

Working-Time Regimes and Work-Life Balance in Europe

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Abstract

The organization of times and places of work are key elements of working conditions, and define employees' possibilities for balancing work and other life spheres. This study analyses several aspects of temporal and spatial flexibility, and their associations with employees' work-life balance. This study separates four dimensions of temporal flexibility and one indicator of spatial flexibility. The dimensions of temporal flexibility are the number of hours worked, when the hours are worked, work-time intensity, and the degree of working-time autonomy. The workplace flexibility indicator is an index of work locations. Work-life balance is analysed with work-hour fit. The analyses were based on the fifth wave of the European Working Conditions Survey collected in 2010. We used data from 25 Member States of the European Union ($n = 25,417$). Based on the hierarchical cluster analysis, this study found various types of flexibility regimes in Europe. Country clusters show a clear effect on perceived work-life balance even after controlling for flexibility measurements at the individual level. This study contributes to the existing research in analysing several dimensions of temporal and spatial flexibility at the same time, as well as their associations to work-life balance.

Introduction

The flexibilization of working times and workplaces has become an increasing focus for the analysis of quality of work and life (Messinger, 2011). Instead of a standard industrial working-time model that is characterized by an 8-h work day, a 5-day work week during the day, and free evenings, weekends, and annual holidays, temporal and spatial flexibility is becoming more common (Supiot, 1999; Rapoport and Le Bourdais, 2008; Craig and Powell, 2011; Fagan *et al.*, 2012). This study approaches flexibilization as a transition from an industrial to a post-industrial working-time regime. The new post-industrial working-time regime is characterized by deregulation of collective norms, diversification of the length (short and

long hours) and pattern of working time (unsocial hours), increasing work intensity and time squeeze, and blurring of the limits of working and leisure time (Clarkberg and Merola, 2003; Brannen, 2005; Perrons *et al.*, 2005; Rubery *et al.*, 2005; Gallie and Russell, 2009). At its best, the new 'working-time mosaic' may provide more autonomy to employees. On the other hand, there are new risks concerning the relationship between temporal flexibility and private life, the time and energy available for personal, family, and social life (Presser, Parashar, and Gornick, 2008; Bianchi and Milkie, 2010), material well-being, and health (Härmä and Kecklund, 2010).

The first aim of this study was to empirically construct European working-time regimes based on spatial

and temporal dimensions of work. We present a data-driven approach that analyses similarities among European countries. This approach differs from many earlier studies, in which the typologies of country clusters (or regimes) served as a starting point for analysis. Furthermore, our analysis looks at several aspects of working time simultaneously, which differs from previous studies that only included one aspect, for example, length of working time. Our second aim was to analyse the linkages between temporal and spatial flexibility and work-life balance. We assumed that temporal and spatial flexibility was linked to work-life balance and questioned whether the linkages differed between country clusters.

Flexibility of Working Time and Place

In everyday life, paid work has a major impact on living conditions, use of time, social networks, and identity (Supiot, 1999; Epstein and Kalleberg, 2001). International competition, accelerating technological change, and the rise of the service economy are regarded as key driving factors behind changing the organization of paid work (Perrons *et al.*, 2005; Green, 2006). At the same time, the social organization of households, as well as household production, is changing. The growing service economy offers more employment options, particularly for women. Consequently, increasing numbers of employed persons have to combine employment and caring responsibilities (Fleetwood, 2007; McGinnity and Calvert 2009). The increase of dual-earner families, and changes in family structures, such as the increase in single-parent families, have brought the work-life balance into the agenda of national and European Union (EU) policies.

Working-Time Regimes in Europe

The requirements for more flexible and lean forms of production that are able to adapt to demand cycles, both quantitatively and functionally, are common in all advanced economies. International competition, benchmarking practices, and the central managerial tenets cross the borders of national states. Expanding comparative research literature has tried to discern if the important differences are among countries' production regimes or with countries' welfare state institutions in mediating the pressures of employment and households (Gallie and Russell, 2009). The presumption is that there are differences between national, political, and historical compromises on industrial relations and production systems, and between societal institutions such as family

systems, educational systems, and security systems (Bosch Rubery, and Lehndorff, 2007). Thus, policies vary, and particular national institutional conditions mediate globalization's effects (Gornick and Heron, 2006). For example, national industrial relation systems define to what extent working-time conditions are regulated by industrywide collective bargaining, or by enterprise-level negotiations (Rubery, Smith, and Fagan, 1998).

Although countries face similar changes in the restructuring of labour markets, production systems, and international regulation, the existing national policies vary. Earlier, comparative research that concentrated on European working and production conditions has classified European countries according to welfare state regimes (Esping-Andersen, 1990, 1999) or forms of capitalism (Hall and Soskice, 2001). In addition, comparative analysis has applied more specific approaches to discern countries according to their production regimes (Hult and Svallfors, 2002; Gallie, 2007; Gallie and Russell, 2009), forms of flexibility (Anxo and O'Reilly, 2000; Kerkhofs, Chung, and Ester, 2008; Chung and Tjeldens, 2013), as well as employment systems, gender regimes, and working-time regimes (Lewis, 1992; Rubery, Smith, and Fagan, 1998; Bosh, Rubery and Lehndorff, 2007).

As with other regimes, working-time regimes are highly dependent on the cultural, institutional, and regulatory environments of the society (Anxo and O'Reilly, 2000). European companies are subject to institutional regulations, which vary from one country to another. They are also confronted with varying demands on part of the employees. In addition, cross-national variation in production systems has led to different employer strategies for achieving a competitive advantage.

Our study contributes to the existing comparative research in Europe by looking at several working-time dimensions at the same time. Our research is particularly related to two recent studies with a comparative setting, which have also analysed working-time flexibility (Chung and Tjeldens, 2013) and work-life balance (Gallie and Russell, 2009) in Europe. Considering that working-time practices are a changing landscape, our findings are compared with the most recent studies, while still maintaining the more theoretical classifications of welfare state, production, and gender regimes

Chung and Tjeldens (2013) analysed working-time flexibility in European companies using a European Company Survey (2004–2005). Their analyses captured working-time practices at the company level and identified 'company-oriented' and 'worker-oriented' flexibility, which is relevant to our study. Company-oriented

flexibility (such as overtime or unsocial hours) would, theoretically, serve the needs of the companies, not the needs of the employees in balancing work and other spheres of life. A three-cluster model divided European countries into mainly northern (Denmark, Finland, Sweden, the Netherlands, Poland, and the Czech Republic), central (Austria, Belgium, France, Germany, Ireland, Latvia, Luxembourg, and the United Kingdom), and southern (Greece, Portugal, Spain, Italy, Cyprus) countries according to the levels of company- and worker- oriented flexibility. Whereas Chung and Tijdens (2013) looked at companies, we were interested in how working-time and -place flexibility is seen from the perspective of employees.

The second study that is particularly related to our study is Gallie and Russel's (2009) study on working time and work–family conflict in Western Europe, which is one of the few comparative studies in Europe that has analysed the relationships between work–family conflict and working time. As expected, the research found that working time and working conditions have a strong influence on the level of work–family conflict, particularly work pressure, which had the most negative role. In addition to looking at the antecedents of the conflict, the study looked at differences between employees in various countries. The study expected that employees in countries where the production system is best described as liberal would exhibit the highest conflict, and, consequently, more coordinated production systems (such as in the Nordic countries) would be associated with lower conflict. Based on the analysis, the research found that Nordic countries were distinct compared with other countries in the analysis, particularly among male workers. Male workers in Northern Europe report reduced work–family conflict. The authors suggest that this result is because of shorter working hours and greater flexibility of hours. For female employees, the same distinct pattern does not emerge. The researchers argue that the origins of work-life conflict in the workplace may partly explain this disparity, in other words, care and parental policies facilitate high employment among women, but women's employment is associated with longer working hours and higher levels of work pressure. In Britain and the Netherlands, on the other hand, family pressures are lessened because of the fact that many mothers work part-time.

Following the production regime approach that emphasizes differences in institutional settings defining employers' strategies in how they use labour, we expect that countries cluster in terms of spatial and temporal flexibility and that employees' perceptions of work-life balance vary between clusters. At the same time, we are

seeking for the best possible combinations of flexibility practices for work–family balance.

Temporal and Spatial Flexibility and Work-Life Balance

Temporal and spatial flexibility form a complex relationship with work-life balance; flexible does not equal family-friendly. Firstly it should be asked: flexibility for whom? Some flexible work arrangements are driven primarily by employers' interests in promoting efficient use of human labour. Other arrangements may be launched through employees' interest to enhance better balance between work and other life spheres (Fleetwood, 2007). In practice, it is difficult to define exactly in which category arrangement counts. However, the nature of the flexible arrangement reveals who the primary beneficiary is, although theoretically, and sometimes in practice, both the individual worker and the employer can benefit. Unsocial work hours are commonly used to make the most of capital investments (process industry), or to meet the various times of customer demand (service sector); whereas, high work-time autonomy represents employee-friendly flexibility (see e.g. Chung, Kerkhofs, and Ester, 2007).

Furthermore, flexible work practices, such as remote working and individually defined work hours, which are commonly considered as arrangements that facilitate better work-life balance, can have unanticipated consequences. Kelliher and Anderson's (2008) study among professional workers showed that employees tend to trade workplace flexibility for effort. Employees responded to the ability to use flexible arrangements by exerting additional effort in their work. Thus, high autonomy in the use of working hours may be linked to lengthening of working hours, additional hours worked at home, and high work pressures.

While the research on work-life balance is widespread, substantial differences occur based on the concepts and measures (see Bianchi and Milkie, 2010; Fagan *et al.*, 2012). Regardless of the concepts or measures implemented, some universal trends seem to hold. Earlier studies on the linkages between working-time dimensions show that a long working week (Grzywacz and Marks, 2000; Crompton and Lyonette, 2006), unsocial working hours (Gallie and Russell, 2009), and high working-time tempo (Grzywacz and Marks, 2000; McGinnity and Calvert, 2009) usually have negative effects, and working-time autonomy has positive effects on employees' perceptions of the balance between work and other life spheres (Fagan *et al.*, 2012).

Forms of Temporal and Spatial Flexibility

In this study, we operationalize the temporal and spatial flexibility through four time-related dimensions and one place-related dimension. The time-related dimensions are the number of hours worked (duration), when (timing), the degree of time autonomy the individuals have over their working hours (time autonomy), and work-time intensity (tempo) (Adam, 1995; Fagan, 2001). In addition to time-related dimensions, we analyse the place-related dimension that exemplifies the flexibilization of workspaces. This five-dimensional classification of flexibility will be used for the empirical analysis. Figure 1 illustrates the conceptual model of the study.

Duration

Although paid working hours, particularly in the more developed countries, have declined dramatically during the past 100 years, the length of working time remains a topic of intense political debate (Messenger, 2011). Several studies have reported direct and indirect, negative physical and psychological, health and well-being impacts of long working hours (Joyce *et al.*, 2010). Long working hours are also increasingly discussed in the literature with regard to their impact on personal relationships and home life (Moen, Kelly, and Huang, 2008; Bianchi and Milkie, 2010) with contradictory findings. A number of studies have shown that long working hours are often done reluctantly, and employees perceive the detrimental effects on their leisure time and personal relationships as well as lower marital quality and less time with children (Bianchi and Milkie, 2010; Warren, 2010; Chatzitheochari and Arber, 2012).

Timing

While non-standard work schedules have traditionally been concentrated in the manufacturing sector, the expansion of operating hours in the service sector has increased the demand for non-standard work hours (Craig and Powell, 2011; Liu *et al.*, 2011). Earlier

research has shown that working evenings, nights, or on weekends is stressful for the worker and can have a negative impact on the worker's physical and psychological health and well-being (Costa, Sarton, and Åkerstedt, 2006). The studies have, however, shown mixed effects of non-standard work hours on family well-being. Some studies have reported that unsocial work schedules are significantly related to perceived conflict between work and family roles (Voydanoff, 2004; Beutell, 2010), with problems in functioning of the family and in time use (Strazdins *et al.*, 2004), parental well-being (Liu *et al.*, 2011), and parent-child interaction (Wight, Raley and Bianchi, 2008; Mills and Täht, 2010). Still, some families may use non-standard hours as a way to organize their family life (Strazdins *et al.*, 2004; Liu *et al.*, 2011), but empirical evidence remains scarce.

Tempo

Hurriedness and time pressure can be regarded as a problem of the work environment. Several empirical studies show that employees in the EU suffer from an increasing intensity of work (Burchell *et al.*, 2009). Though a certain level of time pressure can be a natural part of life, prolonged and severe time pressure is related to health problems, as well as to job satisfaction, general well-being, and leisure (Green, 2006). Time pressure can be expected to increase employees' negative emotions, stress, and fatigue. These reactions may spill over into family life, which may increase work-to-family conflict by limiting employees' abilities to perform family duties (Voydanoff, 2004).

Autonomy

The literature demonstrates several concepts that emphasize workers' control or agency in relation to workplace flexibility. Autonomy includes the ability to control one's own time (start and end times of shifts, breaks, days off, holidays, and total number of work hours) and location in a way that meets individual needs

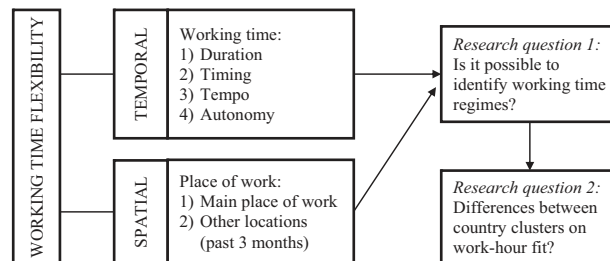


Figure 1. Conceptual model of the study.

and is closely aligned to the ability to achieve a satisfactory work-life balance (Moen, Kelly, and Huang, 2008). Hill *et al.* (2008) define a similar concept, workplace flexibility, as the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks. As autonomy enables the adjustment of working time to meet obligations, needs, and activities in private life, it is expected to advance a better work–non-work balance (Fagan *et al.*, 2012). Based on meta-analytic research, Byron (2005) concludes that individual schedule flexibility is negatively related to work–family conflict. Hughes and Parkes (2007) found that high individual work-time control buffered the negative effect of longer hours on work–family relations.

Spatial Flexibility

Earlier studies indicate that paid work is moving beyond traditional places and timing of work, in other words, the factory and office. One indicator of the phenomenon is the research that found that only half of European workers spent most of their working time at their employers' premises (Parent-Thirion *et al.*, 2007). It has been argued that spatial flexibility and the opportunity to work at home is central to the analysis of the work-life balance (Felstead, Jewson, and Walters, 2002). A hotly debated issue is the implications of spatial flexibility for satisfaction and well-being in relation to family life and the care of children. The view that telework or home-based work has the potential to enhance the work-life balance is commonly based, either implicitly or explicitly, on the idea that spatial flexibility offers greater autonomy. The negative views emphasize that the entry of work into private spheres may negatively affect family relationships among partners and children because of simultaneous demands to follow both work and home roles (Maruyama and Tietze, 2012; Sullivan, 2012).

Data and Methods

Data

Empirical analyses were based on the fourth wave of the European Working Conditions Survey collected in 2010. In this study, we used data from 25 Member States of the EU (EU-25, $n = 25,417$ interviews) excluding Malta and Cyprus (see more information on data in [Supplementary Appendix A](#)).

For independent variables, we used measures of flexibility in working times and places. Number of working hours was measured by how many hours a person

usually works per week in his/her main job. Timing of work was conceptualized as unsocial working hours. This measure included questions on how many times in a month a person worked at night, in the evening, on Sundays, or on Saturdays. For multivariate analyses, we combined all of these questions to a single index of unsocial work hours ($\alpha = 0.69$). Because of different scales, variables were rescaled (0–1) before calculating the index. The measure of work-time intensity (tempo) was constructed from two 1–7 scales ('never' to 'all of the time'), which were used for the question of how often a respondent had to work at either a high speed or to meet tight deadlines ($\alpha = 0.75$). Time autonomy was measured with a statement addressing the extent to which respondents had control over their working time. The original response categories were collapsed to two categories (0 = working times are set by organization or one can choose from fixed schedules determined by organization; 1 = can adapt to working hours within certain limits or determined entirely by oneself). The flexibility of workplace was measured with two questions about the place of work. Respondents were asked what their main place of work was and whether they also worked in any other locations in the past 3 months. Response categories were employers' premises, clients' premises, a car or another vehicle, an outside site, own home, and other place. The index for flexibility of workplace was constructed by summing up the number of locations where a person had worked, excluding employers' premises.

As the dependent variable, we used a measure of work-life balance. Work-life balance was measured by a 1–4 scale ('not at all well' to 'very well'), with the question of how well working times fit with family life or social commitments outside work. For individual-level analyses, the variable was dichotomized (very well versus others). We introduced gender, age, level of education, presence of children, and having a partner as control variables in multivariate analyses. All analyses are weighted with a supra-national weight to take into account the differences between countries in the size of their workforce. This ensures correct weighting of countries in each country group.

Methods

We used hierarchical cluster analysis for grouping countries according to flexibility of working time and place. After clustering, we continued by examining the differences between country clusters in flexibility of working time and place, and also in work-life balance. We continued the analysis using logistic regression analysis to

account for the interconnection between independent variables when analysing work-life balance. These analyses were conducted for the whole sample. We used linear probability models (LPMs), i.e. linear regression with binary dependent variables to analyse the effects of flexibility in working time and place separately for each cluster (see more detailed description of methods in Supplementary Appendix B).

Results

Working-Time Regimes

In Table 1, we present descriptive statistics of both independent and dependent variables used in analyses. All variables can be interpreted as interval-level variables, except autonomy.

The next step in our analysis was to cluster EU-25 countries according to the measurements of flexibility in working time and place. In the first step, country-level averages of measurements were computed, and in the second step, hierarchical cluster analysis was used to cluster countries with these country-level means as clustering criteria. As a clustering method, we used Ward's method with squared Euclidean distance and standardized variables. The dendrogram produced by hierarchical cluster analysis is presented in Figure 2.

The dendrogram and agglomeration schedule suggest that a five-cluster solution is adequate. In the first stage, a group of northern and central European countries was separated from other countries, and a group of mainly eastern European countries (Lithuania, Slovakia, Latvia, Poland, and Portugal) was separated from other countries. In the second stage, the first cluster was further separated into mainly northern (Finland, Sweden, Denmark, and Netherlands) and central European countries (Austria, Germany, Belgium, Luxembourg, and

France). Furthermore, the United Kingdom, together with Ireland, Italy, and Spain, was separated from the second group of mainly eastern European countries (Czech Republic, Estonia, Slovenia, Greece, and Hungary). This clustering resembles those obtained earlier on working conditions (Wallace *et al.*, 2007) and working-time flexibility at the company level (Chung, Kerkhofs, and Ester, 2007), as well as widely used Esping-Andersen typology (e.g. Parent-Thirion *et al.*, 2007), especially with regard to central and northern Europe. However, there is one crucial difference between our solution and former typologies: the eastern European countries no longer form one cluster, but are grouped together with southern countries into two different clusters.

Using cluster analysis, we have identified five country clusters or regimes according to measurements of flexibility in working time and place. However, we do not know exactly how these clusters differ from each other. Kruskal-Wallis non-parametric analyses of variance were used to test the significance of these differences in country-level data, and η^2 to determine which dimensions contributed most to the clustering of countries. In analysis, we used five standardized indexes of dimensions of flexibility in working time and place. These cluster means are represented in Figure 3.

Figure 3 reveals clearly different patterns of working time and place depending on the group. According to Kruskal-Wallis, test differences between country groups in all dimensions are statistically significant. The largest differences between country groups are found in working-time autonomy ($\eta^2 = 0.88$) and workplace flexibility ($\eta^2 = 0.78$). The level of both working-time autonomy and workplace flexibility is clearly highest in northern Europe. The lowest level of autonomy is found in the first eastern European group (Lithuania, Slovakia, Latvia, Poland, and Portugal) and lowest workplace flexibility in the UK-South group. Working-time intensity ($\eta^2 = 0.74$) is above average in all other groups except in the first eastern group. The level of weekly working hours ($\eta^2 = 0.74$) is lowest in the northern and highest in the eastern groups. Unsocial work hours ($\eta^2 = 0.48$) are most common in the UK-South group, and least common in the central and northern groups.

When dimensions are considered together, group-specific profiles in flexibility emerge. The largest total differences are found between the northern group and the eastern groups, together with the UK-South group. These groups differ from northern countries mainly in their lower level of workplace flexibility and autonomy, and higher level of unsocial work hours. In contrast, northern and central Europe have similar profiles, but in

Table 1. Descriptive statistics of variables

Variables	N	Minimum	Maximum	Mean	Standard deviation
Duration (work hours)	27,087	1	168	36.3	10.92
Timing (unsocial)	27,363	0	1	0.1	0.15
Tempo	27,364	1	7	3.8	1.84
Autonomy	27,294	0	1	0.2	0.42
Workplace flexibility	27,439	0	5	0.6	0.95
Work-life balance	27,286	1	4	3.1	0.77

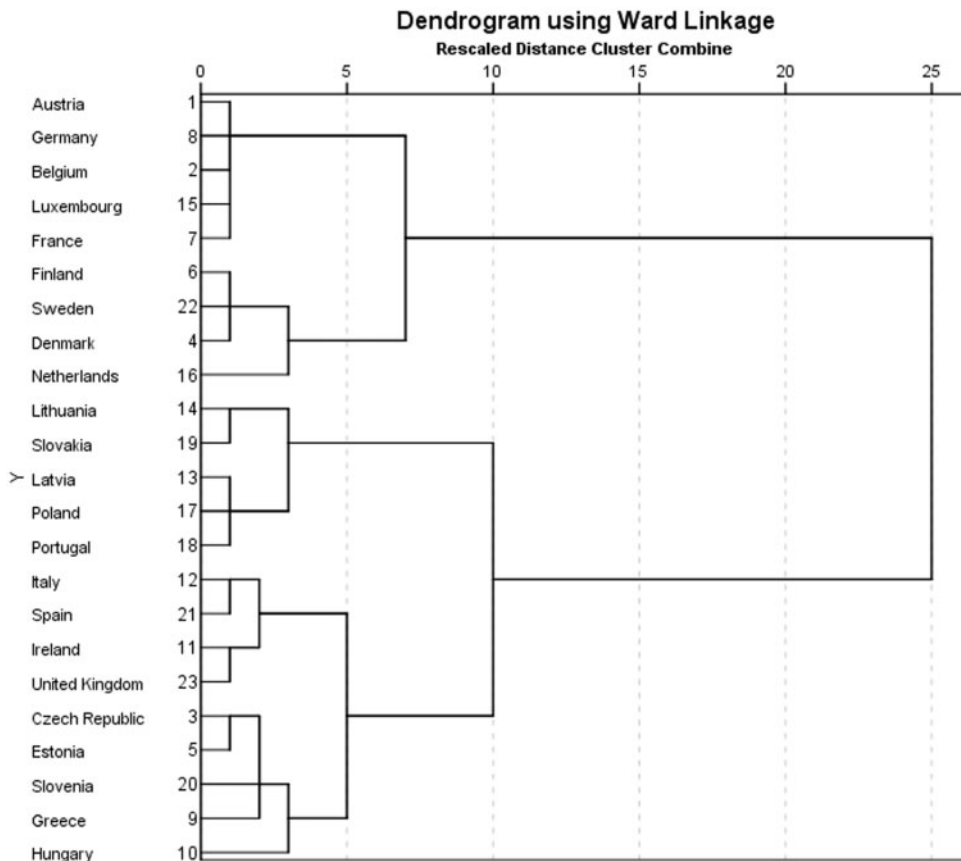


Figure 2. Hierarchical cluster analysis for dimensions of working time and place in EU-25.

the northern group all dimensions have higher scores (except for working hours). The smallest total differences are found between the two eastern groups. The main difference between these otherwise similar groups lies in the level of working-time intensity, which is highest of all clusters in the group, including countries such as the Czech Republic and Estonia.

The north appears as a group of countries where employees have a high level of autonomy in their working hours and the possibility to work outside company premises, but who, in addition, suffer from considerable time-stress in work. The first eastern cluster (Lithuania, Slovakia, Latvia, Poland, and Portugal) is quite the opposite. In this group, employees have only limited possibilities to influence their working hours, have long work weeks, and work during unsocial hours, but their working tempo is low. The analysis, hence, shows that high time demands and high individual control are more usual in the northern cluster, while low time demands and low individual control characterize jobs in the first

eastern cluster. In contrast, high time demands and low individual-control jobs seem to be most prevalent in the second eastern cluster (Czech Republic, Estonia, Slovenia, Greece, and Hungary).

Work-Life Balance and Country Regimes

Our second research aim concerned analysing the linkages between temporal and spatial flexibility and work-life balance; can we notice differences between country clusters in the level of work-life balance? On average, that is in line with the welfare state typologies; employees in northern Europe are the most satisfied (45 per cent well), and employees in the eastern groups are the least satisfied (20 and 18 per cent well, respectively) with how their working hours fit with their family or social commitments. The UK-South group scores are close to the northern group (42 per cent well), and the central group is somewhere between the two extremes (34 per cent well). In other words, in northern Europe

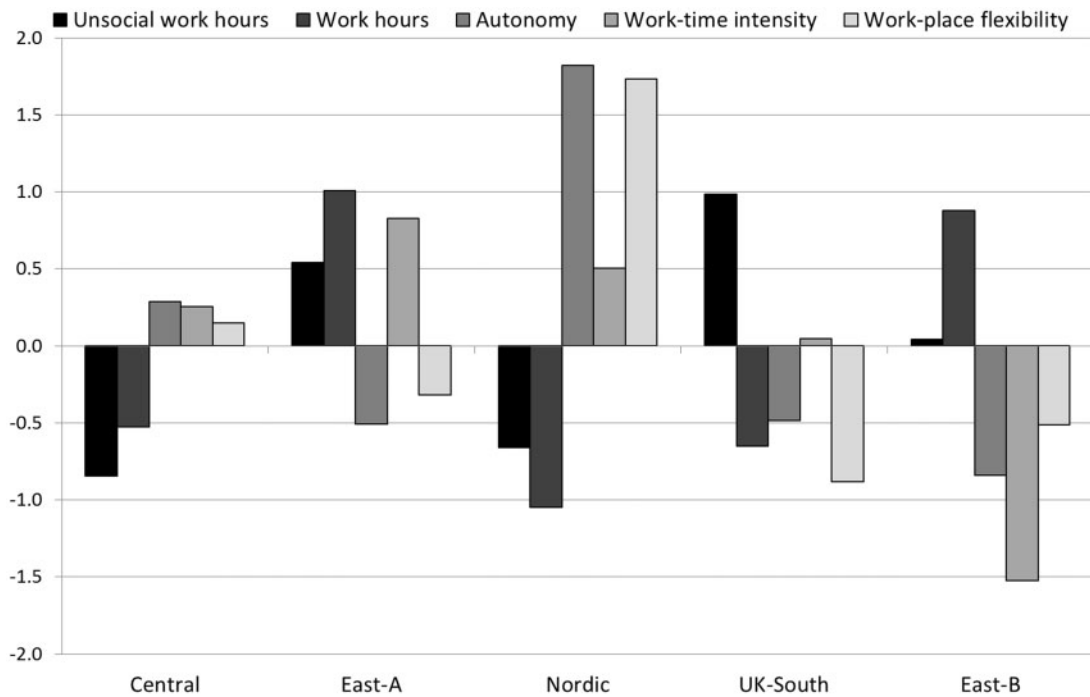


Figure 3. Country-level means of standardized working-time measures by country cluster.^a

^a**Central:** Austria, Belgium, France, Germany, and Luxembourg; **East-A:** Czech Republic, Estonia, Greece, Hungary, and Slovenia; **Nordic:** Denmark, Finland, Netherlands, and Sweden; **UK-South:** Ireland, Italy, Spain, and United Kingdom; **East-B:** Latvia, Lithuania, Poland, Portugal, and Slovakia

and UK-South, employees are more than twice as satisfied with their work-life balance than employees in Eastern Europe. However, there is a lot of within-cluster variance in employees' perception of work-life balance (see [Supplementary Appendix SB, Table SB2](#)). This implies that individual-level work characteristics may be more important determinants of work-life balance.

Next, logistic regression analysis was used to test whether these differences between country clusters in perceptions of work-life balance remain after controlling for individual-level background factors and measurements of flexibility in working time and place. These results are presented in [Table 2](#). The northern cluster is selected as a reference category, where work-life balance is expected to be the highest (e.g. [Gallie and Russell, 2009](#)). According to the results, the northern group does differ from all other groups by a higher incidence of work-life balance. This result stays virtually the same after controlling for both background factors and measurements of working-time and -place flexibility at the individual level. In addition, all measurements of flexibility are connected to the experiences of work-hour fit at the individual level. The more autonomy the employees have regarding their working hours, the more

often they feel that work hours fit well with family or other social commitments. By contrast, the more work hours, the more frequent the unsocial work hours or working in multiple locations is, or the higher the working-time intensity the employees have, the less often their work hours were deemed a good fit with family and social factors. These results stayed essentially the same when analyses were conducted separately for men and women (see [Supplementary Appendix C](#)).

To gain further insight whether there are differences between country clusters in which combinations of temporal and spatial flexibility are most beneficial for good work-life balance, we conducted additional analyses. We used LPM to analyse how measurements of flexibility in working time and place were associated with work hours fitting well with the other life spheres within each of the country groups controlling for background factors. The significance of regime differences in effects was tested with interaction terms. These results are presented in [Table 3](#), including measure of unique contribution (sr^2) of each variable on total variance. Overall, the explanatory power of model was lowest in East-B group, which is also evident from regression coefficients. Spatial flexibility had no effect on work-hour fit in any

Table 2. The effect of working-time and -place profiles on good work-hour fit with family and other social commitments ($N = 25\ 115$)^a

	Model 1	Model 2	Model 3
Cluster ^b			
Nordic	1	1	1
Central	0.69***	0.70***	0.71***
UK-South	0.70***	0.72***	0.77***
East-A	0.37***	0.37***	0.46***
East-B	0.27***	0.27***	0.29***
Gender			
Male		1	1
Female		1.32***	1.04
Age (years)			
<35		1	1
35–49		0.94	0.92*
>50		1.14**	1.02
Spouse			
No spouse		1	1
Spouse not working		0.93	0.93
Spouse working		0.88***	0.89**
Children aged <7 years			
No		1	1
Yes		0.84***	0.81***
Education			
Primary		1	1
Secondary		1.11	1.11
Tertiary		1.22*	1.14
Work hours			0.97***
Unsocial work hours			0.09***
Autonomy			1.37***
Work-time intensity			0.88***
Workplace flexibility			0.93***
Nagelkerke R^2	0.050	0.061	0.142
ΔR^2		0.011***	0.081***

^aCoefficients are odds ratios. Values <1 indicate negative and >1 indicate positive association.

^bCentral: Austria, Belgium, France, Germany, and Luxembourg; East-A: Czech Republic, Estonia, Greece, Hungary, and Slovenia; Nordic: Denmark, Finland, Netherlands, and Sweden; UK-South: Ireland, Italy, Spain, and United Kingdom; East-B: Latvia, Lithuania, Poland, Portugal, and Slovakia.

of the country groups. Interaction terms for work hours, unsocial hours, and autonomy were statistically significant, albeit their explanatory power was rather weak (see Supplementary Appendix D). This indicates that there are differences among country groups in how strong these effects were.

Work hours had the strongest negative effect on work-life balance in the UK-South and Central clusters. The effect was clearly weaker in Nordic and Eastern groups. Interestingly, the mean level of work hours was one of the lowest in groups with stronger effects and

highest in Eastern groups. This suggests that working hours might have stronger negative effect in countries where the prevalence of long work hours is low and *vice versa*. However, the Nordic group is different with lowest mean work hours and weak negative effect on work-hour fit. Unsocial work hours had strongest negative effect in Nordic and Central groups and weakest in East-B group. As with work hours, it seems that the effect is stronger in groups where unsocial hours are least prevalent. Working-time autonomy had strongest positive effect in UK-South and East-B groups and weakest in Nordic and East-A groups. However, these differences do not seem to be related to the prevalence of time autonomy in country groups.

Discussion

With the coming of the post-industrial work-time regime, the flexibility of work organizations and paid work has been discussed extensively within Europe, and is seen as a prerequisite of an organization's efforts to adapt to the fluctuation of global markets and to economic trends in general. Also, policy discussion and research on work-life balance consider the flexibility of work as a requirement for workers to organize their daily lives to successfully meet the demands of both work and family. Yet, as our study discusses, the concept of flexibility refers to various aspects of work, and does not hold only positive connotations for the individuals and their families. This is particularly true when various indicators of flexibility are analysed simultaneously, which was the overall focus of our study.

This study had two objectives: first, to make an empirical exploration of the spatial and temporal flexibility across European countries by asking if countries are clustered based on these indicators of flexibility. In contrast to many previous explorations on the topic, our starting point was empirical; this study explored the actual state of working conditions with regard to temporal and spatial flexibility across Europe. Furthermore, unlike much of the previous work, our study looked at various working-time dimensions at the same time. This analytical strategy captures a more comprehensive understanding of working time. Secondly, our study examined how work-life balance varied between flexibility clusters, which gives insight into the daily life of the employees and particularly contributes to the discussion on the impact that flexibility has on work-life balance.

The empirical findings of our study are clear. First, countries are clustered based on temporal and spatial

Table 3. The effects^a of working time and place on good work-life balance by country cluster^b (LPMs)^c

		Nordic	Central	UK-South	East-A	East-B
Work hours	<i>B</i>	-0.004***	-0.008***	-0.008***	-0.004***	-0.003***
	<i>sr</i> ²	0.008	0.025	0.032	0.007	0.005
Unsocial work hours	<i>B</i>	-0.554***	-0.399***	-0.325***	-0.353***	-0.199***
	<i>sr</i> ²	0.021	0.013	0.012	0.015	0.005
Autonomy	<i>B</i>	0.038	0.093***	0.114***	0.044	0.132***
	<i>sr</i> ²	0.001	0.007	0.008	0.001	0.010
Work-time intensity	<i>B</i>	-0.023***	-0.028***	-0.024***	-0.019***	-0.015***
	<i>sr</i> ²	0.006	0.012	0.009	0.007	0.004
Workplace flexibility	<i>B</i>	-0.009	-0.006	-0.002	-0.017	-0.010
	<i>sr</i> ²	<0.001	<0.001	<0.001	0.001	<0.001
R ²		0.058	0.091	0.093	0.063	0.043
N		2 493	9 940	9 392	1 766	3 038

^aCoefficients are unstandardized regression coefficients (*B*) and squared semipartial correlations (*sr*²).

^bCentral: Austria, Belgium, France, Germany, and Luxembourg; East-A: Czech Republic, Estonia, Greece, Hungary, and Slovenia; Nordic: Denmark, Finland, Netherlands, and Sweden; UK-South: Ireland, Italy, Spain, and United Kingdom; East-B: Latvia, Lithuania, Poland, Portugal, and Slovakia.

^cControlling for gender, age group, education, and presence of spouse and children <7 years of age.

flexibility. As expected, these clusters match partially with earlier regime typologies (Gallie and Russell, 2009; Chung and Tijdens, 2013), but contrary to earlier findings, the division into southern (Mediterranean countries) and eastern (post-communist countries) regimes is not straightforward. Mediterranean countries clustered partly with the United Kingdom and Ireland and with eastern regimes. Post-communist countries are mixed and can be divided into two separate clusters. We assume that this is because of the changes in the eastern European countries that have reached the level of southern European countries in temporal and spatial flexibility. An alternative explanation is that the recent economic recession has decreased employee-friendly flexibility in some Mediterranean countries.

The second objective of the study was to analyse how flexibility patterns are linked with work-life balance. Again, the findings are straightforward. Country clusters show a clear effect on perceived work-life balance even after controlling for flexibility measurements at the individual level. Thus, it seems that these country clusters are able to gauge institutional differences that are not directly related to work-time flexibility at the individual level. The significance of each regime for the everyday lives of individual employees and families depends also on culture and social policy, among other factors

In particular, we find that the flexibility of working time predicts perceived work-life balance, especially timing and duration of work, which are important. In contrast, spatial flexibility was not associated with the perceptions of work-life balance. This is in line with

the existing literature (Maruyama and Tietze, 2012). As the article has demonstrated *via* empirical approach, temporal and spatial flexibility vary systematically across countries. We suggest that in future, comparative research on work-life balance should take into account that there are working-time regimes that combine employee-friendly or employer-driven work-time and workplace arrangements in certain ways and that specific combinations may be more efficient in advancing work-life balance.

This research raises new questions for further research in terms of topics and methods. Although there is comparative research on working time, flexibility, and work-life balance, further studies should provide a more detailed analysis on, for example, temporal and spatial flexibility among different socio-economic groups of workers in countries. Time-use surveys could be used to explore actual daily patterns of work as well as actual spatial flexibility of work.

Institutional and regulatory environments of the societies were beyond the scope of our study. An important focus for future research is to look into the work-time regimes identified and to analyse the similarities and differences of the countries based on statutory regulation, collective agreements, and policy orientations (Anxo and O'Reilly, 2000). Another significant approach is to look at how cultural differences, for example, in expectations and values, contribute to the relationships between working times and work-life balance (Pfauffinger, 2005).

To summarize, this analysis has shown that the comparison of different dimensions of working time is

necessary, as they have different impacts on work-life balance. Further studies should, to the extent possible, include various indicators of flexibility in the analysis. It is important to see that flexibility of working time and place includes many dimensions, and that work-life balance is enabled by a certain combination of working-time and -place flexibility. Therefore, in the effort to understand associations of spatial and temporal flexibility of work and personal life, it is essential to grasp a holistic image of flexibility. The study does not suggest abandoning the existing welfare or production regimes and typologies, but it shows that employee-based analysis gives new information that supplements the existing typologies.

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Supplementary Data

Supplementary data are available at ESR online.

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