.45	0.02	1,55
	(0.72)	(0.55)	(0.90)	(1.27)	(1.44)	(56.90)
2012/13 * income (high)	1.15**	0.69**	2.16	17.97	0.08	5,75
	(0.62)	(0.57)	(0.93)	(1.43)	(1.41)	(56.90)
Constant	0.32	2.68	0.27	0.08	0.02	0.68
	(0.37)	(0.29)	(0.50)	(0.83)	(1.09)	(0.42)
Akaike Inf. Crit.	4,438.27	4,438.27	4,438.27	4,438.27	4,438.27	4,438.27

Note:

*p<0.05; **p<0.01; ***p<0.001

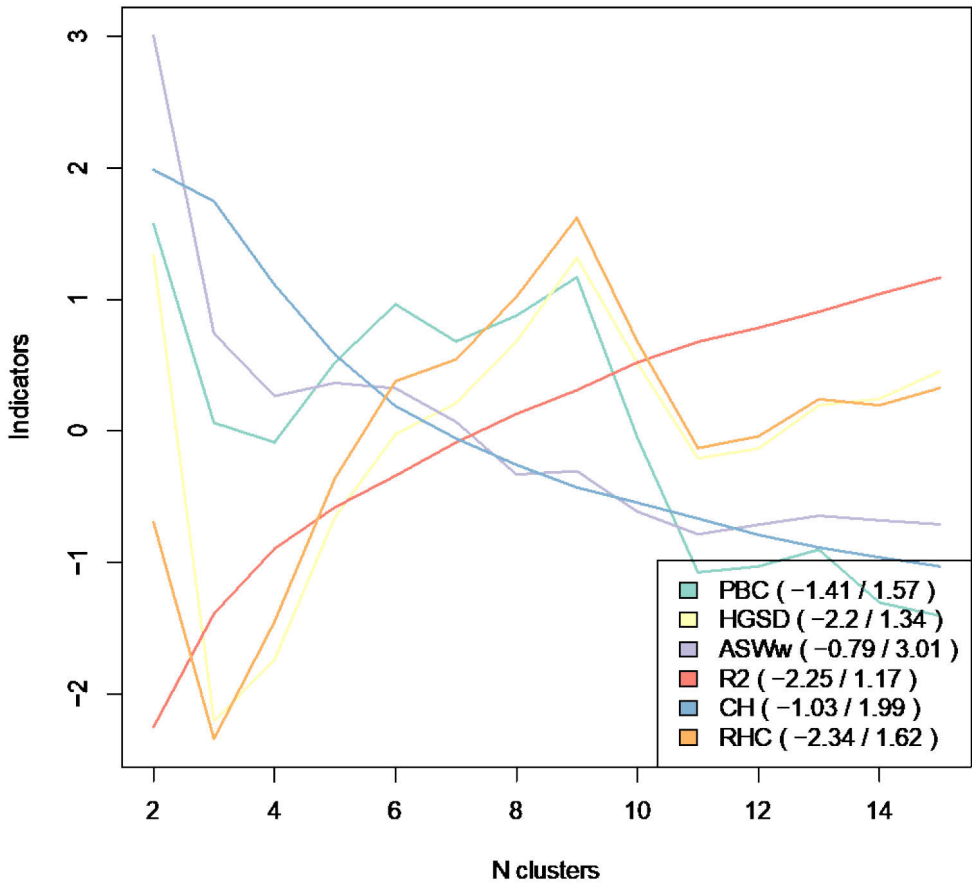
rel. risk ratios (SE in parentheses); N = 1454; coefficients for age/number children omitted

Robustness Check for Weekend Days

Supplementary Table 8: Cluster quality measures of Ward cluster analysis

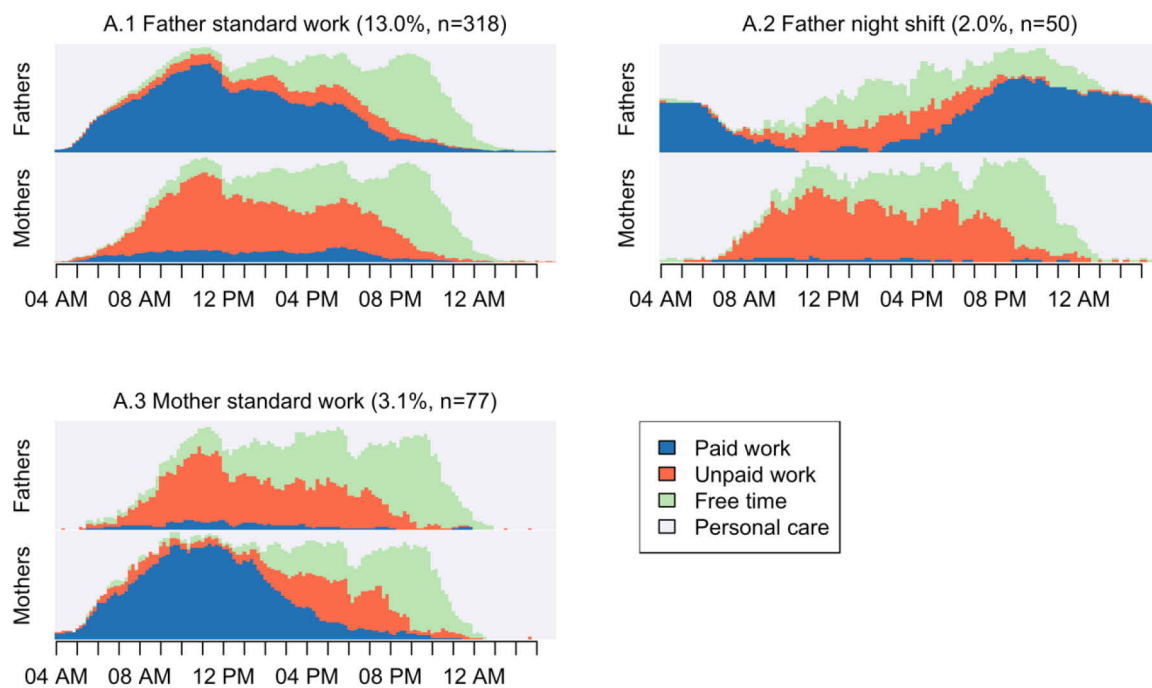
	PBC	HG	HGSD	ASW	ASWw	CH	R2	CHsq	R2sq	HC
2 Clusters	0.37	0.53	0.52	0.15	0.15	82.96	0.03	173.61	0.07	0.26
3 Clusters	0.31	0.37	0.37	0.07	0.07	78.65	0.06	159.44	0.12	0.30
4 Clusters	0.30	0.39	0.39	0.05	0.05	67.26	0.08	136.34	0.14	0.28
5 Clusters	0.33	0.44	0.44	0.06	0.06	57.70	0.09	118.48	0.16	0.26
6 Clusters	0.35	0.47	0.47	0.05	0.06	50.69	0.09	105.88	0.18	0.24
7 Clusters	0.33	0.48	0.48	0.04	0.05	46.27	0.10	96.46	0.19	0.24
8 Clusters	0.34	0.50	0.50	0.03	0.03	42.67	0.11	89.22	0.20	0.23
9 Clusters	0.36	0.53	0.52	0.03	0.03	39.56	0.11	83.41	0.21	0.22
10 Clusters	0.30	0.49	0.49	0.02	0.02	37.50	0.12	78.66	0.22	0.24
11 Clusters	0.26	0.46	0.46	0.01	0.02	35.33	0.13	73.83	0.23	0.25
12 Clusters	0.26	0.46	0.46	0.01	0.02	33.09	0.13	69.82	0.24	0.25
13 Clusters	0.26	0.48	0.47	0.02	0.02	31.37	0.13	66.50	0.25	0.25
14 Clusters	0.25	0.48	0.48	0.01	0.02	30.04	0.14	63.60	0.25	0.25
15 Clusters	0.24	0.49	0.49	0.01	0.02	28.81	0.14	61.03	0.26	0.24

Supplementary Figure 6: Standardized cluster quality measures of Ward cluster analysis

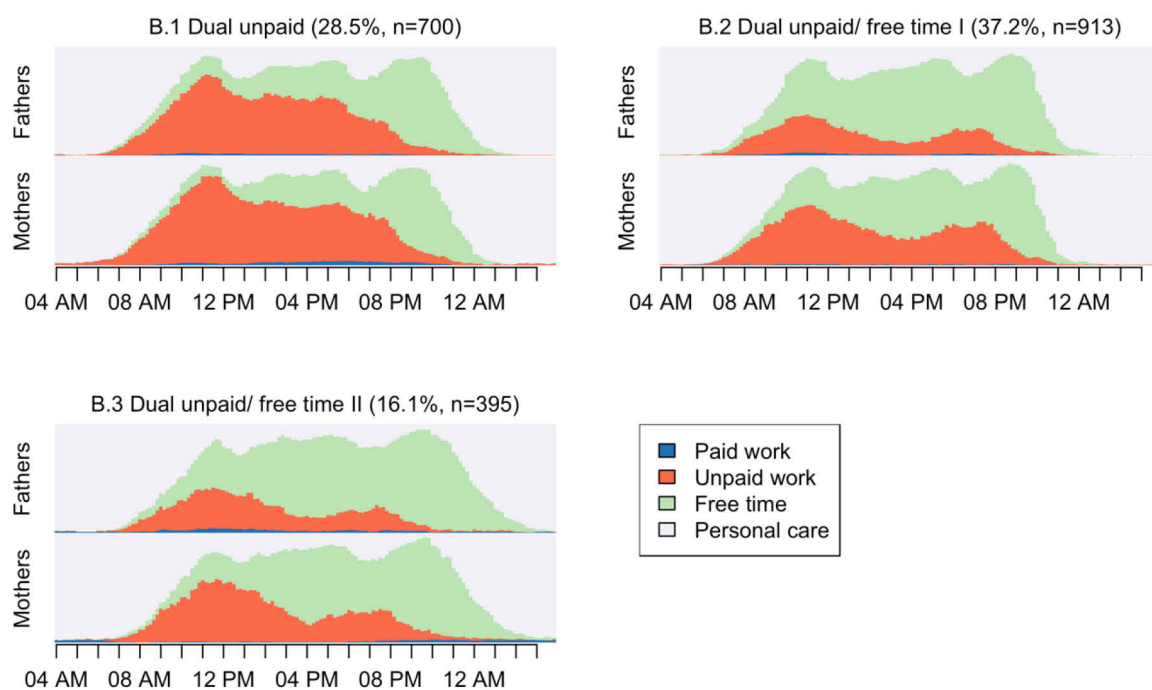


Supplementary Figure 7: Couples' time use patterns on weekend days: State distribution plots of six clusters derived from multichannel sequence analysis

A *Specialized paid work patterns (18.1%)*

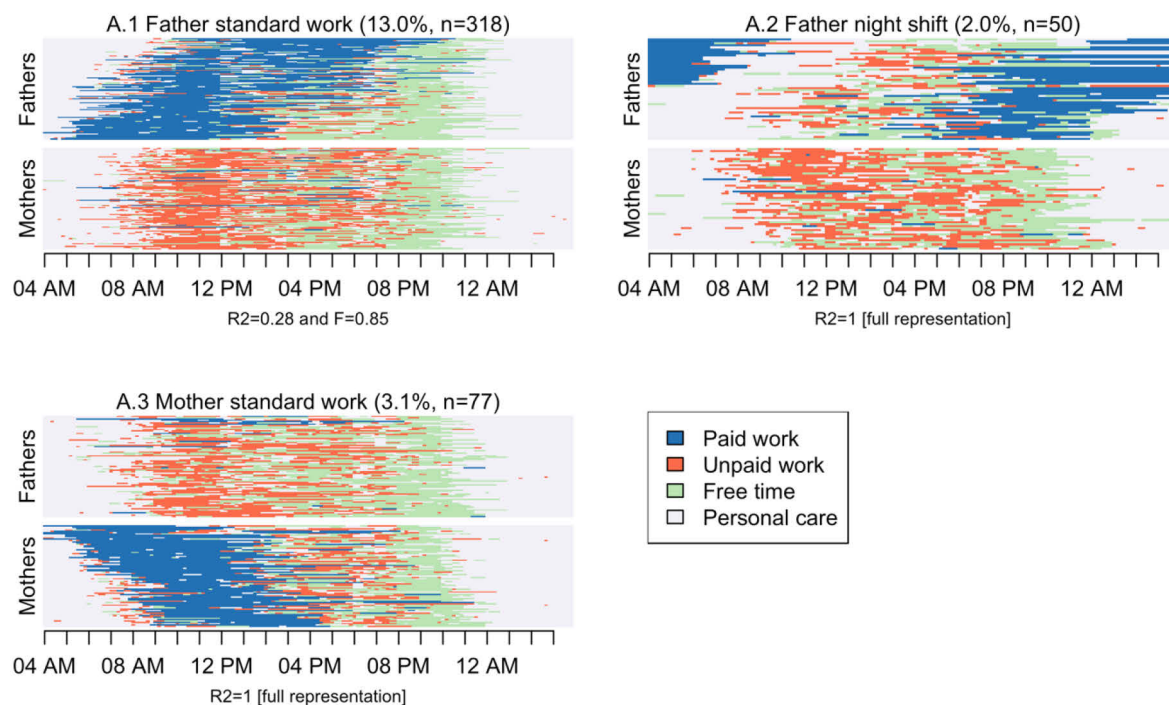


B *Unpaid work/ free time patterns (81.9%)*

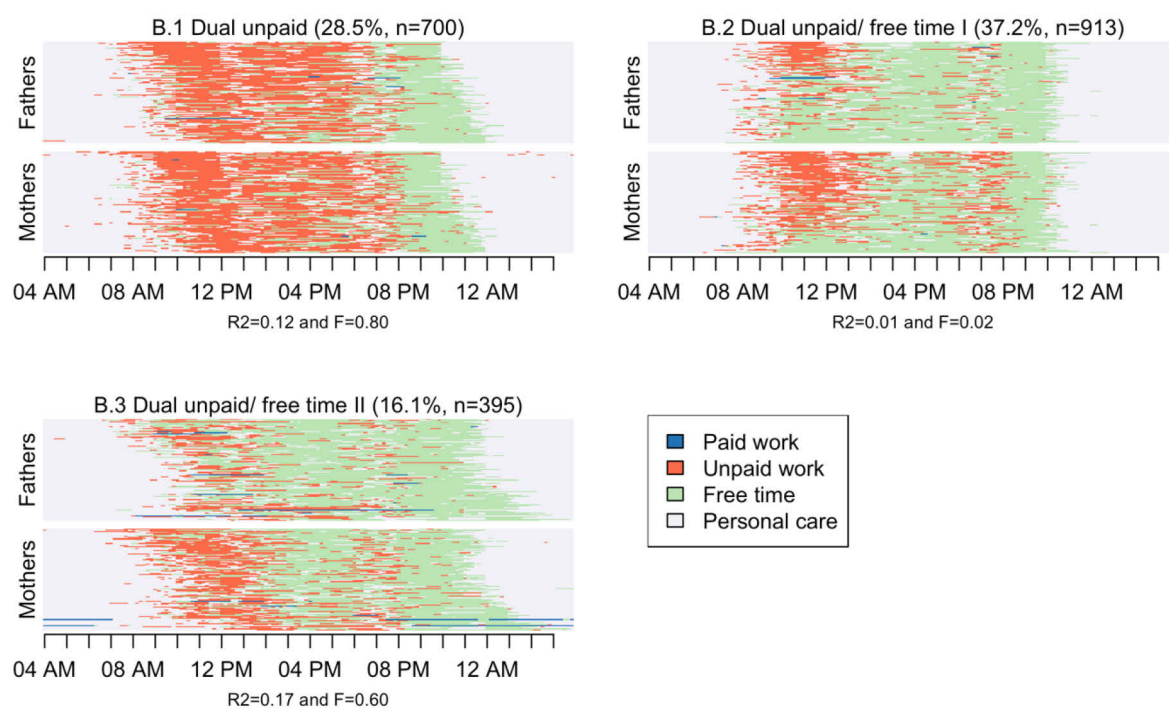


Supplementary Figure 8: Couples' time use patterns on weekend days: Relative frequency sequence plots of six clusters derived from multichannel sequence analysis

A *Specialized paid work patterns (18.1%)*



B *Unpaid work/ free time patterns (81.9%)*

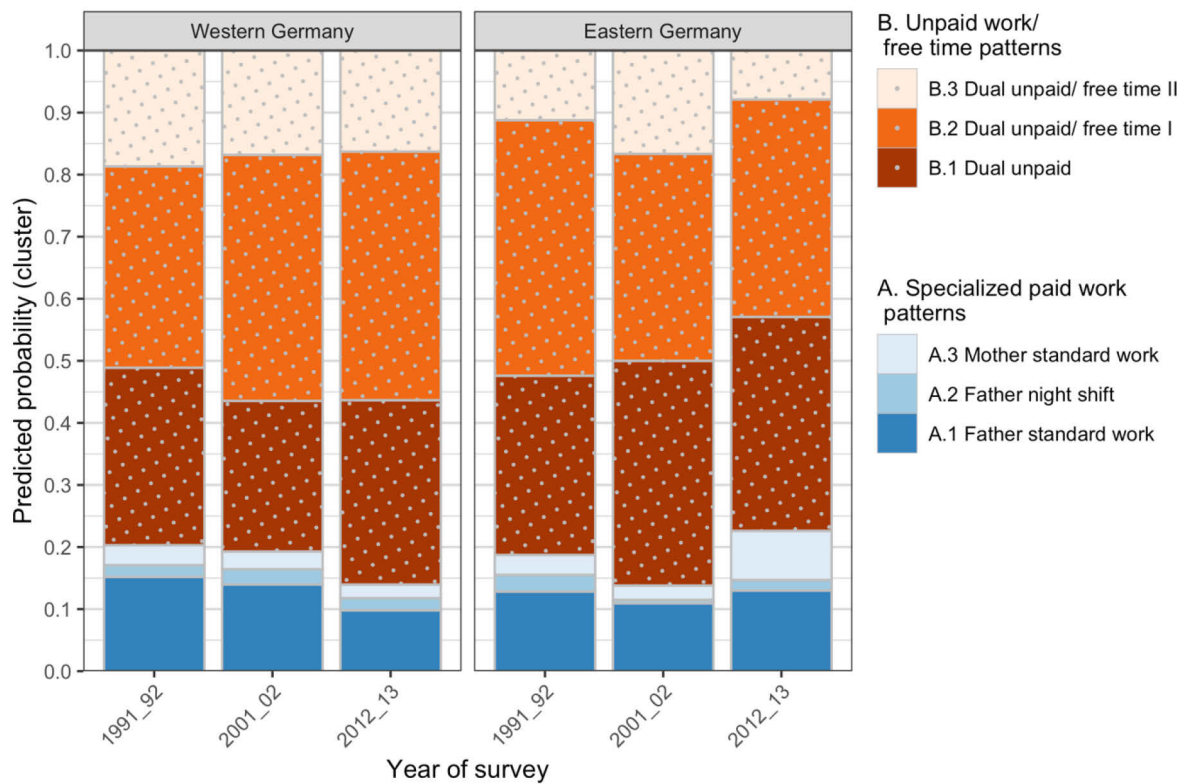


Supplementary Table 9: Descriptive statistics for the six clusters

	A. Specialized paid work patterns			B. Unpaid work/ free time patterns		
	A.1 Father standard work	A.2 Father night shift	A.3 Mother standard work	B.1 Dual unpaid	B.2 Dual unpaid/ free time I	B.3 Dual unpaid/ free time II
Fathers' mean time by activity (hours per day)						
Paid work	7.8	7.7	0.6	0.2	0.2	0.4
Unpaid work	1.7	2.5	5.3	6.3	2.8	3.0
Total work	9.5	10.3	5.9	6.5	3.0	3.4
Free time	4.7	3.9	6.2	5.6	8.4	9.4
Personal care	9.8	9.8	11.9	11.9	12.6	11.2
Mothers' mean time by activity (hours per day)						
Paid work	1.4	0.4	7.1	0.4	0.1	0.3
Unpaid work	6.4	6.4	2.9	7.1	4.8	4.5
Total work	7.7	6.7	10.0	7.5	4.9	4.8
Free time	5.2	5.7	4.1	4.6	6.6	7.9
Personal care	11.1	11.6	9.8	11.9	12.5	11.3
Gender ratio (mother's share in percent)						
Paid work	10.4	3.9	94.5	49.7	28.6	28.6
Unpaid work	80.7	75.4	34.7	53.4	64.8	61.8
Total work	44.9	39.6	62.8	53.6	62.4	58.5
Free time	53.0	60.3	39.5	45.2	43.3	45.3
Couples' mean joint time by activity (hours per day)						
Paid work	9.2	8.1	7.8	0.6	0.3	0.7
Unpaid work	8.0	8.9	8.2	13.4	7.6	7.5
Total work	17.2	17.0	16.0	14.0	7.9	8.2
Free time	9.9	9.6	10.3	10.2	15.0	17.2

Note: Total work refers to the sum of paid and unpaid work.

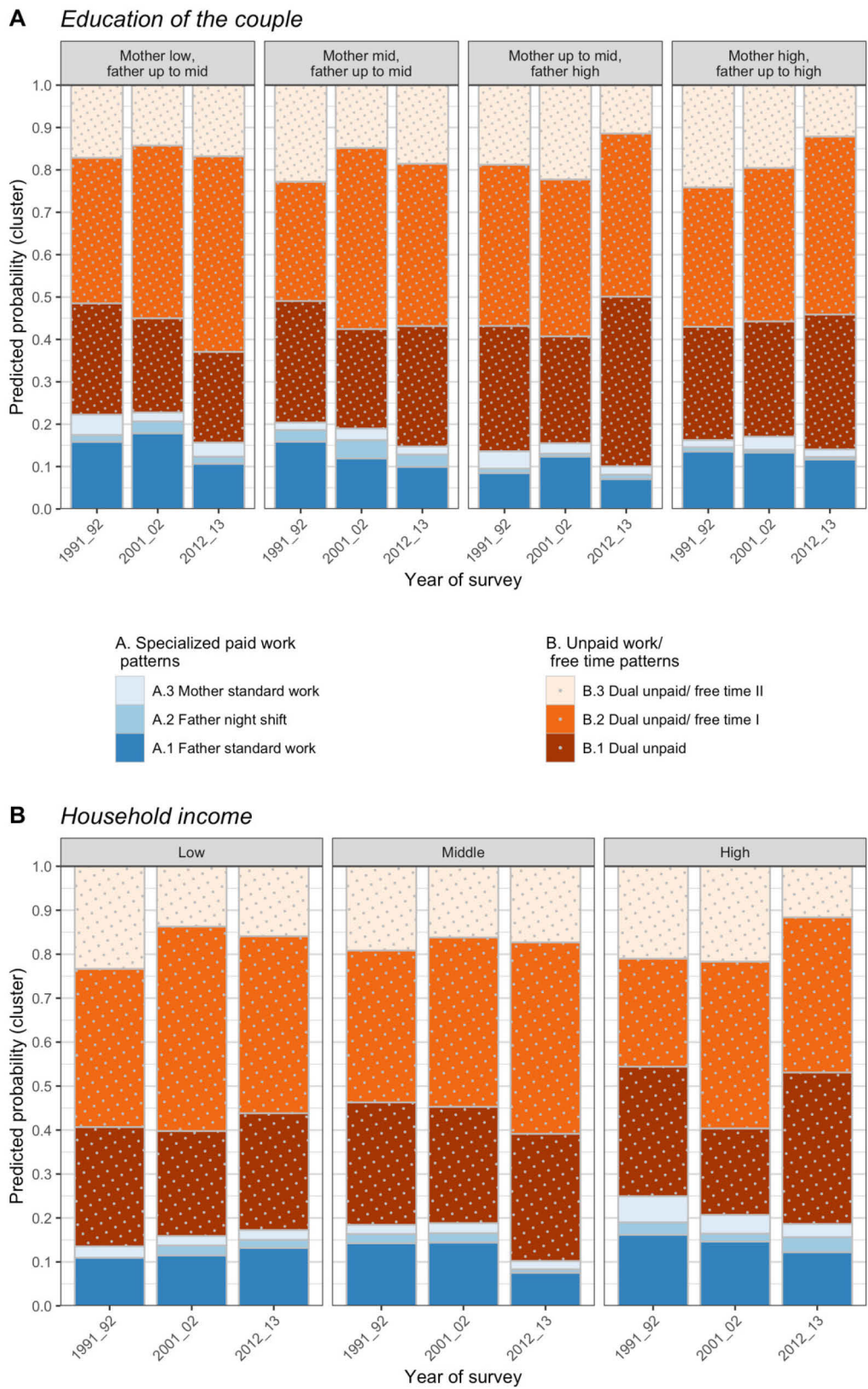
Supplementary Figure 9: Predicted probability of cluster membership by year of survey: western and eastern Germany



Supplementary Table 10: Results of multinomial logistic regression of year of survey and region (western/ eastern Germany) on cluster membership (model underlying Figure 9)

	Cluster Number				
	A.2	A.3	B.1	B.2	B.3
East Germany (ref: western G.)	1.65 (0.58)	1.19 (0.52)	1.19 (0.28)	1.50 (0.26)	0.71 (0.33)
2001/02	1.38*** (0.40)	0.97*** (0.34)	0.92*** (0.18)	1.33*** (0.17)	0.98*** (0.19)
2012/13 (ref: 1991/92)	1.61*** (0.45)	1.06*** (0.40)	1.61*** (0.20)	1.92*** (0.20)	1.35*** (0.22)
East Germany * 2001/02	0.18 (1.21)	0.87 (0.79)	1.60** (0.40)	0.72** (0.39)	1.78** (0.46)
East Germany * 2012/13	0.39 (0.91)	2.31* (0.70)	0.73*** (0.40)	0.44*** (0.39)	0.51** (0.50)
Constant	0.13 (0.31)	0.21 (0.25)	1.88 (0.13)	2.14 (0.12)	1.23 (0.14)
Akaike Inf. Crit.	7,227.96	7,227.96	7,227.96	7,227.96	7,227.96
<i>Note:</i> *p<0.05; **p<0.01; ***p<0.001 rel. risk ratios (SE in parentheses); N = 2453; ref = Cluster A.1					

Supplementary Figure 10: Predicted probability of cluster membership by year of survey, education of the couple (A) and household income (B): western Germany



Supplementary Table 11: Results of multinomial logistic regression of education of the couple (mother/ father) and year of survey on cluster membership: Western Germany (adjusted for household income, number of children and age of youngest child) (model underlying figure 10A)

	Cluster Number				
	A.2	A.3	B.1	B.2	B.3
2001/02	1.54 (0.81)	0.39 (0.72)	0.75** (0.35)	1.05*** (0.32)	0.74** (0.38)
2012/13 (ref: 1991/92)	1.56 (1.23)	1.02 (0.90)	1.21 (0.52)	2.00 (0.47)	1.46 (0.54)
education (mid/<=mid)	1.71 (0.79)	0.36 (0.73)	1.09*** (0.34)	0.82*** (0.33)	1.33** (0.36)
education (<=mid/high)	1.25 (1.24)	1.59 (0.76)	2.12* (0.49)	2.08* (0.48)	2.06* (0.53)
education (high/<=high)	0.72 (1.24)	0.42 (0.90)	1.19 (0.46)	1.12 (0.45)	1.65 (0.49)
income (middle)	1.12 (0.44)	0.89 (0.43)	1.04* (0.21)	0.91* (0.20)	0.98* (0.23)
income (high)	1.62 (0.56)	1.67 (0.50)	0.90* (0.27)	0.67* (0.26)	0.86* (0.29)
2001/02 * education (mid/<=mid)	1.34 (1.01)	5.34 (1.03)	1.45* (0.48)	1.92* (0.45)	1.17* (0.52)
2012/13 * education (mid/<=mid)	1.08 (1.39)	1.70 (1.19)	1.31 (0.62)	1.09 (0.57)	0.89 (0.65)
2001/02 * education (<=mid/high)	0.27 (1.69)	1.07 (1.11)	0.77 (0.63)	0.63 (0.60)	1.10 (0.67)
2012/13 * education (<=mid/high)	0.74 (1.96)	0.57 (1.37)	1.34 (0.81)	0.61 (0.77)	0.50 (0.88)
2001/02 * education (high/<=high)	0.43 (1.68)	4.74 (1.17)	1.38 (0.59)	1.07 (0.57)	1.12 (0.63)
2012/13 * education (high/<=high)	0.45 (1.92)	1.17 (1.34)	1.14 (0.71)	0.74 (0.67)	0.40 (0.76)
Constant	0.17 (0.78)	0.31 (0.63)	2.60 (0.34)	2.18 (0.33)	1.04 (0.38)
Akaike Inf. Crit.	5,231.93	5,231.93	5,231.93	5,231.93	5,231.93

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 1915; coefficients for 'age/ number children' omitted

Supplementary Table 12: Results of multinomial logistic regression of household income and year of survey on cluster membership: Western Germany (adjusted for education of the couple (mother/ father), number of children and age of youngest child) (model underlying figure 10B)

	Cluster Number				
	A.2	A.3	B.1	B.2	B.3
2001/02	182,074.30*	0.79	0.84**	1.23**	0.56*
	(0.47)	(0.79)	(0.41)	(0.39)	(0.44)
2012/13 (ref: 1991/92)	129,709.20	0.71	0.81	0.93	0.57
	(0.51)	(0.85)	(0.43)	(0.40)	(0.45)
income (middle)	135,579.70**	0.62	0.79**	0.74***	0.63**
	(0.45)	(0.72)	(0.37)	(0.35)	(0.39)
income (high)	161,969.30*	1.55	0.74**	0.46**	0.61*
	(0.56)	(0.74)	(0.43)	(0.42)	(0.45)
education (mid/≤mid)	2.01	0.78	1.33*	1.12*	1.46
	(0.46)	(0.42)	(0.22)	(0.20)	(0.23)
education (≤mid/high)	0.71	1.28	2.03	1.45	1.79
	(0.74)	(0.51)	(0.28)	(0.27)	(0.31)
education (high/≤high)	0.41	0.80	1.38*	1.08*	1.37*
	(0.76)	(0.52)	(0.28)	(0.26)	(0.30)
2001/02 * income (middle)	0.0000	1.37	1.12*	0.89*	1.49*
	(0.61)	(0.98)	(0.49)	(0.46)	(0.53)
2012/13 * income (middle)	0.0000	2.40	2.41	2.56	3.02
	(0.78)	(1.07)	(0.53)	(0.51)	(0.56)
2001/02 * income (high)	0.0000	1.01	0.88	1.38	2.03
	(0.89)	(0.99)	(0.56)	(0.54)	(0.60)
2012/13 * income (high)	0.0000	0.93	1.90	2.04	1.29
	(0.79)	(1.09)	(0.58)	(0.57)	(0.64)
Constant	0.0000	0.28	2.79	2.43	1.45
	(0.58)	(0.73)	(0.38)	(0.37)	(0.41)
Akaike Inf. Crit.	5,205.32	5,205.32	5,205.32	5,205.32	5,205.32

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 1915; coefficients for 'age/
number children' omitted

Note: Corresponding models for eastern Germany (multinomial logistic regression of education of the couple (mother/ father) and year of survey on cluster membership) could not be calculated due to low case numbers in the educational/ income groups (estimates were not robust).

Supplementary Material Chapter 3

Supplementary Tables and Figures

Table A1: Cluster quality measures of Ward cluster analysis: pooled sample

	PBC	HG	HGSD	ASW	ASWw	CH	R2	CHsq	R2sq	HC
2 clusters	0.60	0.74	0.74	0.28	0.28	377.76	0.16	815.33	0.30	0.12
3 clusters	0.45	0.57	0.57	0.16	0.16	234.17	0.19	495.77	0.34	0.22
4 clusters	0.53	0.68	0.68	0.17	0.17	172.69	0.21	375.35	0.37	0.16
5 clusters	0.49	0.67	0.67	0.09	0.09	139.72	0.22	305.41	0.39	0.17
6 clusters	0.45	0.65	0.65	0.08	0.08	118.87	0.23	260.93	0.40	0.18
7 clusters	0.46	0.66	0.66	0.09	0.09	103.96	0.24	236.72	0.42	0.18
8 clusters	0.40	0.60	0.60	0.06	0.06	93.15	0.25	210.79	0.43	0.21
9 clusters	0.40	0.67	0.67	0.05	0.06	84.77	0.26	192.60	0.44	0.18
10 clusters	0.41	0.68	0.68	0.06	0.06	77.55	0.26	178.45	0.45	0.18
11 clusters	0.38	0.67	0.67	0.04	0.04	71.50	0.27	164.71	0.46	0.18
12 clusters	0.37	0.67	0.67	0.04	0.04	66.54	0.27	153.06	0.47	0.18

Figure A1: Standardized cluster quality measures of Ward cluster analysis: pooled sample

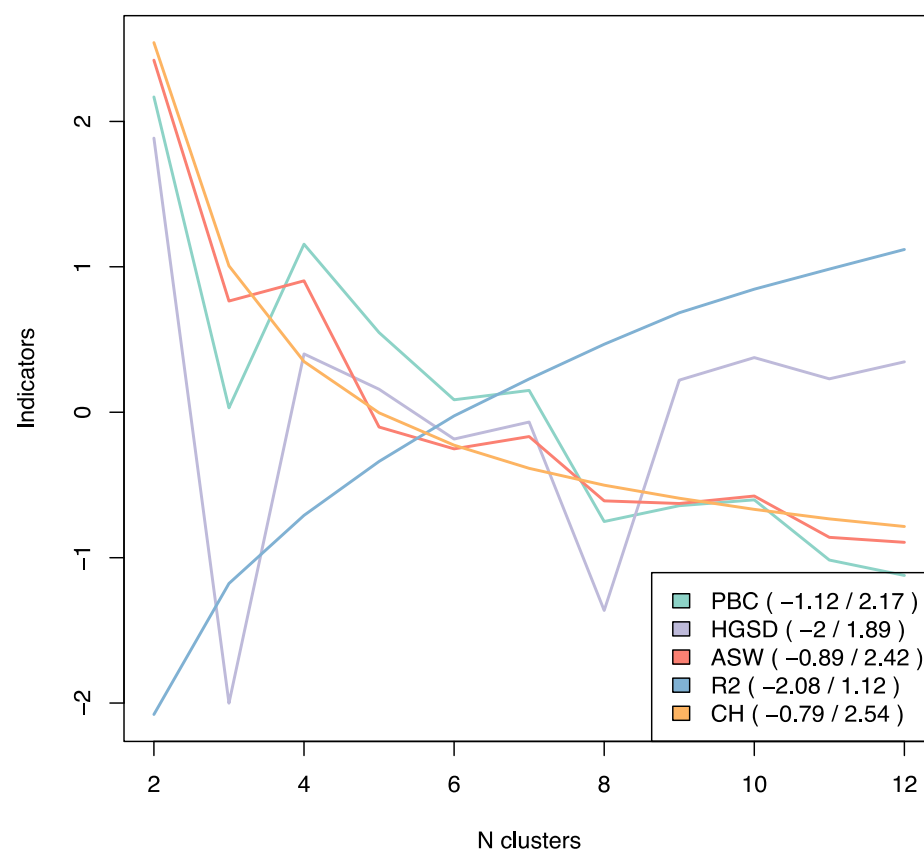


Table A2: Cluster quality measures of Ward cluster analysis: UK subsample

	PBC	HG	HGSD	ASW	ASWw	CH	R2	CHsq	R2sq	HC
2 clusters	0.62	0.76	0.76	0.31	0.31	186.74	0.19	407.23	0.34	0.11
3 clusters	0.47	0.58	0.58	0.17	0.17	108.09	0.22	231.71	0.37	0.21
4 clusters	0.54	0.67	0.67	0.17	0.18	78.87	0.23	173.16	0.40	0.17
5 clusters	0.49	0.67	0.67	0.10	0.10	63.85	0.25	140.79	0.42	0.17
6 clusters	0.50	0.72	0.72	0.09	0.09	54.06	0.26	120.28	0.43	0.15
7 clusters	0.51	0.72	0.72	0.09	0.10	47.08	0.26	107.92	0.45	0.15
8 clusters	0.48	0.70	0.70	0.07	0.08	42.11	0.27	96.23	0.46	0.16

Figure A2: Standardized cluster quality measures of Ward cluster analysis: UK subsample

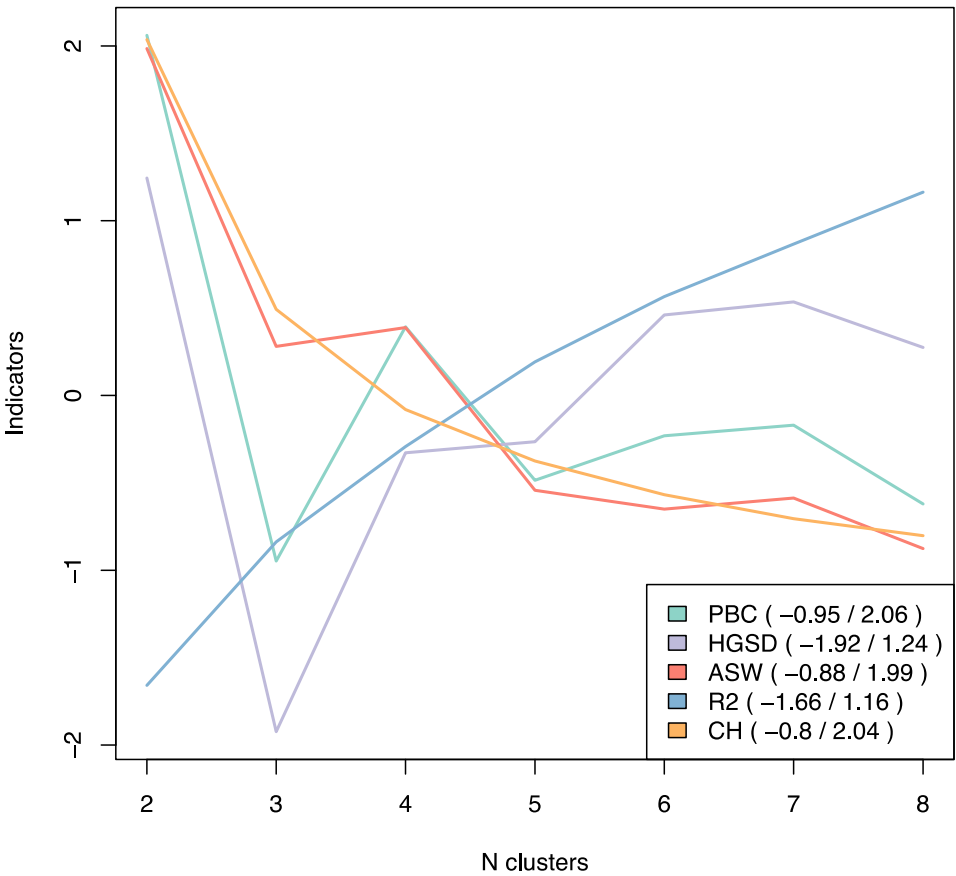


Table A3: Cluster quality measures of Ward cluster analysis: Western German subsample

	PBC	HG	HGSD	ASW	ASWw	CH	R2	CHsq	R2sq	HC
2 clusters	0.60	0.75	0.75	0.27	0.27	214.83	0.16	463.71	0.29	0.12
3 clusters	0.46	0.59	0.59	0.16	0.16	136.89	0.19	290.88	0.34	0.21
4 clusters	0.54	0.70	0.70	0.17	0.17	102.20	0.21	223.71	0.37	0.15
5 clusters	0.51	0.71	0.71	0.11	0.11	81.84	0.22	179.82	0.38	0.15
6 clusters	0.47	0.68	0.68	0.07	0.07	69.24	0.23	150.93	0.40	0.17
7 clusters	0.48	0.69	0.69	0.07	0.08	60.85	0.24	138.25	0.42	0.16
8 clusters	0.48	0.70	0.70	0.07	0.08	54.91	0.25	125.65	0.43	0.16

Figure A3: Standardized cluster quality measures of Ward cluster analysis: Western German subsample

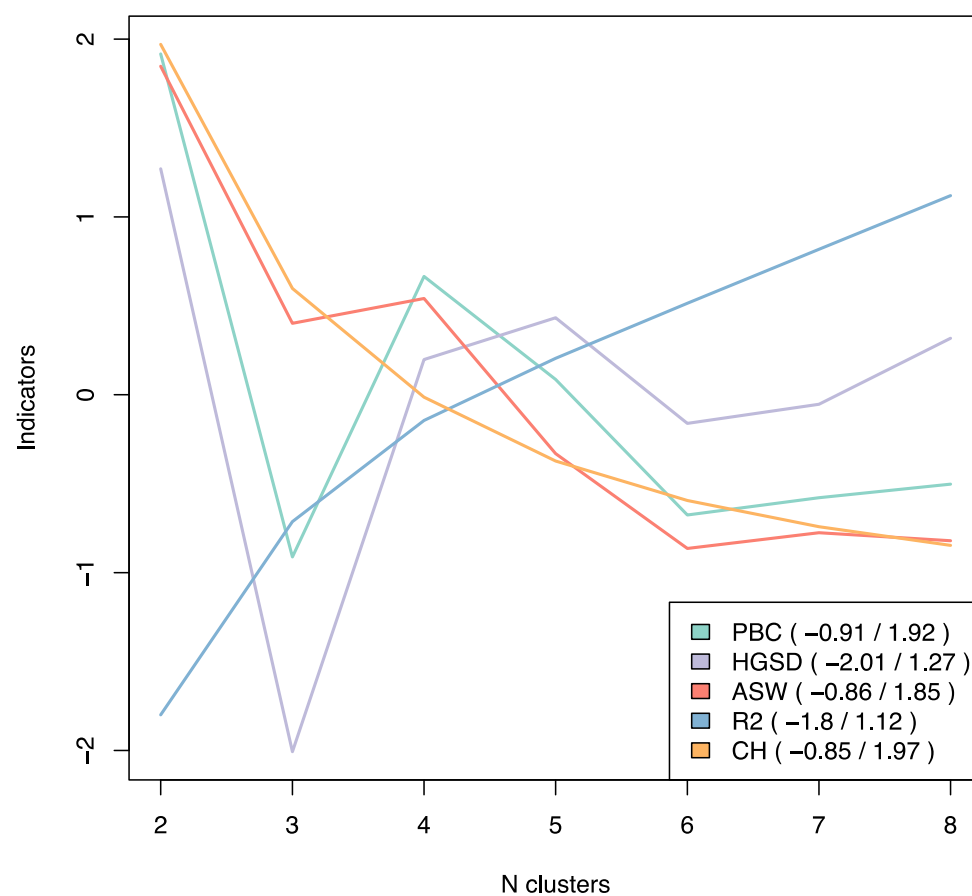


Figure A4: Relative frequency sequence plots of the four time-use clusters derived from the UK subsample

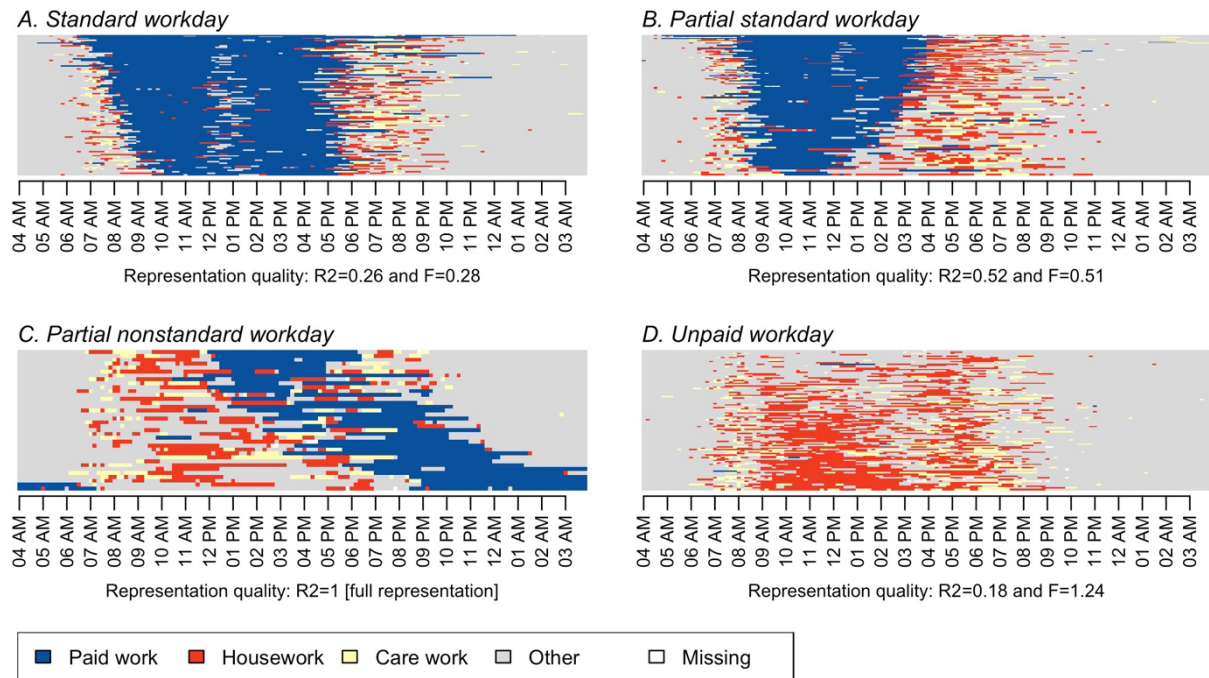
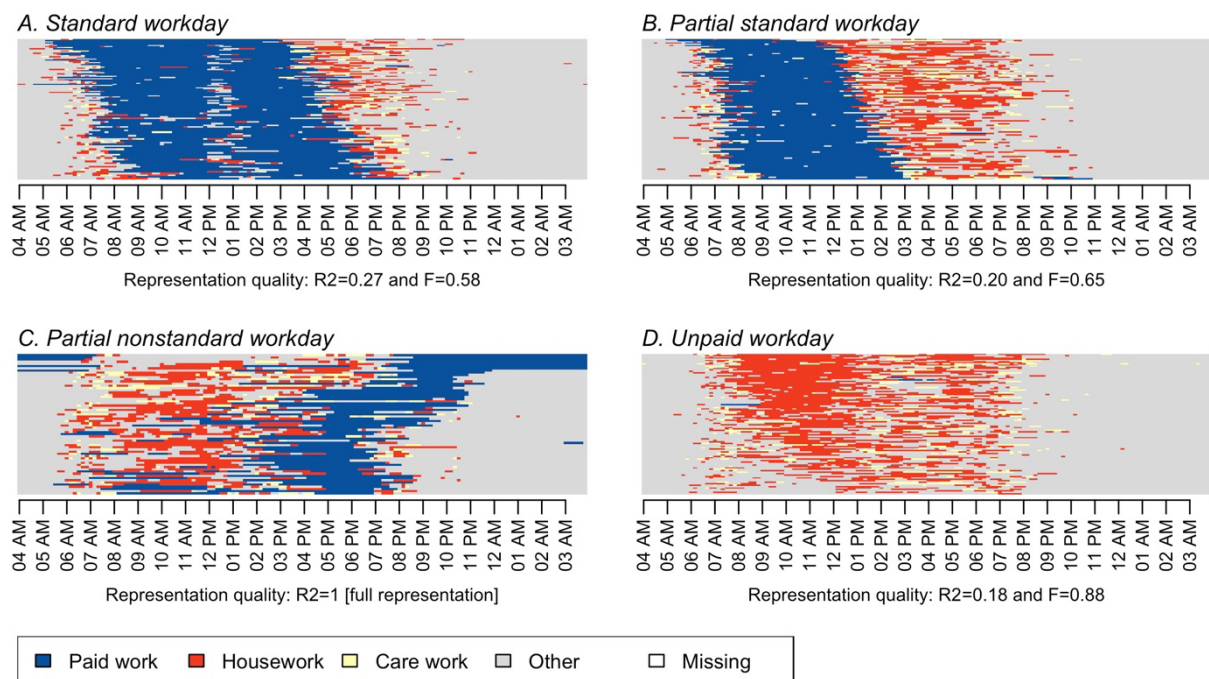


Figure A5: Relative frequency sequence plots of the four time-use clusters derived from the western German subsample



Note: Each graph in Figures A4 and A5 plots 100 representative individual sequences for each cluster; sequences are sorted according to multidimensional scaling; goodness-of-fit measures are shown below the graphs.

Table A4: Mean paid work hours, unpaid work hours and total work hours by cluster in the United Kingdom and western Germany: Pooled cluster solution and separate cluster solutions by country

Pooled cluster solution						
Cluster	Country	N	% ^a	Paid work	Unpaid work	Total work
Standard workday	United Kingdom	221	27.9	9.06	2.59	11.65
	Western Germany	212	18.3	9.04	2.63	11.67
Partial standard workday	United Kingdom	123	15.5	5.68	4.49	10.16
	Western Germany	388	33.6	5.58	4.98	10.56
Partial nonstandard workday	United Kingdom	40	5.1	5.73	4.73	10.45
	Western Germany	66	5.7	6.18	4.89	11.07
Unpaid workday	United Kingdom	407	51.5	0.10	7.62	7.72
	Western Germany	490	42.4	0.16	8.21	8.37

Separate cluster solution by country						
Cluster	Country	N	% ^a	Paid work	Unpaid work	Total work
Standard workday	United Kingdom	194	24.5	9.20	2.59	11.79
	Western Germany	245	21.2	8.56	2.80	11.36
Partial standard workday	United Kingdom	146	18.5	6.15	4.03	10.17
	Western Germany	359	31.1	5.58	5.06	10.64
Partial nonstandard workday	United Kingdom	36	4.6	6.12	4.61	10.73
	Western Germany	64	5.5	6.16	5.17	11.33
Unpaid workday	United Kingdom	415	52.5	0.17	7.61	7.78
	Western Germany	488	42.2	0.15	8.20	8.35

Note: Mean times in paid work hours, unpaid work hours and total work hours that are statistically significant ($p < 0.05$) between the United Kingdom and western Germany according to t-tests are bold.

^a Unweighted data.

Table A4 shows that the mean hours of paid work do not significantly differ by cluster among mothers in the UK and western Germany, if the clusters are specified based on the pooled sample. However, if the clusters are specified separately by country, mothers with “standard workdays” and mothers with “partial standard workdays” have a significantly higher mean paid working time in the UK than in western Germany. Cross-national differences in mothers’ mean hours of unpaid work and total work are also larger if the clusters are specified based on country-specific sequence and cluster analyses rather than based on the pooled sample. Thereby, the pooled cluster solution was selected considering that it improved the cross-national comparability between the clusters, especially with respect to the distinction between “standard workdays” and “partial standard workdays”.

Table A5: Cluster membership (%) by country in the full analytical sample and in the regression model samples

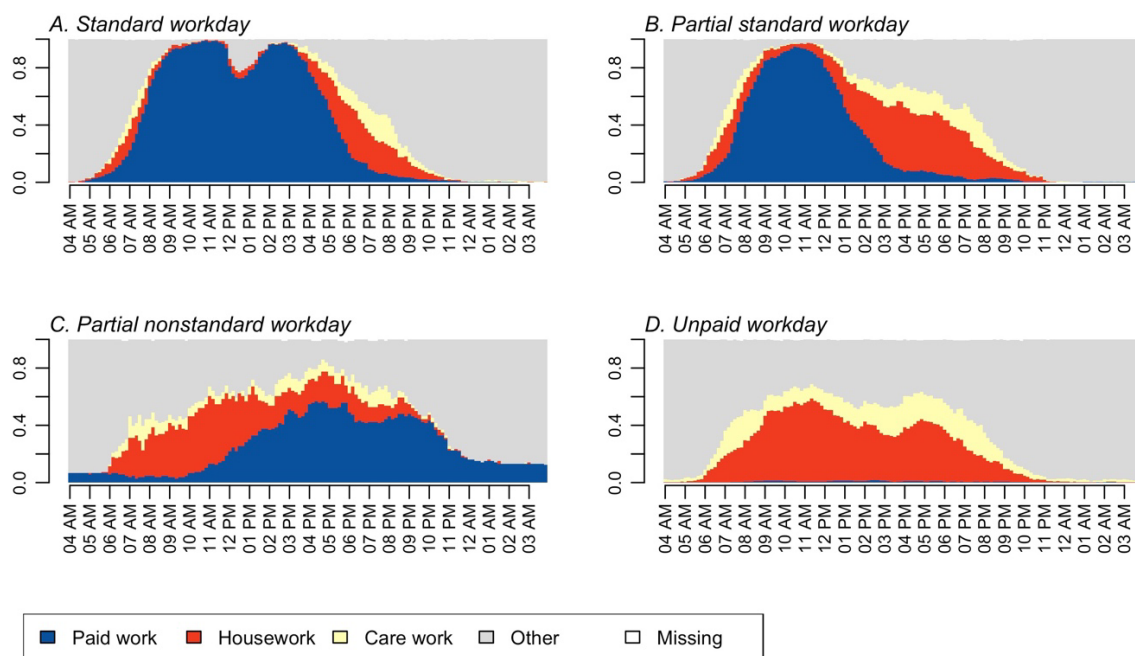
	N	% missing ^a	Cluster membership (%) ^b			
			Standard workday	Partial standard workday	Partial non- standard workday	Unpaid workday
United Kingdom						
Full analytical sample	791		27.9	15.6	5.1	51.5
a) Model 1.A: Cluster membership by education	750	5.2	29.1	16.0	5.2	49.7
b) Model 1.B: Cluster membership by household income	734	7.2	28.1	15.0	5.2	51.8
c) Model 2 + 3: Outsourcing housework/ childcare by cluster	677	14.4	29.4	14.9	5.3	50.4
Western Germany						
Full analytical sample	1,156		18.3	33.6	5.7	42.4
a) Model 1.A: Cluster membership by education	1,148	0.7	18.5	33.4	5.7	42.5
b) Model 1.B: Cluster membership by household income	1,148	0.7	18.5	33.4	5.7	42.5
c) Model 2 + 3: Outsourcing housework/ childcare by cluster	1,142	1.2	18.5	33.3	5.7	42.6

^a Percentage of observations of analytical sample that are missing in each model (listwise deletion).^b Unweighted distribution (rounded)

Table A6: Distribution and definition of the independent variables: United Kingdom and western Germany

United Kingdom				Western Germany		
	<i>N</i>	valid %	Definition	<i>N</i>	valid %	Definition
<i>Education</i>						
low	160	21.2	ISCED 0-2	177	15.3	ISCED 0-2
middle	326	43.2	ISCED 3-4	543	47.0	ISCED 3-4
high	268	35.5	ISCED 5-8	436	37.7	ISCED 5-8
NA	37			0		
<i>Household income (adjusted)</i>			<i>GBP</i>			<i>EUR</i>
1st Quartile	185	25.1	< 849	289	25.0	< 1230
2nd Quartile	184	25.0	< 1250	289	25.0	< 1700
3rd Quartile	184	25.0	< 1750	289	25.0	< 2157
4th Quartile	184	25.0	>= 1750	289	25.0	>= 2157
NA	54			0		
Descriptive statistics			Definition	Descriptive statistics		Definition
<i>Earnings share</i>						
Mean	31.7			30.1		
Sd	29.5		Mothers'	28.8		Mothers'
Min	0.0		earned	0.0		earned
Q1	0.0		income/	8.8		income/
Median	29.4		total	23.5		total
Q3	50.0		household	43.2		household
Max	100		income*100	100		income*100
NA	77			5		

Figure A6: State distribution plots of the four time-use clusters



Note: The plots summarize the aggregate state distribution for each cluster.

Table A7: Descriptive statistics on the four clusters: United Kingdom and western Germany

Cluster	United Kingdom				Western Germany			
	Standard workday	Partial standard workday	Partial non- standard workday	Unpaid workday	Standard workday	Partial standard workday	Partial non- standard workday	Unpaid workday
N	221	123	40	407	212	388	66	490
%	28.1	15.5	5.0	51.4	18.4	33.0	5.6	43.0
<i>Education</i>								
Low	20.3	20.2	3.4	56.2	10.4	25.5	4.6	59.4
Middle	24.5	18.6	6.9	50.0	18.9	35.4	5.4	40.3
High	40.2	10.2	3.8	45.8	20.6	32.9	6.3	40.2
<i>Household Income</i>								
1st Quartile	10.9	9.9	6.0	73.2	7.3	26.8	4.8	61.1
2nd Quartile	24.5	18.7	7.8	49.0	18.5	29.3	6.6	45.6
3rd Quartile	38.8	16.4	4.7	40.1	22.7	35.5	6.5	35.3
4th Quartile	39.5	14.2	2.2	44.1	23.3	39.3	4.6	32.8
<i>Number of children</i>								
1 child	33.7	16.2	4.5	45.5	23.0	35.6	4.3	37.0
2 children	28.4	17.3	5.8	48.6	17.0	34.8	6.5	41.6
3 + children	9.2	8.0	4.1	78.7	13.1	23.0	5.8	58.2
<i>Age of youngest child</i>								
Under 5 years	24.1	10.1	5.5	60.3	14.3	29.1	3.2	53.3
5 - 10 years	29.7	20.8	4.3	45.2	16.7	34.1	6.1	43.1
11 - 17 years	37.3	21.3	5.1	36.3	23.4	35.5	7.3	33.8
<i>Household type</i>								
Couple	27.7	16.0	5.1	51.1	17.2	32.5	5.8	44.5
Single parent	30.0	12.7	4.2	53.1	25.0	36.0	4.4	34.5
<i>Receives unpaid support</i>								
Yes	30.5	20.7	21.2	15.3	32.3	24.7	18.9	24.4
No	69.5	79.3	78.8	84.7	67.7	75.3	81.1	75.6

Note: Weighted data considering both the TUS' diary weights, and accounting for the UKTUS' complex survey design (PSUs nested in STRATA).

Table A8: Results of multinomial logistic regression of education on cluster membership: United Kingdom (Model 1.A)

	Cluster		
	Partial standard workday	Partial nonstandard workday	Unpaid workday
education (middle)	0.68 (0.31)	1.36 (0.51)	0.66 (0.26)
education (high)	0.26*** (0.33)	0.42** (0.57)	0.38*** (0.26)
Constant	0.56 (0.41)	0.17 (0.66)	1.54 (0.33)
Akaike Inf. Crit.	1,669.41	1,669.41	1,669.41

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 750; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A9: Results of multinomial logistic regression of education on cluster membership: Western Germany (Model 1.A)

	Cluster		
	Partial standard workday	Partial nonstandard workday	Unpaid workday
education (middle)	0.81 (0.29)	0.63 (0.46)	0.42 (0.28)
education (high)	0.71*** (0.30)	0.77*** (0.46)	0.37*** (0.28)
Constant	1.79*** (0.38)	0.12* (0.70)	5.32*** (0.36)
Akaike Inf. Crit.	2,705.50	2,705.50	2,705.50

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 1,148; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A10: Results of multinomial logistic regression of household income on cluster membership: United Kingdom (Model 1.B)

	Cluster		
	Partial standard workday	Partial nonstandard workday	Unpaid workday
2nd Quartile	0.61 (0.42)	0.43 (0.50)	0.26* (0.33)
3rd Quartile	0.34*** (0.43)	0.12*** (0.57)	0.13*** (0.33)
4th Quartile	0.28 (0.44)	0.06 (0.68)	0.15 (0.34)
Constant	0.75 (0.50)	0.80 (0.65)	4.90* (0.38)
Akaike Inf. Crit.	1,577.68	1,577.68	1,577.68

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 734; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A11: Results of multinomial logistic regression of household income on cluster membership: Western Germany (Model 1.B)

	Cluster		
	Partial standard workday	Partial nonstandard workday	Unpaid workday
2 nd Quartile	0.38 (0.30)	0.33 (0.46)	0.16 (0.31)
3rd Quartile	0.31*** (0.32)	0.20*** (0.49)	0.09*** (0.32)
4th Quartile	0.40 (0.32)	0.16 (0.51)	0.09 (0.33)
Constant	3.62*** (0.39)	0.37*** (0.70)	17.94*** (0.38)
Akaike Inf. Crit.	2,633.49	2,633.49	2,633.49

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 1,148; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A12: Descriptive statistics on domestic outsourcing by type of outsourcing (outsourcing housework versus outsourcing childcare): United Kingdom and western Germany

	United Kingdom		Western Germany	
Type of domestic outsourcing	Outsourcing housework	Outsourcing childcare	Outsourcing housework	Outsourcing childcare
N	81	171	88	99
%	10.6	22.3	7.7	8.6
Mean (se) hours ^a	3.9 (.70)	17.5 (1.3)	3.0 (.21)	18.7 (1.5)
<i>Cluster</i>				
Standard workday	13.7	35.8	10.9	11.3
Partial standard workday	13.5	22.5	8.7	9.3
Partial nonstandard workday	2.4	22.2	11.8	4.6
Unpaid workday	8.9	14.9	5.1	7.4
<i>Education</i>				
Low	3.9	10.9	0.0	3.4
Middle	6.6	19.2	3.5	6.8
High	20.8	34.1	15.7	12.8
<i>Household Income</i>				
1st Quartile	1.6	10.2	1.3	8.0
2nd Quartile	3.8	21.6	3.4	7.6
3rd Quartile	7.1	29.3	4.8	9.3
4th Quartile	31.9	29.8	20.0	9.3
<i>Mothers' earnings share</i>				
Mean (se) if outsourcing	29.5 (3.2)	38.8 (2.2)	37.8 (2.9)	38.0 (3.0)
Mean (se) if not outsourcing	31.6 (1.3)	29.1 (1.4)	27.5 (.81)	27.2 (.80)
<i>Father's paid working hours</i>				
Mean (se) if outsourcing	7.7 (.38)	6.7 (.03)	7.5 (.58)	7.1 (.52)
Mean (se) if not outsourcing	6.1 (.20)	6.2 (.22)	6.7 (.15)	6.7 (.15)
<i>Father's housework hours</i>				
Mean (se) if outsourcing	1.4 (.17)	1.1 (.11)	1.3 (.18)	1.0 (.15)
Mean (se) if not outsourcing	1.3 (.07)	1.4 (.07)	1.5 (.06)	1.5 (.06)
<i>Father's care work hours</i>				
Mean (se) if outsourcing	0.9 (.14)	0.8 (.56)	0.6 (.12)	0.8 (.11)
Mean (se) if not outsourcing	0.6 (.04)	0.6 (.04)	0.6 (.03)	0.6 (.03)

Note: Weighted data considering both the TUS' diary weights, and accounting for the UKTUS' complex survey design (PSUs nested in STRATA).

^a Weekly hours of outsourcing among those who outsource.

Table A13: Results of logistic regression models of cluster membership on outsourcing household work (stepwise models): United Kingdom and western Germany (Model 2)

	<i>Dependent variable:</i>					
	Outsourcing housework					
	United Kingdom (1)	United Kingdom (2)	United Kingdom (3)	Western Germany (4)	Western Germany (5)	Western Germany (6)
Partial standard workday	0.99** (0.35)	1.39*** (0.40)	1.40*** (0.40)	0.71* (0.29)	0.89** (0.33)	0.88** (0.33)
Partial nonstandard workday	0.17 (1.04)	0.30 (1.10)	0.30 (1.10)	1.12** (0.43)	2.11*** (0.49)	2.09*** (0.49)
Unpaid workday	0.55 (0.30)	0.62 (0.39)	0.62 (0.39)	0.39 (0.31)	0.80* (0.38)	0.80* (0.38)
Education (high)		2.21*** (0.30)	2.21*** (0.30)		3.89*** (0.29)	3.93*** (0.29)
Hh-income (2nd Quartile)		1.69* (0.74)	1.68* (0.74)		2.78*** (0.63)	2.77*** (0.63)
Hh-income (3rd Quartile)		2.99*** (0.71)	2.97*** (0.71)		3.82*** (0.63)	3.69*** (0.63)
Hh-income (4th Quartile)		13.56*** (0.68)	13.49*** (0.69)		19.73*** (0.61)	18.97*** (0.61)
Earnings share		0.99*** (0.01)	0.99*** (0.01)		1.01*** (0.01)	1.01*** (0.01)
Partner's housework hours			0.99*** (0.09)			0.93*** (0.08)
Constant	0.26 (0.55)	0.03 (0.93)	0.03 (0.95)	0.09 (0.50)	0.001 (0.90)	0.002 (0.91)
Observations	677	677	677	1,142	1,142	1,142
Log Likelihood	-220.64	-184.74	-184.73	-298.33	-235.60	-235.06
Akaike Inf. Crit.	461.27	399.49	401.47	616.66	501.20	502.12

Note:

*p<0.05; **p<0.01; ***p<0.001

odds ratios (SE in parentheses); all models additionally control for number of children, age of youngest child, household type, receiving unpaid household support and receiving unpaid childcare support (coefficients omitted).

Table A14: Results of logistic regression models of cluster membership on outsourcing childcare (stepwise models): United Kingdom and western Germany (Model 3)

	<i>Dependent variable:</i>					
	Outsourcing childcare					
	United Kingdom (1)	United Kingdom (2)	United Kingdom (3)	Western Germany (4)	Western Germany (5)	Western Germany (6)
Partial standard workday	0.62* (0.30)	0.93** (0.32)	0.92** (0.32)	0.72* (0.30)	0.80** (0.31)	0.81** (0.31)
Partial nonstandard workday	0.34 (0.47)	0.58 (0.49)	0.57 (0.50)	0.46 (0.64)	0.54 (0.65)	0.54 (0.65)
Unpaid workday	0.22 (0.24)	0.38 (0.28)	0.37 (0.29)	0.47 (0.30)	0.61 (0.35)	0.61 (0.35)
Education (middle)		1.52*** (0.34)	1.51*** (0.34)		1.55*** (0.47)	1.59*** (0.47)
Education (high)		2.77*** (0.34)	2.78*** (0.34)		2.82*** (0.47)	2.92*** (0.47)
Hh-income (2nd Quartile)		1.92*** (0.35)	1.91*** (0.35)		0.94** (0.36)	0.95** (0.36)
Hh-income (3rd Quartile)		2.25*** (0.37)	2.25*** (0.37)		1.17** (0.37)	1.16** (0.37)
Hh-income (4th Quartile)		3.12*** (0.39)	3.13*** (0.39)		1.06** (0.38)	1.04** (0.38)
Earnings share		1.01*** (0.005)	1.01*** (0.005)		1.01*** (0.01)	1.01*** (0.01)
Partner's care work hours			0.97*** (0.11)			1.12*** (0.11)
Constant	1.33** (0.43)	0.15 (0.65)	0.16 (0.67)	0.31 (0.45)	0.09 (0.73)	0.08 (0.74)
Observations	677	677	677	1,142	1,142	1,142
Log Likelihood	-313.64	-296.03	-295.98	-295.60	-288.26	-287.80
Akaike Inf. Crit.	647.27	624.06	625.96	611.20	608.52	609.60

Note:

*p<0.05; **p<0.01; ***p<0.001

odds ratios (SE in parentheses); all models additionally control for number of children, age of youngest child, household type, receiving unpaid household support and receiving unpaid childcare support (coefficients omitted).

Patterns of Paid and Unpaid Work on Weekend Days

Table A15: Overview of stepwise selection of the analytical sample (number of diary days)– Weekend day sample: United Kingdom and western Germany

	United Kingdom		Western Germany	
	<i>N</i>	% excl. ^a	<i>N</i>	% excl. ^a
a) Full sample by region	16,533		25,657	
b) Mothers with children under 18 years	2,150	87.0	4,407	82.8
c) Not in education or retired	2,098	2.4	4,290	2.7
d) Weekend day	1,043	50.3	1,538	64.1
e) Ordinary day	731	29.9	919	40.2
f) No poor quality diary ^b	698	4.5	915	0.4
g) One random diary day	698	0.0	897	2.0

Note: The full sample for the United Kingdom consists of 16,533 diary days of 11,421 persons in 4,733 households; The full sample for Germany (including eastern Germany) consists of 32,105 diary days of 12,254 persons in 4,775 households.

^a Percentage of observations excluded at each stage of sample restriction.

^b Poor quality diaries are defined as diaries with more than 90 minutes of missing data.

Table A16: Cluster quality measures of Ward cluster analysis (weekend days)

	PBC	HG	HGSD	ASW	ASWw	CH	R2	CHsq	R2sq	HC
2 clusters	0.50	0.72	0.72	0.29	0.29	90.99	0.05	195.26	0.11	0.17
3 clusters	0.34	0.40	0.40	0.09	0.09	77.42	0.09	155.70	0.16	0.29
4 clusters	0.23	0.27	0.27	0.04	0.04	67.78	0.11	131.53	0.20	0.33
5 clusters	0.29	0.41	0.41	0.04	0.04	59.96	0.13	114.56	0.22	0.27
6 clusters	0.23	0.36	0.36	0.02	0.03	53.48	0.14	100.81	0.24	0.29
7 clusters	0.25	0.38	0.38	0.03	0.03	49.12	0.16	96.66	0.27	0.28
8 clusters	0.25	0.39	0.39	0.03	0.03	44.67	0.16	89.07	0.28	0.27
9 clusters	0.27	0.44	0.44	0.03	0.04	41.28	0.17	82.79	0.29	0.25
10 clusters	0.28	0.45	0.45	0.03	0.04	38.67	0.18	79.73	0.31	0.24
11 clusters	0.27	0.46	0.46	0.03	0.03	36.38	0.19	74.83	0.32	0.24
12 clusters	0.27	0.46	0.46	0.02	0.02	34.40	0.19	69.70	0.33	0.24

Figure A7: Standardized cluster quality measures of Ward cluster analysis (weekend days)

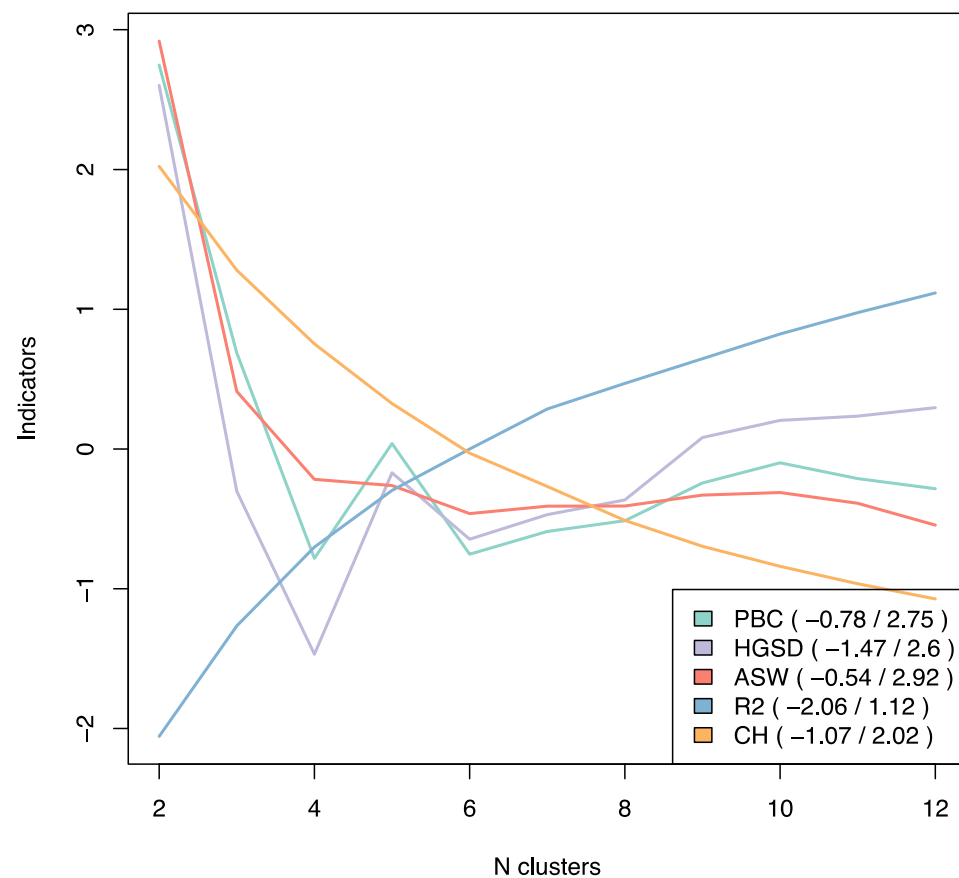
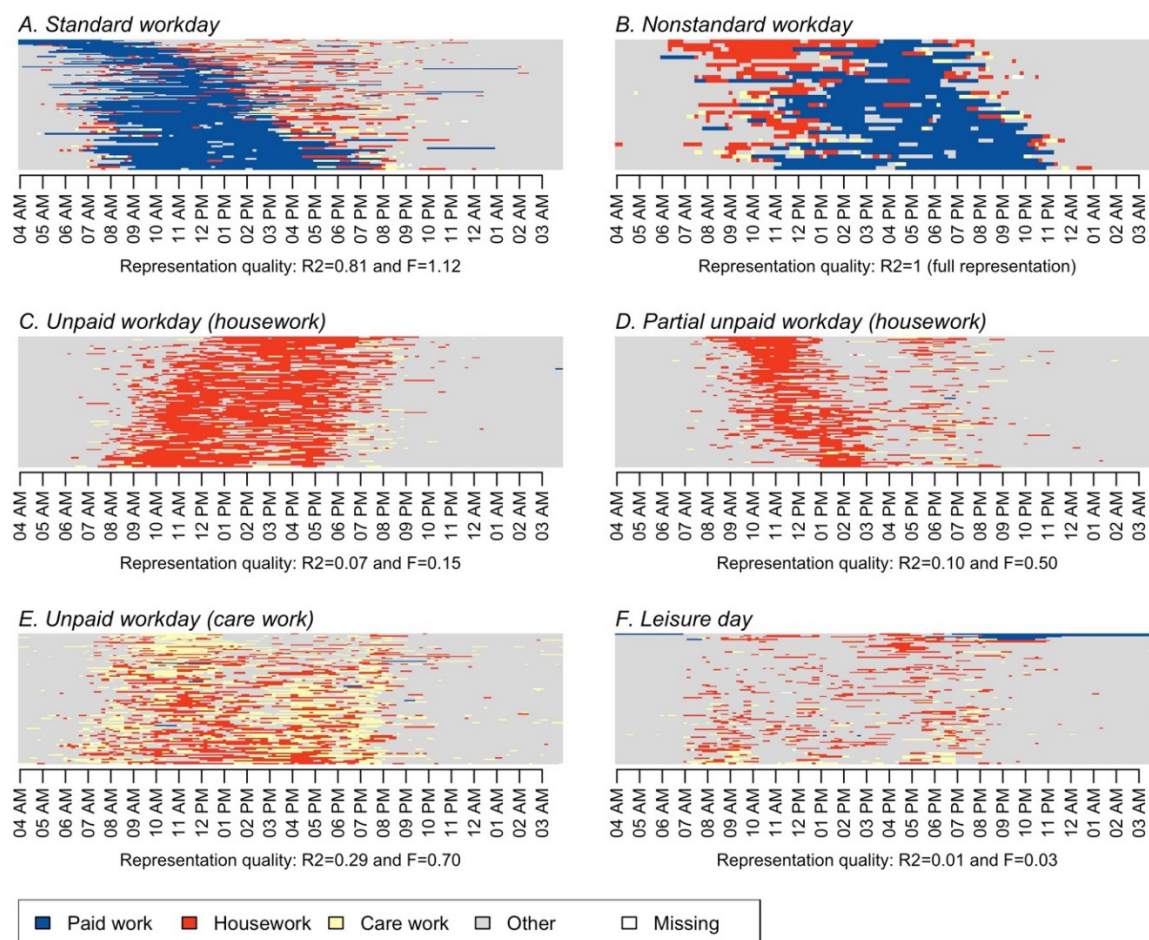
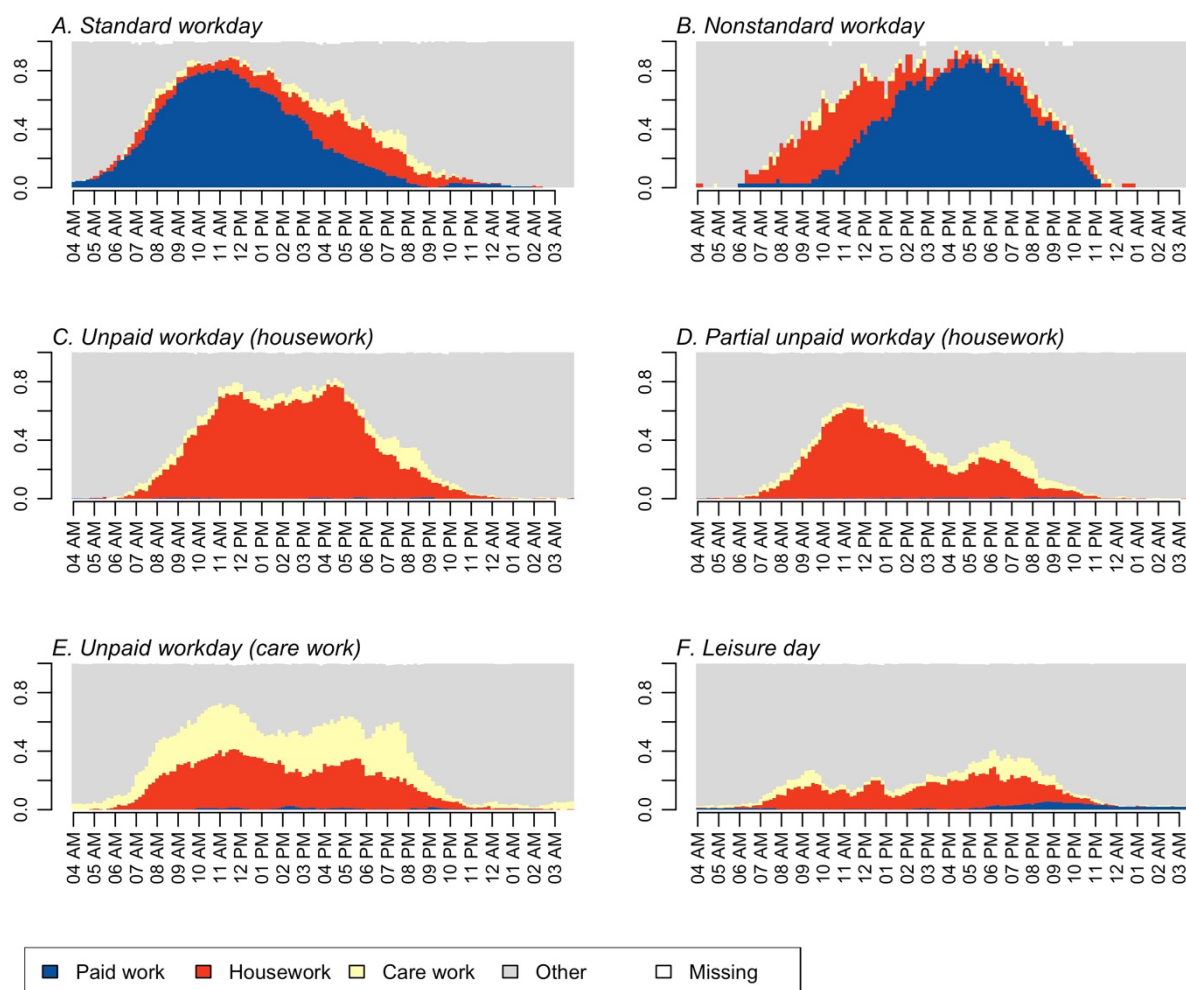


Figure A8: Relative frequency sequence plots of six clusters (weekend days)



Note: Each graph plots 100 representative individual sequences for each cluster; sequences are sorted according to multidimensional scaling; goodness-of-fit measures are shown below the graphs.

Figure A9: State distribution plots of six clusters (weekend days)



Note: The plots summarize the aggregate state distribution for each cluster.

Table A17: Descriptive statistics on the six clusters: Distribution by country and mean time (hours per day) by activity (Weekend days)

	Standard workday	Non- standard workday	Unpaid workday (house- work)	Partial unpaid workday (house- work)	Unpaid workday (care work)	Lei- sure day	Total
<i>Percentage (%) by country</i>							
United Kingdom	10.1	2.6	19.6	29.2	21.6	16.8	100.0
Western Germany	6.7	1.8	16.4	36.4	17.7	21.0	100.0
<i>N by country</i>							
United Kingdom	66	17	145	203	150	117	698
Western Germany	60	16	162	349	118	192	897
<i>Mean time by activity</i>							
Paid work	6.6	7.2	0.0	0.1	0.1	0.4	0.8
Housework	2.0	2.6	6.8	4.2	3.9	2.2	4.0
Care work	0.9	0.6	1.2	1.2	4.1	1.1	1.7
Unpaid work	2.9	3.2	8.0	5.4	8.1	3.4	5.7
Total work	9.4	10.5	8.1	5.5	8.2	3.8	6.6

Note: Unpaid work refers to the sum of housework and care work; total work is calculated as the sum of paid and unpaid work; weighted data considering both the TUS' diary weights, and accounting for the UKTUS' complex survey design (PSUs nested in STRATA).

Figure A10: Predicted probability of cluster membership by education (A) and household income (B): United Kingdom and western Germany (weekend days)

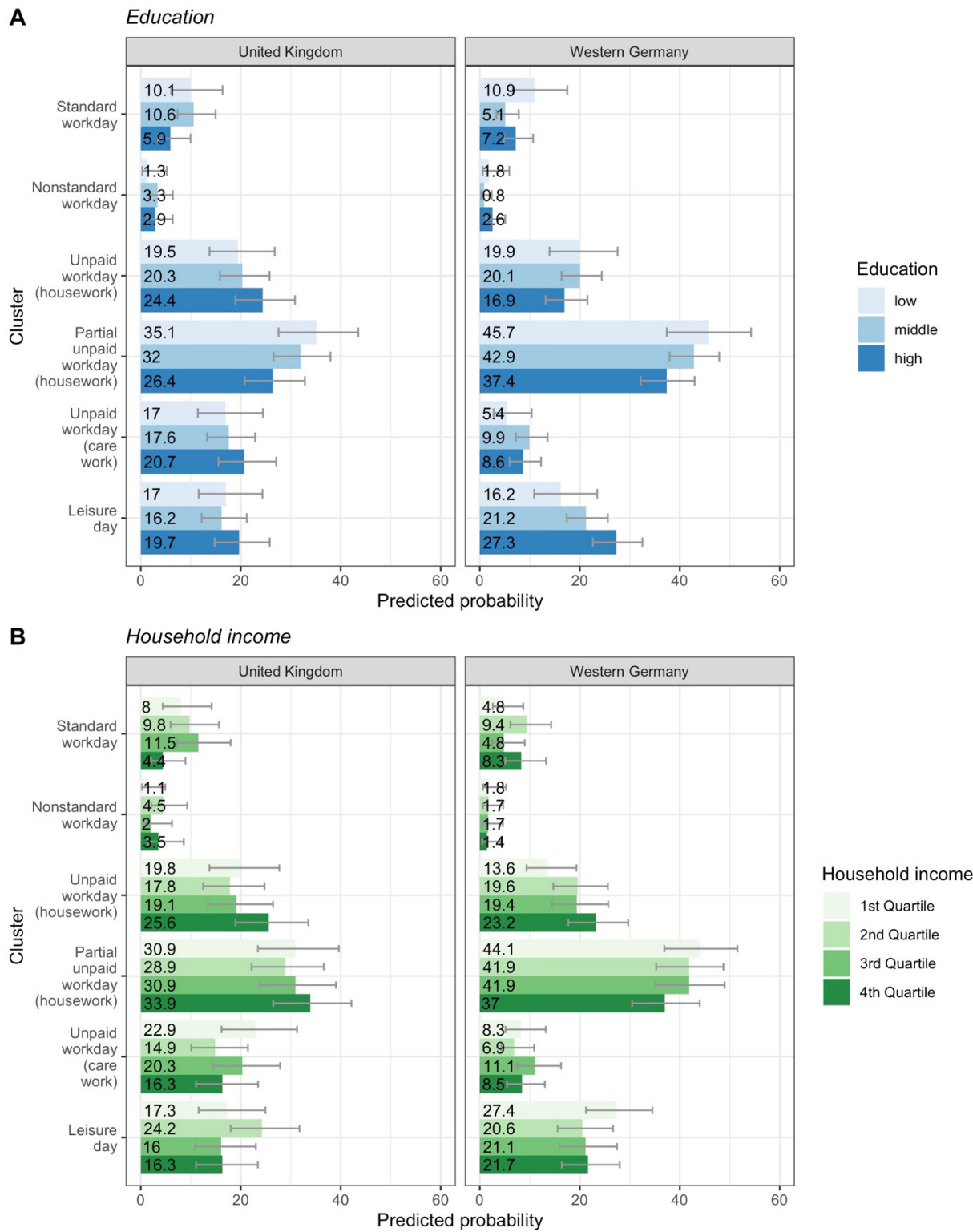


Table A18: Results of multinomial logistic regression of education on cluster membership: United Kingdom (weekend days)

	Cluster				
	Nonstandard workday	Unpaid workday (housework)	Partial unpaid workday (housework)	Unpaid workday (care work)	Leisure day
education (middle)	2.44 (0.85)	1.00 (0.39)	0.87 (0.37)	0.99 (0.41)	0.91 (0.41)
education (high)	3.78** (0.92)	2.15*** (0.45)	1.28*** (0.43)	2.09*** (0.47)	1.98*** (0.46)
Constant	0.08 (1.11)	0.71 (0.57)	2.92 (0.52)	2.19 (0.56)	1.71 (0.57)
Akaike Inf. Crit.	2,133.00	2,133.00	2,133.00	2,133.00	2,133.00

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 660; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A19: Results of multinomial logistic regression of education on cluster membership: Western Germany (weekend days)

	Cluster				
	Nonstandard workday	Unpaid workday (housework)	Partial unpaid workday (housework)	Unpaid workday (care work)	Leisure day
education (middle)	0.99 (0.84)	2.16*** (0.41)	2.01*** (0.37)	3.92** (0.50)	2.80*** (0.42)
education (high)	2.12*** (0.75)	1.29*** (0.41)	1.24*** (0.37)	2.40*** (0.50)	2.55*** (0.41)
Constant	0.21 (1.14)	1.56 (0.58)	2.52 (0.53)	2.41 (0.64)	1.06 (0.58)
Akaike Inf. Crit.	2,636.30	2,636.30	2,636.30	2,636.30	2,636.30

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 890; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A20: Results of multinomial logistic regression of household income on cluster membership: United Kingdom (weekend days)

	Cluster				
	Nonstandard workday	Unpaid workday (housework)	Partial unpaid workday (housework)	Unpaid workday (care work)	Leisure day
2nd Quartile	3.29 (0.92)	0.74* (0.48)	0.77* (0.45)	0.53* (0.48)	1.15* (0.48)
3rd Quartile	1.26** (1.06)	0.67*** (0.50)	0.69*** (0.47)	0.62*** (0.49)	0.65*** (0.51)
4rth Quartile	5.77*** (1.07)	2.36*** (0.57)	2.00*** (0.55)	1.31*** (0.58)	1.73*** (0.59)
Constant	0.08 (1.19)	0.95 (0.63)	2.89 (0.58)	4.32 (0.60)	2.00 (0.62)
Akaike Inf. Crit.	2,079.22	2,079.22	2,079.22	2,079.22	2,079.22

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 642; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

Table A21: Results of multinomial logistic regression of household income on cluster membership: Western Germany (weekend days)

	Cluster				
	Nonstandard workday	Unpaid workday (housework)	Partial unpaid workday (housework)	Unpaid workday (care work)	Leisure day
2nd Quartile	0.48** (0.84)	0.74*** (0.45)	0.48*** (0.41)	0.42*** (0.50)	0.38*** (0.43)
3rd Quartile	0.91*** (0.90)	1.44*** (0.54)	0.95*** (0.50)	1.34*** (0.57)	0.77*** (0.52)
4rth Quartile	0.46*** (0.88)	0.99*** (0.49)	0.49*** (0.45)	0.59*** (0.54)	0.46*** (0.48)
Constant	0.53 (1.15)	2.47 (0.62)	6.19 (0.57)	9.70 (0.64)	4.73 (0.60)
Akaike Inf. Crit.	2,650.83	2,650.83	2,650.83	2,650.83	2,650.83

Note: *p<0.05; **p<0.01; ***p<0.001
rel. risk ratios (SE in parentheses); N = 890; ref = Standard workday; model additionally controls for number of children, age of youngest child, household type, and whether household receives unpaid support (coefficients omitted).

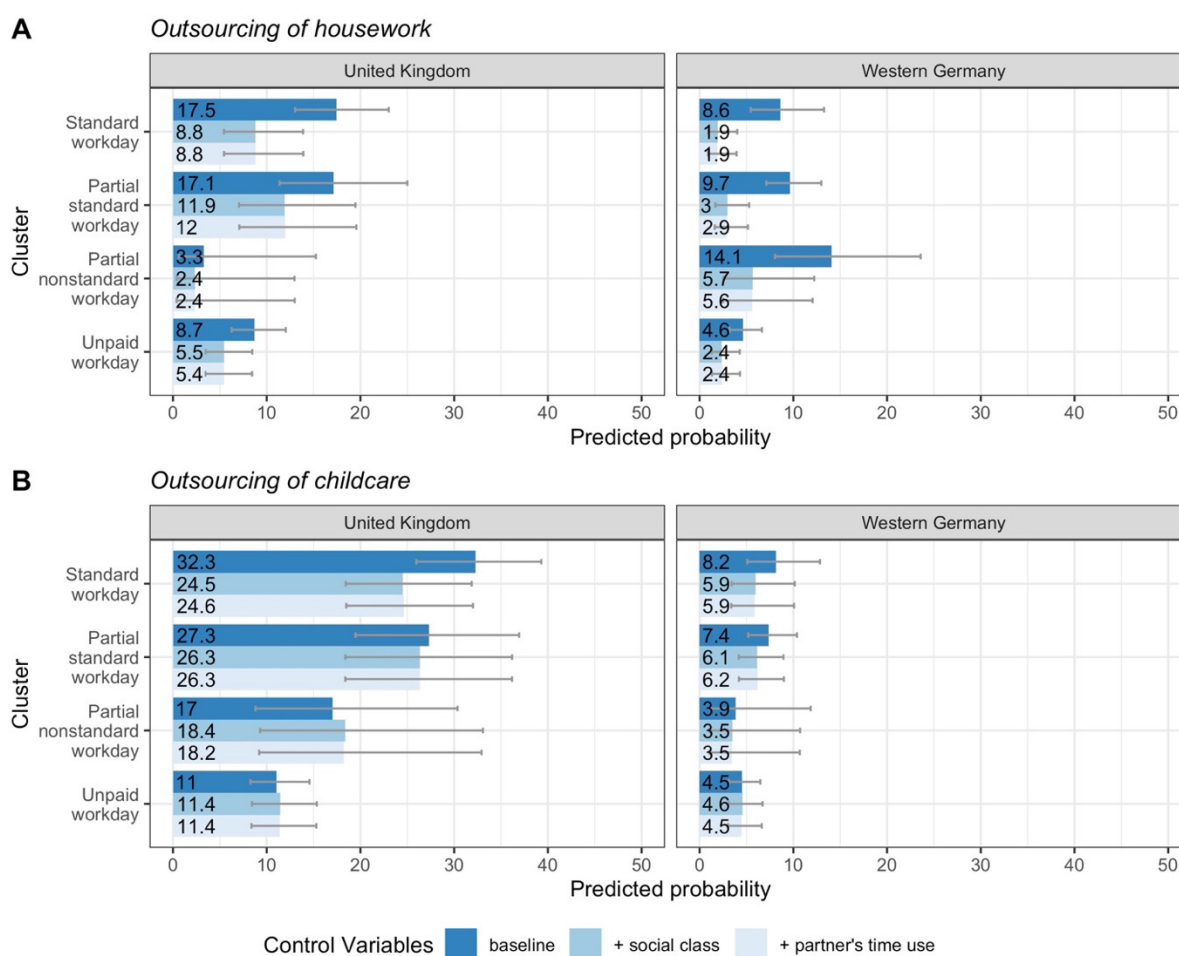
Domestic Outsourcing Among Partnered Mothers

Table A22: Overview of sample selection (number of diary days) – Weekday sample restricted to partnered mothers: United Kingdom and western Germany

	United Kingdom		Western Germany	
	<i>N</i>	% excl. ^a	<i>N</i>	% excl. ^a
a) Analytical sample	791		1,156	
b) Mothers in couple household	653	17.4	913	21.0

^a Percentage of observations of analytical sample excluded in robustness sample

Figure A11: Predicted probability of cluster membership by education (A) and household income (B): United Kingdom and western Germany (partnered mothers)



Note: Error bars represent 95% confidence intervals. Probabilities for outsourcing housework are calculated from models 2.A to 2.C for partnered mothers (Table A23). Probabilities for outsourcing childcare are calculated from models 3.A to 3.C for partnered mothers (Table A24).

Table A23: Results of logistic regression models of cluster membership on outsourcing household work (stepwise models): United Kingdom and western Germany (Model 2, partnered mothers)

	<i>Dependent variable:</i>					
	Outsourcing housework					
	United Kingdom (1)	United Kingdom (2)	United Kingdom (3)	Western Germany (4)	Western Germany (5)	Western Germany (6)
Partial standard workday	0.98** (0.35)	1.41*** (0.41)	1.41*** (0.41)	1.14** (0.36)	1.57*** (0.40)	1.55*** (0.40)
Partial nonstandard workday	0.16 (1.04)	0.25 (1.12)	0.25 (1.12)	1.75*** (0.48)	3.06*** (0.54)	3.07*** (0.54)
Unpaid workday	0.45 (0.31)	0.60 (0.39)	0.60 (0.39)	0.52 (0.37)	1.24** (0.45)	1.27** (0.46)
Education (high)		2.21*** (0.33)	2.21*** (0.33)		4.49*** (0.33)	4.51*** (0.33)
Hh-income (2nd Quartile)		1.48 (0.76)	1.46 (0.76)		7.77*** (1.06)	7.51*** (1.06)
Hh-income (3rd Quartile)		3.88*** (0.69)	3.85*** (0.69)		10.20*** (1.05)	9.78*** (1.05)
Hh-income (4th Quartile)		16.91*** (0.68)	16.80*** (0.68)		36.83*** (1.03)	35.01*** (1.03)
Earnings share		1.00*** (0.01)	1.00*** (0.01)		1.02*** (0.01)	1.02*** (0.01)
Partner's housework hours			0.98*** (0.09)			0.92*** (0.08)
Constant	0.26 (0.59)	0.02 (0.99)	0.02 (1.00)	0.05 (0.59)	0.0003 (1.31)	0.0003 (1.31)
Observations	558	558	558	904	904	904
Log Likelihood	-202.27	-163.67	-163.65	-241.19	-186.64	-186.05
Akaike Inf. Crit.	422.55	355.34	357.30	500.37	401.28	402.10

Note:

*p<0.05; **p<0.01; ***p<0.001

odds ratios (SE in parentheses); all models additionally control for number of children, age of youngest child, receiving unpaid household support and receiving unpaid childcare support (coefficients omitted).

Table A24: Results of logistic regression models of cluster membership on outsourcing childcare (stepwise models): United Kingdom and western Germany (Model 3, partnered mothers)

	<i>Dependent variable:</i>					
	Outsourcing childcare					
	United Kingdom (1)	United Kingdom (2)	United Kingdom (3)	Western Germany (4)	Western Germany (5)	Western Germany (6)
Partial standard workday	0.79* (0.33)	1.10** (0.35)	1.09** (0.35)	0.90* (0.37)	1.03** (0.39)	1.05** (0.39)
Partial nonstandard workday	0.43 (0.49)	0.69 (0.52)	0.68 (0.52)	0.45 (0.80)	0.57 (0.80)	0.57 (0.80)
Unpaid workday	0.26 (0.27)	0.40 (0.31)	0.39 (0.31)	0.53 (0.37)	0.76 (0.43)	0.75 (0.43)
Education (middle)		1.30*** (0.38)	1.30*** (0.38)		2.18*** (0.64)	2.26*** (0.64)
Education (high)		2.23*** (0.38)	2.25*** (0.38)		4.22*** (0.63)	4.44*** (0.64)
Hh-income (2nd Quartile)		1.49*** (0.38)	1.48*** (0.38)		1.34*** (0.39)	1.32*** (0.40)
Hh-income (3rd Quartile)		1.96*** (0.37)	1.96*** (0.37)		1.19** (0.40)	1.16** (0.40)
Hh-income (4th Quartile)		2.95*** (0.40)	2.94*** (0.40)		1.14** (0.41)	1.12** (0.41)
Earnings share		1.01*** (0.01)	1.01*** (0.01)		1.01*** (0.01)	1.01*** (0.01)
Partner's care work hours			0.97*** (0.11)			1.12*** (0.11)
Constant	0.83 (0.53)	0.14 (0.74)	0.15 (0.76)	0.15 (0.61)	0.03 (0.98)	0.02 (0.99)
Observations	558	558	558	904	904	904
Log Likelihood	-256.89	-243.61	-243.56	-220.73	-213.11	-212.62
Akaike Inf. Crit.	531.78	517.21	519.12	459.47	456.21	457.24

Note:

*p<0.05; **p<0.01; ***p<0.001

odds ratios (SE in parentheses); all models additionally control for number of children, age of youngest child, receiving unpaid household support and receiving unpaid childcare support (coefficients omitted).

Supplementary Material Chapter 4

Supplementary Tables and Figures

Supplementary Table 1: Descriptive statistics for the 15 medoids: France

Cluster	Medoid	Median time in paid work (hr:min)	Median beginning time (hr:min)	Median end time (hr:min)	N	%
Standard	1	08:40	08:10	17:30	556	12.70%
	2	09:50	08:10	19:00	485	12.19%
	3	10:10	07:10	18:00	421	10.44%
	8	08:30	08:50	18:30	413	9.87%
	9	08:30	07:40	16:40	334	7.88%
Long	13	10:50	08:40	20:10	318	7.38%
	15	12:20	07:10	20:20	223	5.10%
Morning	5	05:00	08:00	13:00	310	5.40%
Afternoon	11	04:20	13:20	17:40	210	2.81%
Early shift	7	08:30	06:40	15:10	163	4.54%
	10	08:30	05:10	13:20	165	4.30%
Late shift	14	08:40	12:10	21:00	214	5.43%
Night shift	4	09:10	21:00	05:50	79	1.95%
	12	06:00	19:30	00:10	72	1.16%
Not working	6	01:10	11:40	16:00	644	8.86%

Note: Diary days, in which individuals only marginally worked were identified with the k-means analysis (medoid 6 with a median time of 1:10 hours of paid work in France/ medoid 8 with a median time of 1:50 hours of paid work in Germany). These days were classified as “not working”. If both partners’ types of days were classified as “not working” according to the medoid, these days were excluded after performing the sequence and cluster analyses, to fit the selection criterion of the analytical sample that at least one partner engages in paid work (see methods section).

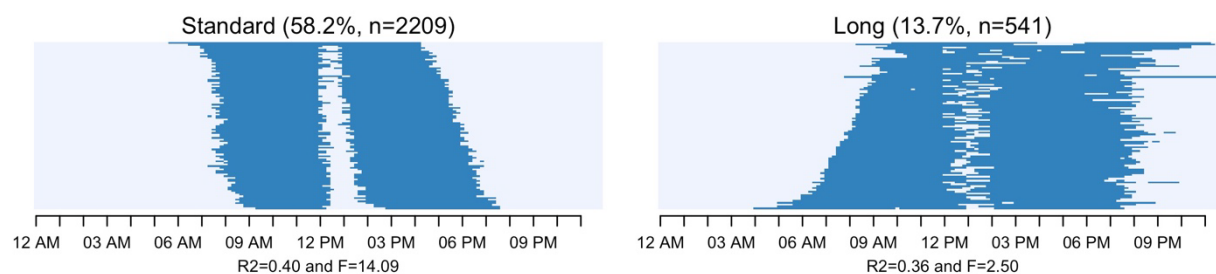
Supplementary Table 2: Descriptive statistics for the 15 medoids: Germany

Cluster	Medoid	Median time in paid work	Median beginning time	Median end time	N	%
Standard	1	9:10	6:40	16:10	503	11.12%
	2	10:10	7:40	18:20	406	9.98%
	3	8:50	7:50	17:00	476	10.53%
	5	9:00	9:00	18:50	243	5.37%
Long	6	11:00	6:10	17:30	334	7.39%
	7	11:50	7:10	20:00	262	5.79%
Morning	4	7:00	8:10	15:20	329	7.28%
	8	6:00	7:30	13:20	357	7.89%
	10	4:50	7:40	12:10	296	6.55%
	14	3:50	9:50	14:00	175	3.87%
Afternoon	11	4:50	12:40	18:00	138	3.05%
Early shift	12	9:00	5:40	14:50	343	7.59%
Late shift	13	9:10	13:10	22:30	183	4.05%
Night shift	15	9:30	20:50	06:30	71	1.57%
Not working	9	1:50	13:00	17:30	406	8.98%

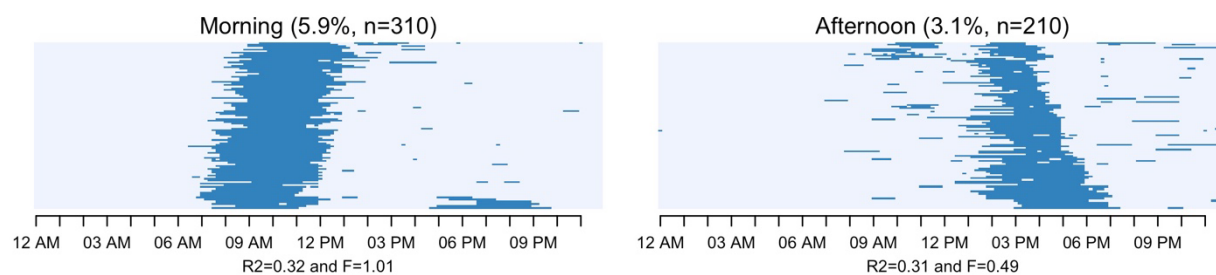
Note: Diary days, in which individuals only marginally worked were identified with the k-means analysis (medoid 6 with a median time of 1:10 hours of paid work in France/ medoid 8 with a median time of 1:50 hours of paid work in Germany). These days were classified as “not working”. If both partners’ types of days were classified as “not working” according to the medoid, these days were excluded after performing the sequence and cluster analyses, to fit the selection criterion of the analytical sample that at least one partner engages in paid work (see methods section).

Supplementary Figure 1: Relative frequency sequence plots of seven work schedule clusters derived with sequence analysis: France

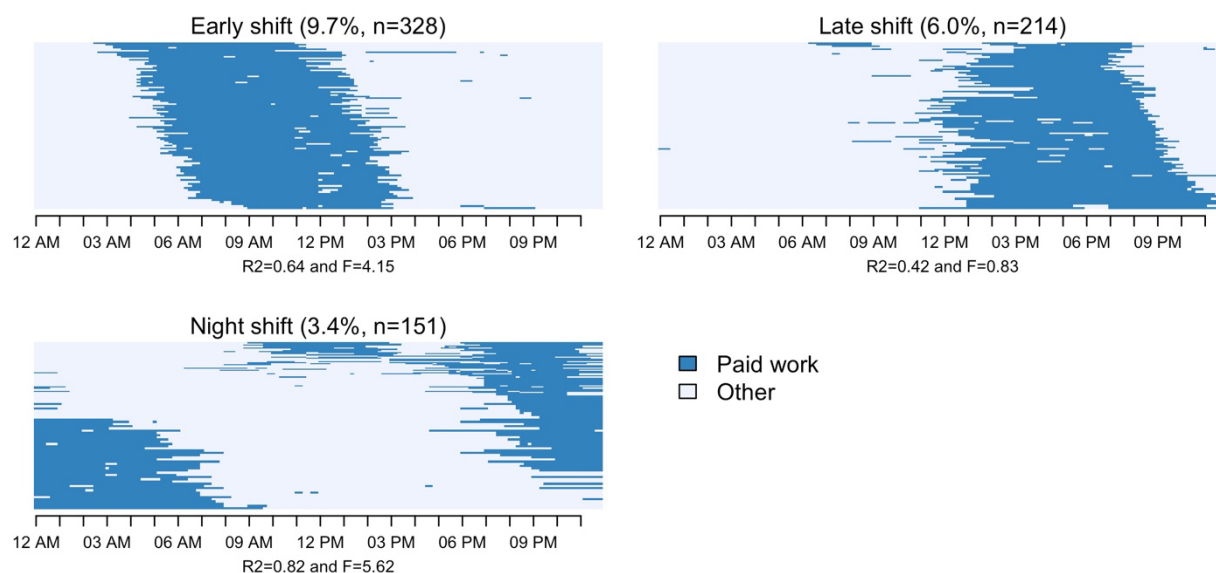
Full standard workdays (71.9%)



Partial workdays (9.0%)

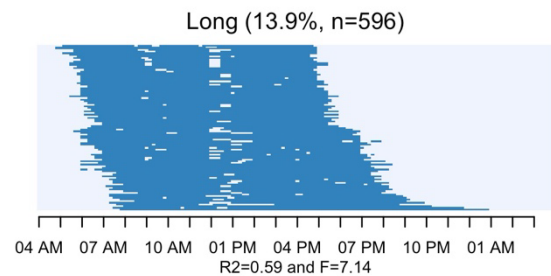
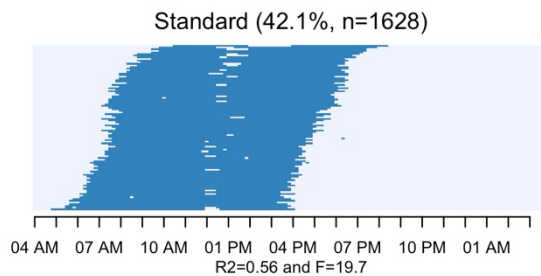


Full shift workdays (19.1%)

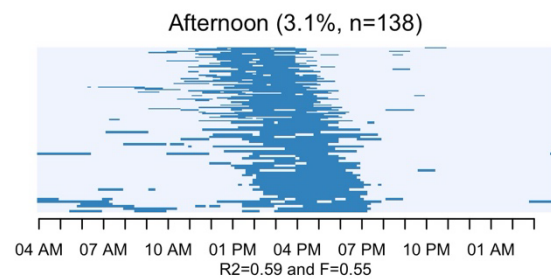
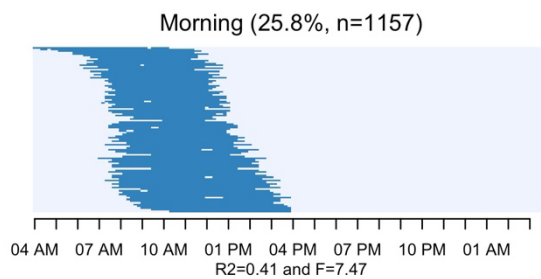


Supplementary Figure 2: Relative frequency sequence plots of seven work schedule clusters derived with sequence analysis: Germany

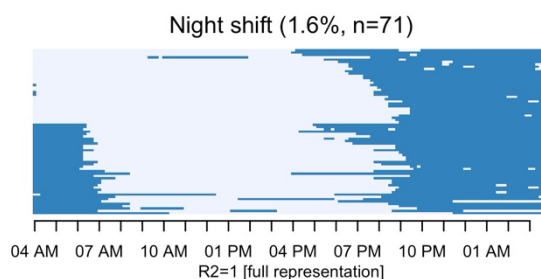
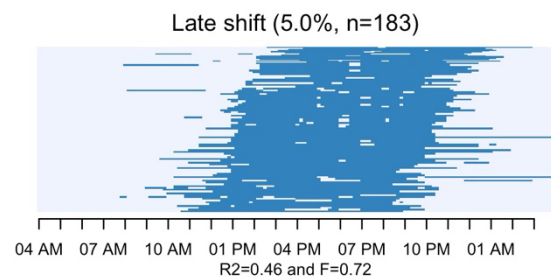
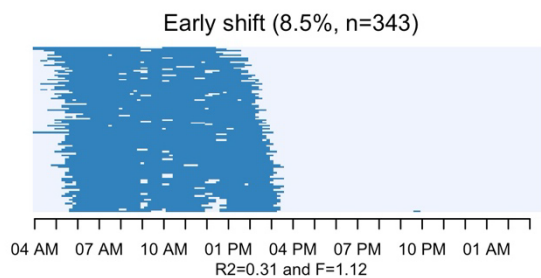
Full standard workdays (55.9%)



Partial workdays (28.9%)



Full shift workdays (15.1%)



■ Paid work
□ Other

Supplementary Table 3: Descriptive statistics for education and age of youngest child by gender

	Men	Women	All
<i>France</i>			
<i>Education</i>			
Low	14.76	12.90	13.83
Middle	46.49	40.95	43.72
High	38.75	46.15	42.45
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>
<i>Age of youngest child</i>			
Below 6 years old			35.55
6 to 17 years old			36.74
No children below 18			27.71
<i>Total</i>			<i>100</i>
<i>Germany</i>			
<i>Education</i>			
Low	19.95	9.11	15.63
Middle	31.37	44.83	36.73
High	48.68	46.06	47.63
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>
<i>Age of youngest child</i>			
Below 6 years old			24.19
6 to 17 years old			57.05
No children below 18			18.75
<i>Total</i>			<i>100</i>

Supplementary Table 4: Results of multinomial logistic regression on type of day: France

	Type of day (ref = 'Standard')				
	Long	Partial	Shift	Not working	Not employed
Education (middle)	1.30 (0.23)	1.13 (0.27)	0.52 (0.15)	0.74 (0.22)	0.42 (0.21)
Education (high)	1.79** (0.23)	1.45** (0.26)	0.19*** (0.18)	0.87** (0.22)	0.35** (0.23)
Gender (women)	1.42 (0.34)	2.70 (0.34)	0.72 (0.26)	2.52 (0.29)	1.51 (0.26)
Presence/Age child (below 6)	0.82* (0.16)	1.18 (0.20)	0.82* (0.16)	1.27 (0.19)	0.38 (0.23)
Presence/Age child (6 to 17)	1.01*** (0.17)	1.02*** (0.21)	1.19*** (0.16)	1.47*** (0.19)	0.68*** (0.20)
Marital status (not married)	0.95*** (0.11)	1.14*** (0.12)	1.01*** (0.10)	1.15*** (0.10)	1.04*** (0.11)
Age group (below 30)	1.36** (0.18)	0.95** (0.20)	1.22** (0.17)	0.98** (0.16)	1.57** (0.17)
Age group (30 to 35)	1.17*** (0.17)	0.98*** (0.17)	1.04*** (0.16)	1.19*** (0.14)	0.83*** (0.17)
Age group (40 to 45)	1.20** (0.16)	1.50** (0.16)	0.82** (0.16)	1.06** (0.14)	0.78* (0.18)
Age group (45 to 50)	1.02*** (0.19)	1.31*** (0.19)	0.84*** (0.17)	1.23*** (0.16)	0.87*** (0.19)
Age group (above 50)	0.93*** (0.19)	1.37*** (0.20)	0.54*** (0.18)	0.92*** (0.17)	1.29*** (0.18)
Day of week (weekend day)	2.86 (0.15)	9.90 (0.13)	6.71 (0.13)	10.09 (0.12)	3.41 (0.15)
Education (middle) * Gender (women)	0.66* (0.35)	0.61* (0.35)	1.57** (0.26)	1.49** (0.29)	1.47** (0.27)
Education (high) * Gender (women)	0.41 (0.34)	0.44 (0.34)	1.80 (0.28)	1.03 (0.29)	0.57 (0.29)
Age child (below 6) * Gender (women)	0.84*** (0.26)	1.53*** (0.26)	0.94*** (0.23)	1.29*** (0.23)	8.27*** (0.26)
Age child (6 to 17) * Gender (women)	0.76*** (0.25)	1.33*** (0.26)	0.64*** (0.23)	0.85*** (0.23)	1.63*** (0.25)
Constant	0.17 (0.27)	0.07 (0.32)	0.69 (0.21)	0.12 (0.26)	0.37 (0.25)
Akaike Inf. Crit.	16,291.50	16,291.50	16,291.50	16,291.50	16,291.50

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 5448

Supplementary Table 5: Results of multinomial logistic regression on type of day: Germany

	Type of day (ref = 'Standard')				
	Long	Partial	Shift	Not working	Not employed
Education (middle)	0.91 (0.16)	0.98 (0.17)	0.88 (0.15)	1.20 (0.20)	0.94 (0.21)
Education (high)	1.00*** (0.14)	0.93*** (0.15)	0.32*** (0.16)	0.62** (0.20)	0.37* (0.22)
Gender (women)	0.92 (0.48)	4.99 (0.32)	1.58 (0.36)	4.54 (0.36)	6.11 (0.34)
Presence/Age child (below 6)	1.18 (0.19)	0.85 (0.19)	0.84 (0.20)	0.58 (0.25)	0.33 (0.31)
Presence/Age child (6 to 17)	1.07*** (0.16)	1.00*** (0.16)	0.92*** (0.18)	0.97*** (0.20)	0.82*** (0.20)
Marital status (not married)	0.91*** (0.16)	0.83*** (0.13)	0.83*** (0.16)	0.84*** (0.15)	0.79*** (0.16)
Age group (below 30)	0.79** (0.33)	0.91*** (0.25)	0.71** (0.32)	1.30** (0.28)	2.23*** (0.25)
Age group (30 to 35)	0.81*** (0.23)	0.97*** (0.17)	0.98*** (0.21)	1.20*** (0.19)	0.92*** (0.19)
Age group (40 to 45)	1.19*** (0.17)	1.24*** (0.14)	1.26*** (0.16)	1.14*** (0.16)	1.00*** (0.16)
Age group (45 to 50)	1.24*** (0.18)	1.35*** (0.14)	0.86*** (0.17)	1.02*** (0.17)	0.99*** (0.17)
Age group (above 50)	1.55*** (0.18)	1.53*** (0.15)	0.96*** (0.18)	1.34*** (0.18)	2.35*** (0.18)
Day of week (weekend day)	1.20 (0.24)	4.75 (0.16)	4.94 (0.18)	11.52 (0.16)	2.87 (0.20)
Education (middle) * Gender (women)	0.48 (0.51)	0.47* (0.31)	0.38 (0.36)	0.33 (0.34)	0.25 (0.33)
Education (high) * Gender (women)	0.69 (0.49)	0.37 (0.30)	0.93 (0.36)	0.47 (0.34)	0.32 (0.34)
Age child (below 6) * Gender (women)	0.73* (0.42)	5.22*** (0.26)	1.99** (0.33)	9.23** (0.32)	53.87* (0.36)
Age child (6 to 17) * Gender (women)	0.46*** (0.31)	2.44*** (0.21)	1.29*** (0.26)	3.44*** (0.26)	5.53*** (0.26)
Constant	0.36 (0.24)	0.29 (0.22)	0.57 (0.23)	0.17 (0.27)	0.21 (0.27)
Akaike Inf. Crit.	17,827.02	17,827.02	17,827.02	17,827.02	17,827.02

Note:

*p<0.05; **p<0.01; ***p<0.001

rel. risk ratios (SE in parentheses); N = 5820

Robustness Checks

Multinomial logistic regressions rely on an underlying assumption (amongst others), the “independence of irrelevant alternatives” (IIA) assumption, which implies that a person’s “choice” between alternative outcomes—here, for instance, between standard and long schedules –, should be unaffected by other available choices—for instance, not working or being out of employment. This assumption is particularly relevant to our question, as one could argue that some choices—specific work schedules—are dependent on others—working *at all*. We address this issue in two ways. On a theoretical level, our paper argues that being employed and working on a specific day, are in fact alternatives to being offered schedules that are not compatible with care demands, and in particular, with children’s schedules (such as long or shift schedules), rather than a prior, first-order choice. In other words, we posit that care demands can lead individuals, and especially women with children, to have to consider their employment based on the schedules they can get access to, rather than in a general manner. When individuals do work, days off could reflect conflicts between work schedules and care demands, which women would again be more likely to have to solve by not attending work.

On a methodological level, several robustness checks assure the stability of the analysis. A common test used to test the violation of the IIA assumption is the Hausman-McFadden test, which compares estimates from a full model to a restricted model which excludes one (or several) of the categories. However, Cheng and Long (2007)⁸ show that test results are highly inconsistent, “often [rejecting] the assumption when the alternatives seem distinct and [failing] to reject IIA when the alternatives can reasonably be viewed as close substitutes” (Cheng and Long, 2007: 583). The results from Hausman-McFadden tests conducted on different iterations for both France and Germany are presented in supplementary Table 6. Although the test rules in favor of the violation of the IIA assumption relative to the “not working” category in France, it is not the case in Germany. Similarly, removing both the “not working” and “not employed” categories violates the assumption in Germany but not in France. Furthermore, for Germany only, when restricting the model to four categories, the test rules in favor of a violation when removing either the “long” or

⁸ Cheng, S., & Long, S. J. (2007). Testing for IIA in the Multinomial Logit Model. *Sociological Methods & Research*, 35(4), 583-600. <https://doi.org/10.1177/0049124106292361>

“partial” categories but not when removing the “standard” or “shift” categories, even though these can be considered as “close substitutes”.

Supplementary Table 6: Results from the Hausman-McFadden tests on seven iterations of multinomial logistic models (p-values)

	France	Germany
Test without “not working”	$p < 0.05$	$p = 1$
Test without “not employed”	$p = 1$	$p = 1$
Test without “not working” and “not employed”	$p = 1$	$p < 0.05$
Test on restricted model, without “standard”	$p = 1$	$p = 1$
Test on restricted model, without “long”	$p = 1$	$p < 0.05$
Test on restricted model, without “partial”	$p = 1$	$p < 0.05$
Test on restricted model, without “shift”	$p = 1$	$p = 0.99$

Note: when $p < 0.05$, we can reject the null hypothesis, which is that the IIA is *not* violated, with less than 5% chances of being wrong. When $p > 0.05$, we cannot reject the null hypothesis.

In addition to these tests, we thus run six models: one without the “not employed” category, one without the “not working” category, and one without both categories, for France and Germany, respectively. Results show great stability, with correlation coefficients systematically higher than .99 between odds-ratios from the full model and those from each restricted model, and higher than .90 between predicted probabilities. The full models are available upon request.

Supplementary Table 7: Correlation coefficients (r) between odds-ratios and predicted probabilities from full models and from restricted models

	France		Germany	
	Odds-ratio	Predicted probability	Odds-ratio	Predicted probability
Test without “not working”	$r > 0.99$	$r > 0.99$	$r > 0.99$	$r = 0.96$
Test without “not employed”	$r > 0.99$	$r > 0.99$	$r > 0.99$	$r = 0.99$
Test without “not working” and “not employed”	$r > 0.99$	$r = 0.97$	$r > 0.99$	$r = 0.90$

Note: $r = 1$ means perfect correlation between two variables.

Supplementary Table 8: Average multivariate contrasts by gender, education and presence and age of children

Contrast	France		Germany	
	T ²	P.value	T ²	P.value
Education				
Low-education, Men - Middle-education, Men	37.70	$p < 0.01$	2.63	$p = 1$
Low-education, Men - High-education, Men	137.01	$p < 0.01$	65.89	$p < 0.01$
<i>Low-education, Men - Low-education, Women</i>	<i>84.06</i>	<i>$p < 0.01$</i>	<i>356.90</i>	<i>$p < 0.01$</i>
Low-education, Men - Middle-education, Women	98.30	$p < 0.01$	341.07	$p < 0.01$
Low-education, Men - High-education, Women	141.14	$p < 0.01$	221.64	$p < 0.01$
Middle-education, Men - High-education, Men	86.20	$p < 0.01$	84.93	$p < 0.01$
Middle-education, Men - Low-education, Women	149.50	$p < 0.01$	410.77	$p < 0.01$
<i>Middle-education, Men - Middle-education, Women</i>	<i>242.63</i>	<i>$p < 0.01$</i>	<i>431.12</i>	<i>$p < 0.01$</i>
Middle-education, Men - High-education, Women	212.74	$p < 0.01$	273.64	$p < 0.01$
High-education, Men - Low-education, Women	170.56	$p < 0.01$	550.31	$p < 0.01$
High-education, Men - Middle-education, Women	246.97	$p < 0.01$	570.80	$p < 0.01$
<i>High-education, Men - High-education, Women</i>	<i>118.41</i>	<i>$p < 0.01$</i>	<i>395.34</i>	<i>$p < 0.01$</i>
Low-education, Women - Middle-education, Women	11.60	$p = 0.61$	48.71	$p < 0.01$
Low-education, Women - High-education, Women	80.18	$p < 0.01$	103.12	$p < 0.01$
Middle-education, Women - High-education, Women	91.95	$p < 0.01$	36.52	$p < 0.01$
Presence and Age of children				
No children, Men – Child(ren) < 6, Men	26.11	$p < 0.01$	20.22	$p = 0.05$
No children, Men - Child(ren) 6 to 17, Men	10.84	$p = 0.70$	1.57	$p = 1$
<i>No children, Men - No children, Women</i>	<i>49.97</i>	<i>$p < 0.01$</i>	<i>62.63</i>	<i>$p < 0.01$</i>
No children, Men - Child(ren) below 6, Women	218.42	$p < 0.01$	431.57	$p < 0.01$
No children, Men - Child(ren) 6 to 17, Women	96.50	$p < 0.01$	304.35	$p < 0.01$
Child(ren) < 6, Men - Child(ren) 6 to 17, Men	<i>13.54</i>	$p = 0.40$	21.06	$p < 0.05$
Child(ren) < 6, Men - No children, Women	57.46	$p < 0.01$	132.88	$p < 0.01$
<i>Child(ren) < 6, Men - Women</i>	<i>294.99</i>	<i>$p < 0.01$</i>	<i>749.04</i>	<i>$p < 0.01$</i>
Child(ren) < 6, Men - Child(ren) 6 to 17, Women	105.64	$p < 0.01$	563.35	$p < 0.01$
Child(ren) 6 to 17, Men - No children, Women	45.67	$p < 0.01$	100.22	$p < 0.01$
Child(ren) 6 to 17, Men - Child(ren) < 6, Women	245.80	$p < 0.01$	698.28	$p < 0.01$
<i>Child(ren) 6 to 17, Men - Women</i>	<i>121.05</i>	<i>$p < 0.01$</i>	<i>640.42</i>	<i>$p < 0.01$</i>
No children, Women - Child(ren) < 6, Women	78.11	$p < 0.01$	209.38	$p < 0.01$
No children, Women - Child(ren) 6 to 17, Women	10.79	$p = 0.71$	103.15	$p < 0.01$
Child(ren) < 6, Women - Child(ren) 6 to 17, Women	46.78	$p < 0.01$	75.30	$p < 0.01$

Note: Hotelling's T² statistics are squared Mahalanobis distances computed between sets of means (for instance, means for each education level by gender). They are well-suited for models with interaction terms. Higher T² means stronger differences between two groups. P-values indicate whether these differences are statistically significant. Here, contrasts between categories are averaged over all types of schedules. Full results by type of day are available upon request.

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Summary

Despite the prevalence of nonstandard work schedules, schools and childcare facilities still operate during standard hours. Yet, research on how parents coordinate their daily labor market and caregiving demands remains incomplete. While gender and class disparities in the amount of time spent on paid and unpaid work are well documented, the literature on the scheduling of daily activities lacks an intersectional, historical, and comparative perspective. To address this gap, this dissertation investigates how gender and class inequalities in work-family arrangements unfold in the organization of daily time. Three small-N studies combine sequence and cluster analyses with regression models on time-use data to explore trends and patterns of paid and unpaid work in Germany, the United Kingdom, and France.

Study 1 traces how mothers' and fathers' daily time use patterns changed across social classes in historically conservative western Germany and formerly socialist eastern Germany between 1990 and 2013. In the 2000s, Germany introduced policy reforms typical of the adult worker model by combining labor market deregulation with public childcare expansion and the introduction of an income-based parental allowance. I found that time-use patterns became more gender-equal among middle- and upper-class couples with standard work hours in western Germany. By contrast, gendered nonstandard work patterns and dual-joblessness became more prevalent among lower-class couples, particularly in eastern Germany.

Study 2 assesses class differences in mothers' daily organization of paid and unpaid work, and how they are associated with domestic outsourcing in the United Kingdom (2015) and western Germany (2013). In the mid-2010s, both contexts lacked full-day education and care provisions. However, they differed in their broader family, labor, and migration policies. I found that in both contexts, disadvantaged mothers were more likely to have unpaid household and care workdays rather than nonstandard workdays. However, in the UK, more market-oriented as opposed to conservative family policies, stronger labor market deregulation, and more consistent policy incentives for domestic outsourcing corresponded with a greater share of advantaged mothers who outsourced care work to pursue standard rather than partial workdays.

Study 3, co-authored with Jeanne Ganault, investigates how education, and the presence and age of children, shape gendered work schedule arrangements among couples in France (2010) and Germany (2013). Both countries are formerly conservative welfare states with recent trends toward labor market deregulation. However, unlike in Germany, conservative family policies are combined with comprehensive full-day public education and care in France. We found that in both labor market contexts, less-educated men were more likely to work externally imposed shift schedules, whereas less-educated women were more likely to not be employed. However, in France, more work-facilitating family policies coincided with more gender-equal standard work schedules among better-educated men and women.

The findings question class-centered theoretical approaches that conceptualize work schedules as a direct expression of labor market opportunities, as well as family-centered approaches arguing that nonstandard work schedules allow for a more gender-equal division of labor. Instead, they demonstrate the necessity of an intersectional perspective to understand how gender and class shape everyday work and family lives. Moreover, they highlight the importance of considering the interplay of social policies in structuring gender and class inequalities in parents' daily time use.

Zusammenfassung

Trotz weit verbreiteter atypischer Arbeitszeiten operieren Schulen und Kinderbetreuungseinrichtungen weiterhin zu Standardzeiten. Dennoch bleibt die Forschung darüber, wie Eltern ihre Arbeits- und Betreuungsverpflichtungen koordinieren, unvollständig. Während Geschlechter- und Klassenunterscheide hinsichtlich der Menge der bezahlten und unbezahlten Arbeit gut dokumentiert sind, fehlt eine intersektionale, historische und vergleichende Perspektive auf die Zeitorganisation im Alltag. Diese Dissertation adressiert diese Forschungslücke, indem sie Geschlechter- und soziale Klassendifferenzen in Strukturen der Alltagszeit analysiert. Drei vergleichende Studien kombinieren Sequenz- und Clusteranalysen mit Regressionsmodellen anhand von Zeitverwendungsdaten, um Muster bezahlter und unbezahlter Arbeit in Deutschland, dem Vereinigten Königreich und Frankreich sichtbar zu machen.

Studie 1 untersucht, wie sich die Zeitverwendungsmuster von Müttern und Vätern im historisch konservativen Westdeutschland und ehemals sozialistischen Ostdeutschland zwischen 1990 und 2013 je nach sozialer Klasse verändert haben. In den 2000er Jahren kombinierte Deutschland Arbeitsmarktderegulierung mit dem Ausbau der öffentlichen Kinderbetreuung und der Einführung des einkommensabhängigen Elterngelds. In Westdeutschland wurden die Zeitverwendungsmuster unter Mittel- und Oberschicht-Paaren mit Standardarbeitszeiten geschlechtergerechter, während sich in der unteren Schicht, insbesondere in Ostdeutschland, geschlechtsspezifische atypische Arbeitszeitmuster und doppelte Erwerbslosigkeit verstärkten.

Studie 2 analysiert soziale Klassenunterschiede in der Zeitorganisation von Müttern und deren Zusammenhang mit der Auslagerung häuslicher Arbeit im Vereinigten Königreich (2015) und Westdeutschland (2013). In beiden Ländern fehlten in den 2010er Jahren flächendeckende ganztägige Betreuungsangebote, sie unterschieden sich jedoch stark in ihrer Familien-, Arbeitsmarkt- und Migrationspolitik. Benachteiligte Mütter hatten in beiden Kontexten häufiger unbezahlte Haus- und Sorgearbeitstage als atypische Erwerbsarbeitstage. Jedoch gingen eine marktorientierte statt konservative Familienpolitik, eine stärkere Deregulierung des Arbeitsmarkts, und konsistentere politische Anreize für die Auslagerung von Sorgearbeit im Vereinigten Königreich mit einem höheren Anteil privilegierter Mütter einher, die Betreuung auslagerten, um volle statt halbe Standard-Arbeitstage erwerbstätig zu sein.

Studie 3, in Kooperation mit Jeanne Ganault, untersucht wie Bildung sowie das Vorhandensein und Alter von Kindern geschlechtsspezifische Erwerbsarbeitszeitmuster von Paaren in Frankreich (2010) und Deutschland (2013) beeinflussen. Beide Länder, ehemals konservative Wohlfahrtsstaaten, haben ihre Arbeitsmärkte teils dereguliert, allerdings kombiniert Frankreich dies mit einem umfassenden ganztägigen öffentlichen Bildungs- und Betreuungsangebot. In beiden Kontexten arbeiteten geringer qualifizierte Männer häufiger in Schichten, während geringer qualifizierte Frauen eher nicht erwerbstätig waren. Allerdings korrespondierte die gleichstellungszentriertere Familienpolitik in Frankreich mit geschlechtergerechteren vollen Standard-Arbeitstagen unter besser gebildeten Männern und Frauen.

Die Ergebnisse stellen klassenbasierte Theorien infrage, die die Lage von Erwerbsarbeitszeiten als direktes Abbild von Arbeitsmarktchancen verstehen, sowie familienzentrierte Ansätze, die atypische Arbeitszeiten als Chance für eine geschlechtergerechte Arbeitsteilung sehen. Sie zeigen die Notwendigkeit einer intersektionalen Perspektive auf, um zu verstehen, wie Geschlecht und soziale Klasse den Erwerbs- und Familienalltag prägen, und unterstreichen die Bedeutung sozialpolitischer Rahmenbedingungen für die Strukturierung von Geschlechter- und Klassendifferenzen in der täglichen Zeitverwendung von Eltern.