

# Work Demands and Resources and the Work–Family Interface. Testing a Salience Model on German Service Sector Employees\*

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## Abstract

The present study tested an extended version of [Voydanoff's \(2004\)](#) ‘differential salience vs. comparable salience’ model in a sample of German service workers. Our findings partially support the model in a different national/cultural context but also yielded some divergent findings with respect to within-domain resources and boundary-spanning demands. In line with the theoretical framework, work-to-home interference (WHI) mainly occurred because of high work demands and not because of a lack of work resources. Boundary-spanning resources yielded comparable potential to reduce WHI and enhance work-to-home enrichment (WHE). WHE was expected to more likely occur due to the activation of work resources rather than the absence of work demands. However, control over one’s work did not have a significant impact on WHE. In addition and contrary to the theoretical model, boundary-spanning demands were found to be differentially rather than comparably salient to the work–family interface.

## Introduction

Women’s increasing labor force participation, globalization, downsizing, and flexible work patterns have led to feelings of increasing work pressure, stress, and conflict between work and private life among employees ([Green, 2006](#)). Consequently, studies of the work–family interface have long been dominated by a conflict perspective, and a vast body of research has examined the causes and

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consequences of conflict between the work and family domains (see [Eby \*et al.\*, 2005](#), for an overview). However, the processes through which characteristics associated with the work and family domains influence each other, are not necessarily uni-directional and uni-dimensional. Recently, the research focus has shifted to include a more positive view of the work–family interface by investigating the beneficial aspects of multiple role engagement such as work–family enrichment or facilitation (e.g. [Barnett and Hyde, 2001](#); [Beham \*et al.\*, 2010](#); [Drobnič \*et al.\*, 2010](#); [Greenhaus and Powell, 2006](#); [Grzywacz and Butler, 2005](#); [Voydanoff, 2005a](#)).

Studying both perspectives provides a richer picture of the work–family interface. In this line of research, negative and positive work-to-home interference consists of cognitive appraisals of the effects of the work domain on the family domain, and vice versa. The perception of work–family conflict or enrichment derives from assessing the extent to which demands hinder, or resources enhance, the performance of work and family roles. However, the patterns of association between resources and demands on the one hand, and enrichment and conflict on the other are complex and not immediately evident. For example, can high resources in the work domain compensate for job demands to prevent conflict at the work–family interface? [Voydanoff \(2004\)](#) provides a comprehensive model in which within-domain work demands and resources are expected to have differential salience for work–family conflict and facilitation, whereas boundary-spanning resources are expected to show comparable relationships to conflict and facilitation. We build upon [Voydanoff’s \(2004\)](#) ‘differential salience vs. comparable salience’ model to examine an integrated model of work demands and resources and the work–family interface.

Our study extends the existing literature in several ways. First, [Voydanoff’s \(2004\)](#) model has only been tested using a sample of employees in the United States. By analyzing German service sector employees, this study contributes to the increasing body of international work–family research. Testing theoretical models in different national/cultural settings is an important precondition for drawing firm conclusions. Although [Voydanoff \(2004\)](#) in principle found support for her model, empirical findings yielded some deviations from her theoretical model (e.g. time pressure, a within-domain work demand, also decreased work-to-family facilitation; meaningful work, a within-domain work resource, also reduced work-to-family conflict). Hence, additional empirical tests are needed to further assess the usefulness of the model. Second, we extend the original ‘differential salience vs. comparable salience’ model ([Voydanoff, 2004](#)) of within-domain demands and resources and boundary-spanning resources by also including demands that span across the domains. Boundary-spanning demands have been suggested by [Voydanoff](#) in a later article ([Voydanoff, 2005a](#)). Similar to boundary-spanning resources, boundary-spanning demands are expected to be

comparably salient to negative and positive work-to-home interference. However, this has not been empirically tested in an integrated research model yet. Third, we provide initial empirical evidence for antecedents of positive work-to-home interference in a German context. Whereas the conflict perspective and its negative impact on employee well-being have received considerable empirical confirmation in German samples (e.g. [Jacobshagen et al., 2005](#); [Wiese, 2004](#)), the positive view of the work-family interface has been neglected thus far in work-family research in Germany.

To begin with, a brief overview of the theoretical background of the involved constructs is provided. Based on the ‘differential salience vs. comparable salience’ model ([Voydanoff, 2004](#)), a set of hypotheses is developed and tested. Finally, the results, implications, limitations of the study, and future research suggestions are discussed.

## Theoretical framework

### The work-family interface

Two competing theoretical perspectives have been applied in empirical studies on the work-family interface to explain the outcomes associated with engaging in multiple roles in life. These are the scarcity argument ([Goode, 1960](#)) and the enhancement argument ([Marks, 1977](#); [Sieber, 1974](#)) of role theory. According to the scarcity argument ([Goode, 1960](#)), a person has a limited amount of resources and energy. Engaging in multiple life roles such as work and private life means competition for these limited resources, thereby leading to the experience of work-family conflict ([Greenhaus and Beutell, 1985](#)). Whereas early studies conceptualized work-family conflict as a uni-dimensional construct (e.g. [Kopelman et al., 1983](#)), later research distinguished two directions of interference, namely work interfering with family/home (WHI) and family/home interfering with work (HWI) ([Beham et al., 2014](#); [Frone et al., 1992, 1997](#)), and three dimensions of interference, namely time-based, strain-based, and behavior-based WHI and HWI ([Greenhaus and Beutell, 1985](#)). The two different directions of work-home interference received considerable attention in empirical studies and were found to have different antecedents (see [Byron, 2005](#), for an overview). However, only few studies assessed work-home interference as a multi-dimensional construct ([Eby et al., 2005](#)). Those studies investigating the three dimensions of WHI separately only found little differences in the relationships with work-related antecedents (e.g. [Chen et al., 2009](#); [Fu and Shaffer, 2001](#); [Lapierre and Allen, 2006](#); [Spector et al., 2007](#)).

The enhancement argument, based on the work of sociological theorists in the 1970’s ([Marks, 1977](#); [Sieber, 1974](#)), suggests that engagement in multiple life roles can generate social and economic resources (e.g. social support, added

income, opportunities to experience success), and thus can be beneficial for individuals (Barnett and Hyde, 2001). In a study spanning thirty years, Moen *et al.* (1992) showed that multiple-role involvement had a long-term positive effect on the health and social integration of women. In spite of compelling evidence that multiple roles can be beneficial, research on the work–family interface has been heavily dominated by a conflict perspective based on the scarcity argument of role theory (Goode, 1960). Only recently have work–family scholars developed a variety of constructs which capture the positive side of the work–family interface, such as positive spillover (Hanson *et al.*, 2006), facilitation (Van Steenbergen *et al.*, 2007), and enrichment (Greenhaus and Powell, 2006).

In the present study we focus on work–home enrichment, which is defined as ‘the extent to which experiences in one role improve the quality of life in the other role’ (Greenhaus and Powell, 2006, p. 73). Similar to work–family conflict, work–home enrichment is a bi-directional and multi-dimensional construct: work experiences can improve the quality of family/private life (work-to-home enrichment; WHE), and family/private experiences can improve the quality of work (home-to-work enrichment; HWE). WHE consists of three dimensions: developmental, affective, and capital enrichment, whereas HWE is comprised of slightly different dimensions, namely developmental, affective, and efficiency-based enrichment (Carlson *et al.*, 2006). Greenhaus and Powell (2006) distinguish two paths through which the performance of the other role can be improved: resources such as skills, material resources or social capital improve the performance in the other role either directly (instrumental path), or indirectly through the creation of positive affect within one domain which in turn improves the quality of life in the other domain (affective path).

Empirical evidence on antecedents and outcomes of work-to-family enrichment has only recently emerged and few studies have been conducted in a non-US study context (e.g. Baral and Bhargava, 2010; Bhargava and Baral, 2009; Siu *et al.*, 2010a). Work-identity, job salience, supervisor support, developmental experiences at work, team resources, and job characteristics such as job autonomy, skill variety and task identity, were found to be positively related to WHE (e.g. Baral and Bhargava, 2010; Bhargava and Baral, 2009; Hunter *et al.*, 2010; Siu *et al.*, 2010a). With respect to outcomes, WHE was linked to organizational commitment, organizational citizenship behavior, job and life satisfaction, project satisfaction, relationship quality, and health (e.g. Baral and Bhargava, 2010; Bhargava and Baral, 2009; Gareis *et al.*, 2009; Wayne *et al.*, 2006). Research on the relationships between work-related antecedents and the three dimensions of WHE is confined to the bivariate results reported by Carlson *et al.* (2006).

## Differential salience vs. comparable salience model

Building on the dual-process model of work–home interference (Bakker and Geurts, 2004), Voydanoff (2004) suggested an integrative framework of demands and resources, which combines both arguments of role theory. The ‘differential salience vs. comparable salience’ model proposes that within-domain work demands and resources are differentially salient to negative and positive work–family interference whereas boundary-spanning resources are comparably salient to negative and positive work–family interference. We extend this model by including boundary-spanning demands which Voydanoff introduced in a later study (Voydanoff, 2005a), and thus were not part of the original salience model. Similar to boundary-spanning resources, boundary-spanning demands are expected to be comparably salient to both WHI and WHE, but relationships are expected to be in the opposite direction.

*Within-domain work demands* refer to ‘physical, social, or organizational aspects of a job that require sustained physical or mental effort, and are therefore associated with certain physiological and psychological costs’ (Demerouti *et al.*, 2001, p. 501). According to the scarcity argument (Goode, 1960), within-domain work demands limit the ability of employees to successfully manage their non-work domain responsibilities and are thus salient to negative work-to-family interference. Voydanoff (2005a) distinguishes between time-based and strain-based work demands. Time-based demands such as long working hours and overtime may reduce individuals’ time available for family life, and thus make it difficult for them to fulfill their family obligations. Strain-based work demands constrain an individual’s ability or willingness to meet the obligations of the family role and can lead to the experience of stress and strain (Frone *et al.*, 1997). Both types of work demands have consistently been found to be related to work–family conflict (e.g. Beham and Drobnič, 2011; Frone *et al.*, 1997; Major *et al.*, 2002; Voydanoff, 2004, 2005b).

*Within-domain work resources* refer to aspects of one’s job that are either functional in achieving work goals, reduce costs associated with job demands, or stimulate personal growth and development. Job resources can either be intrinsic to the task (e.g. job variety, job autonomy, feedback) or located in the context of the workplace (e.g. learning and career opportunities, social support at work) (Demerouti *et al.*, 2001). According to the enhancement argument of multiple life roles (Sieber, 1974), participation in the work role can generate a number of domain resources such as skills, abilities, certain behaviors and social support, that enable employees to function better in the family domain. In addition, psychological benefits and rewards generated at work such as motivation, a sense of accomplishment, and self esteem may spill over from work into family and increase positive work-to-family interference (Voydanoff, 2004). Empirical studies have revealed positive relationships between work resources such as job

autonomy, job variety and complexity, learning opportunities, meaningful work and respect, and work-to-family facilitation (Butler *et al.*, 2005; Grzywacz and Butler, 2005; Voydanoff, 2004).

Whereas within-domain work demands and resources are characteristics of the work environment which deplete or enhance the ability of employees to meet the obligations of the family domain, boundary-spanning demands and resources directly address the connection between work and family/home. An unsupportive work-family culture or bringing work home are examples of boundary-spanning demands. Support from supervisor and colleagues and flexible working arrangements are examples of boundary-spanning resources (Voydanoff, 2005a). According to the theoretical model, boundary-spanning resources have the potential to both decrease negative work-to-family interference and enhance positive work-to-family interference through processes that increase the ability of employees to manage work-family boundaries (Voydanoff, 2004).

Boundary-spanning demands, on the other hand, may limit employees' transitions between work and family domains and increase role blurring between domains, thereby hampering employees in effectively functioning in the work and family domains (Voydanoff, 2005a). Empirical studies revealed negative relationships between aspects of a supportive work-family culture such as a supportive supervisor and colleagues with work-to-family conflict, and positive relationships with work-to-family facilitation and enrichment (e.g. Siu *et al.*, 2010a; Thompson *et al.*, 1999; Voydanoff, 2004). Aspects of an unsupportive work-family culture, such as organizational time demands and career consequences, were found to be positively associated with work-to-family conflict (e.g. Beham and Drobnič, 2011; Thompson *et al.*, 1999). The use of work-family policies has been linked to increased levels of work-to-family facilitation, and to decreased levels of work-family conflict (e.g. Anderson *et al.*, 2002; Thompson *et al.*, 1999; Voydanoff, 2004).

Based on Voydanoff's (2004) integrative framework, we developed a set of hypotheses for a variety of within-domain demands and resources, boundary-spanning demands and resources and both work-to-home interference and work-to-home enrichment. Figure 1 gives an overview of the study variables and the hypothesized relationships.

In line with Voydanoff (2004, 2005a), we propose that WHE is more likely to occur due to the activation of work resources rather than the absence of work demands. Likewise, we expect employees to experience WHI mainly because of high demands in their work environment and not because of a lack of work resources. Boundary-spanning resources are expected to reduce the level of WHI and enhance WHE experienced by the employee, whereas boundary-spanning demands are expected to increase WHI and decrease WHE. Several study hypotheses are developed in more detail in the following section.

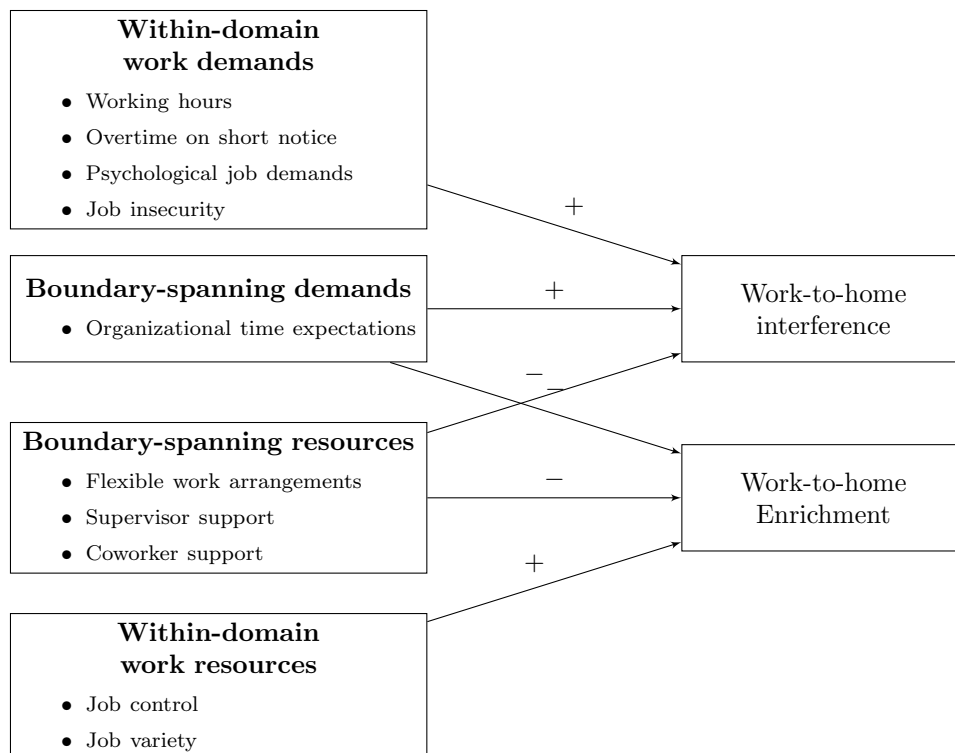


Figure 1: Theoretical model

Source: Adapted from [Voydanoff \(2004, p. 400\)](#).

## Hypotheses

### Work demands

The negative impact of long working hours and overtime on employee's abilities to effectively manage the work–family interface has been a prominent theme in work–family research. According to the rational model of work–family conflict, the level of negative work-to-home interference perceived by an individual rises in proportion to the number of hours spent at work (Greenhaus *et al.*, 1987). This argument is supported by a number of empirical studies which revealed a positive relationship between working hours and work interfering with home (e.g. Byron, 2005; Jacobshagen *et al.*, 2005; Kossek *et al.*, 2006; Major *et al.*, 2002; Voydanoff, 2004, 2005b). In addition, being required to work overtime on short notice clearly limits employees' abilities to meet non-work responsibilities, and increases negative interference from work into private life (Voydanoff, 2004). Accordingly, it is hypothesized:

Hypothesis 1. Working hours will be positively related to WHI.

Hypothesis 2. Overtime on short notice will be positively related to WHI.

Psychological job demands refer to stressors that are directly related to the job task and workload accomplishment (Karasek, 1979; Karasek *et al.*, 1998). A heavy workload and conflicting job demands, for example, may create strain which spills over into private life and increases the experience of WHI (Greenhaus and Beutell, 1985). Several empirical studies have revealed positive relationships between psychological job demands and work–family conflict (e.g. Bakker and Geurts, 2004; Jacobshagen *et al.*, 2005; Spector *et al.*, 2007; Voydanoff, 2004, 2005b). In line with these findings, it is hypothesized:

Hypothesis 3. Psychological job demands will be positively related to WHI.

Global competition and restructuring have increased employee's feelings of job insecurity, and its detrimental effects on employees' attitudes and wellbeing are well documented in the literature (see Sverke and Hellgren, 2002, for an overview). The present study focuses on perceived job insecurity (rather than on actual job loss) which refers to an individual's fear or worry about the job future (Sverke and Hellgren, 2002). Concern over losing one's job presents a threat to the economic well-being required for the stability and quality of one's family life (Voydanoff, 2005b). Perceived job insecurity has been found to be related to higher levels of work-to-family conflict in employees (e.g. Batt and Valcour, 2003; Jacobshagen *et al.*, 2005; Voydanoff, 2004, 2005b). Accordingly, it is hypothesized:



Hypothesis 4. Perceived job insecurity will be positively related to WHI.

## Work resources

Work resources can either be associated with the job itself or with the broader work environment (Demerouti *et al.*, 2001). In this study, we specifically focus on two types of work resources intrinsic to the job, namely job control and skill/job variety. Job control refers to the degree to which an employee perceives that he/she can control when, where and how to do his/her job (Kossek *et al.*, 2006). Having greater control over one's work increases the ability of employees to better manage their work and non-work demands, and may thus improve the quality of their private lives (Beham *et al.*, 2012; Drobnič *et al.*, 2010; Präg *et al.*, 2010). Job or skill variety refers to the level of skills and creativity a job requires and to the employee's flexibility to decide which skills to employ at work (Karasek *et al.*, 1998). A job that requires creativity and a variety of skills may not only create the experience of meaningfulness in one's work (Hackman and Oldham, 1976), but may also enable employees to increase their performance in both the work and the family domains (Voydanoff, 2005b). Research has revealed positive relationships between job control, job variety and work-to-family facilitation (Butler *et al.*, 2005; Grzywacz and Butler, 2005; Voydanoff, 2004). Accordingly, it is hypothesized:

Hypothesis 5. Job control will be positively related to WHE.

Hypothesis 6. Job variety will be positively related to WHE.

## Boundary-spanning demands and resources

A supportive work-family culture and work-family policies are important components of a family-friendly work environment (Allen, 2001). Work-family culture refers to the underlying values, beliefs, and shared assumptions regarding the priority of work over family (and vice versa) in organizations (Thompson *et al.*, 1999). Voydanoff (2004) argues that a family-supportive organizational culture legitimizes employees' non-work needs in the workplace and their efforts to meet private responsibilities. A supportive work-family culture may thus reduce employees' strain and discomfort associated with work-to-family conflict and increase positive spillover between work and the non-work domain.

Work-family culture is defined as a multi-dimensional construct in work-family literature, with organizational time expectations, negative career consequences, supervisor and coworker support comprising the major dimensions of work-family culture (Dikkers *et al.*, 2004; Thompson *et al.*, 1999). Empirical

studies, yielding different relationships between various dimensions of work–family culture and work-to-home interference, provide support for its multi-dimensional character. Whereas organizational time demands were found to be related to higher levels of WHI (e.g. Beham and Drobnič, 2011; Thompson *et al.*, 1999), supervisor and coworker support were associated with decreased levels of WHI (e.g. Lapierre and Allen, 2006; Thompson *et al.*, 1999; Voydanoff, 2004). In addition, fewer organizational time demands were found to be negatively related to WFE (Wayne *et al.*, 2006). Having supportive supervisors and coworkers may lead to more positive affect, a sense of energy, or confidence from work which carries over the family domain and increases individual and family functioning (Wayne *et al.*, 2007). Supervisor and coworker support were indeed linked to higher levels of work-to-family facilitation and enrichment (e.g. Lu *et al.*, 2009; Siu *et al.*, 2010b; Voydanoff, 2004). Relating the various dimensions of work–family culture with Voydanoff’s (2005a) classification of boundary-spanning demands and resources, organizational time expectations can be best understood as boundary-spanning demands, whereas support from supervisor and colleagues are boundary-spanning resources. Based on theory (see previous section of the study) and available research evidence, it is hypothesized:

Hypothesis 7. Organizational time expectations will be (a) positively related to WHI and (b) negatively related to WHE.

Hypothesis 8. Supervisor support will be (a) negatively related to WHI and (b) positively related to WHE.

Hypothesis 9. Co-worker support will be (a) negatively related to WHI and (b) positively related to WHE.

In a response to the increasing work and family demands of employees, many organizations have implemented flexible working arrangements (FWA’s) such as flextime, compressed work weeks, and telework. Flexible working arrangements provide employees with temporal or spatial flexibility in the workplace, and may thus enable them to better manage their work and non-work responsibilities. Despite contradictory findings about the positive impact of FWA’s on work–family conflict in two recent meta-analytical studies (Byron, 2005; Mesmer-Magnus and Viswesvaran, 2006), we argue that by increasing flexibility of and control over the temporal and spatial boundaries between the work and private domains, FWA’s have the potential to decrease conflict and increase enrichment between these domains. In line with previous studies, which have linked flexible working arrangements to lower levels of work-to-family conflict and increased levels of work-to-family facilitation (e.g. Anderson *et al.*, 2002; Shockley and Allen, 2007; Thompson *et al.*, 1999; Voydanoff, 2004), it is hypothesized:

Hypothesis 10. Use of flexible work arrangements will be (a) negatively related to WHI and (b) positively related to WHE.

## Methods

### Procedure and participants

Data for the study were collected from service sector employees in three organizations in the IT, retail and health care industry. The companies were identified using the German Hoppenstedt Company Inventory, a database comprising information on 300,000 German organizations. Invitations to participate in the study were sent to the CEO and/or the HR-manager of the respective company. We collected data using an online questionnaire in the IT organization, and a paper-and-pencil questionnaire in both the retail and healthcare organization, because the majority of employees (e.g. shop floor workers, nurses, doctors) in these organizations did not regularly work on a computer. Online questionnaires were emailed to employees in the IT organization by the HR department, whereas paper-and-pencil questionnaires were distributed via (internal) mail to the employees' work addresses in retail and health care. All participants were allowed to complete the questionnaire during working hours. A total of 3,138 questionnaires were distributed to employees of various hierarchical levels. 1,042 questionnaires were returned (for an overall response rate of 33 per cent). After discarding incomplete cases, 999 questionnaires were retained for further analyses. Further descriptions of the data can be found in [Präg \*et al.\* \(2011\)](#).

38.9 per cent of the respondents were male and 61.1 per cent were female. The average age of respondents was 44.5 years. Seventy-three percent were married or living together with a partner. Forty-five percent had at least one child; parents reported an average of 1.6 children. Twenty-six percent of respondents had a high school diploma, 27 per cent had a university degree. Average organizational tenure was 13.6 years, and 25 per cent had a supervisory position. Twenty-seven percent of the participants worked a part-time schedule of 30 hours or less per week. On average, respondents worked 37.2 hours per week.

### Measures

**Working hours** Participants were asked to indicate how many hours they actually work per week, including paid or unpaid overtime, but not counting commuting time.

**Overtime on short notice** Participants responded on a four-point scale (1 = never; 4 = always) how often they were asked to work paid or unpaid extra overtime hours with little or no advance notice.

**Psychological job demands** Five items taken from the Swedish Demand–Control–Support Questionnaire (DCSQ) were used to measure psychological demands at work (Sanne *et al.*, 2005). Example items are ‘Does your job require you to work fast?’ and ‘Does your job often make conflicting demands on you?’ Each item was rated on a four-point scale (1 = never; 4 = always).

**Job insecurity** Four items on a five-point Likert scale were used to measure perceived job insecurity (1 = strongly disagree; 5 = strongly agree) (Sverke *et al.*, 2004). Example items are ‘I am afraid I will lose my job’ and ‘I worry about keeping my job.’

**Job control** Job control was assessed with two items taken from the decision authority scale of the Swedish DCSQ (Sanne *et al.*, 2005), and two items from the psychological job control measure of Kossek *et al.* (2006). Example items are: ‘Are you free to decide how your job is to be done?’ and ‘Are you free to decide when you do your work?’ Each item was rated on a four-point scale (1 = never; 4 = always).

**Job variety** Three items of the skill discretion scale of the Swedish Demand–Control–Support Questionnaire (DCSQ Sanne *et al.*, 2005) were used to assess job variety. Responses were made on a four-point scale (1 = never; 4 = always). Example items are ‘Do you get to learn new things?’ and ‘Does your job require creativity?’

**Work–family culture** Three items each were used to measure the dimensions organizational time expectations and co-worker support. Two items measured supervisor support. Several items were derived from the multi-dimensional work–family culture measure of Dikkers *et al.* (2004). Responses were made on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Example items are ‘In this organization employees are expected to put their job before their private life when necessary,’ ‘My direct superior supports employees who want to switch to less demanding jobs for private reasons,’ and ‘My colleagues support employees who (temporarily) want to reduce their working hours for private reasons.’ Confirmatory factor analysis (CFA) using maximum likelihood estimation provided support for the three-factor solution:  $\chi^2(17, N = 999) = 158.63$ ;  $CFI = .95$ ;  $NFI = .95$ ;  $RMSEA = .08$ . The fit of the three-factor solution was also compared with a one-factor model and a two-factor model, but the three-factor model did fit the data significantly better in all instances.

**FWA use** Participants were asked to indicate whether they had used flex-time, telework or worked a compressed workweek over the last twelve months.

A dummy-variable was calculated with 0 indicating that no flexible work arrangement had been used, and 1 indicating that at least one policy had been used over the last twelve months.

**Work-to-home interference** Three items of the SWING Work–Home Interaction Survey Nijmegen were used to assess WHI (Wagena and Geurts, 2000). Example items are ‘How often does it happen that you do not have the energy to engage in leisure activities with your spouse/family/friends because of your job?’ and ‘How often does it happen that your work obligations make it difficult to feel relaxed at home?’ Each item was rated on a four-point scale (1 = never; 4 = always).

**Work-to-home enrichment** Three items taken from the work–family enrichment scale of Carlson *et al.* (2006) were used to assess the developmental dimension of WHE. Examples are ‘My involvement in my work helps me to understand different viewpoints and this helps me be a better family/household member’ and ‘My involvement in my work helps me acquire skills and this helps me be a better family/household member.’ Responses were made on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

**Control variables** Sex, age, educational level, supervisor status, marital status, number of children and type of organization were used as control variables in statistical analyses. Sex is dummy-coded 0 = male, 1 = female, supervisor status is dummy-coded 0 = non-supervisor, 1 = supervisor, and marital status is dummy-coded 0 = not married or cohabiting, 1 = married or cohabiting. Type of organization is dummy-coded with IT as the reference category in multivariate analyses. Educational level was assessed by asking participants to indicate the highest degree they had obtained on a 7-point scale.

## Results

Table 1 presents Pearson’s correlation coefficients, means and standard deviations for all study variables as well as Cronbach’s alphas for the scales with multiple items.

Ordinary least squares regression analyses were conducted to test the study hypotheses. Control variables, work demands, work resources, and boundary-spanning demands and resources were entered sequentially into the equation. In addition to the socio-demographic variables, industry dummy variables were included in all analyses, with IT as the reference category. The results for WHI and WHE are presented in Tables 2 and 3, respectively.

Table 1: Pearson's correlation coefficients for dependent and independent variables,  $N = 999$

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Sex	—	—	—																	
2 Age	44.53	9.28	-0.05	—																
3 Education	4.59	1.18	-.30**	-0.06	—															
4 Supervisor	—	—	0.02	.15**	0.03	—														
5 Marital status	—	—	-.12**	.16**	.08**	.07*	—													
6 No. of children	0.73	0.95	-.19**	-0.01	.07*	-0.01	.24**	—												
7 Actual working hours	37.19	9.38	-.36**	-0.01	.28**	.20**	-0.04	-.08**	—											
8 Overtime on short notice	1.81	0.68	.06*	0	-.08*	.11**	0	-0.04	.17**	—										
9 Psych. job demands	2.41	0.53	.11**	.12**	-.11**	.25**	0.02	-0.02	.13**	.36**	—									
10 Job insecurity	2.00	0.98	0.04	0	-.11**	-.08*	-0.04	-0.04	-.08*	0.05	.13**	—								
11 Org. time expectations	2.91	1.06	-0.04	.07*	.13**	.12**	0	-0.02	.17**	.34**	.32**	(0.87)	—							
12 Supervisor support	3.39	0.9	-0.01	-0.01	0.05	0.01	0.02	-0.03	0	-.19**	-.19**	-.11**	(0.87)	—						
13 Coworker support	3.19	0.81	-.09**	-.06*	.11**	0.04	0.04	0.01	-0.02	-.12**	-.13**	-.09**	-0.01	(0.72)	—					
14 FWA use	—	—	-.31**	.07*	.35**	0.02	.10**	0.05	.20**	-.18**	-.16**	0	.15**	.08*	.18**	—				
15 Job control	2.12	0.57	-.16**	0.03	.24**	.17**	.06*	.11**	.18**	-.11**	-.15**	-.17**	-.10**	.25**	.22*	.31**	(0.73)			
16 Job variety	2.52	0.57	-.12**	0.02	.14**	.23**	0.04	0.04	.22**	0.03	.15**	-.07*	-0.04	.13**	.13**	.18**	.47**	(0.63)		
17 WHI	2.05	0.57	.10**	.08**	-0.04	.19**	-0.03	-0.05	.20**	.28**	.52**	.21**	.34**	-.19**	-.17**	-.10**	-.08*	.07*	(0.76)	
18 WHE	2.76	0.98	.10**	0.03	-0.01	.08*	0.03	0.02	-0.04	-0.06	-.07*	-0.05	-0.04	.20**	.19**	.07*	.15**	.15**	-.09**	(0.91)

Notes: Cronbach's Alpha in the diagonal. \* $p < .05$ , \*\* $p < .01$ .

Table 2: Regression analysis of work-to-home interference, standardized coefficients,  $N = 999$

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Controls</i>					
Female sex	.04	.12**	.12**	.11**	.11**
Age	.07*	.05	.05	.05	.05
Education	.02	.01	.01	-.01	-.01
Supervisor	.18**	.05	.06	.05	.05
Married/cohabiting	-.04	-.03	-.03	-.02	-.01
No. of children	-.04	.00	.00	-.01	-.02
Health care	.09*	.00	-.01	.05	-.02
Retail	.07	-.01	-.02	-.01	-.05
<i>Work demands</i>					
Working hours		.19**	.19**	.18**	.17**
Overtime on short notice		.09**	.09**	.04	.02
Psych. job demands		.41**	.41**	.38**	.37**
Job insecurity		.17**	.17**	.15**	.15**
<i>Work resources</i>					
Job control			.00	.01	.04
Job variety			-.03	-.02	-.01
<i>Boundary-spanning demands</i>					
Org. time expectations				.16**	.17**
<i>Boundary-spanning resources</i>					
Supervisor support					-.09**
Coworker support					-.07*
FWA use					-.09*
$F$	7.24**	38.00**	32.65**	32.95**	29.53**
$R^2$	.06	.34	.34	.36	.37
Adjusted $R^2$	.05	.33	.33	.34	.36
Change in $R^2$		.28	.00	.01	.02

Notes: \* $p < .05$ , \*\* $p < .01$ . Health care and retail are dummy-coded. IT is the reference category.

Table 2 shows that several within-domain work demands (working hours:  $\beta = .19, p < .01$ ; overtime on short notice:  $\beta = .09, p < .01$ ; psychological time demands:  $\beta = .41, p < .01$  and job insecurity:  $\beta = .17, p < .01$ ) were positively related to negative work-to-home interference (Model 2). Adding work resources had hardly any effect on the coefficients. However, when boundary-spanning demands were entered into the equation, overtime on short notice ceased to be a significant predictor of WHI. Accordingly, Hypothesis 2 was not supported, whereas Hypotheses 1, 3, and 4 received support by our data. In line with predictions, organizational time expectations ( $\beta = .16, p < .01$ ) were significantly and positively related to WHI, thus confirming Hypothesis 7a. Several boundary-spanning resources were significantly and negatively related to WHI (supervisor support ( $\beta = -.09, p < .01$ ); co-worker support ( $\beta = -.07, p < .05$ ); FWA use ( $\beta = -.09, p < .05$ ). Thus, Hypotheses 8a, 9a, and 10a were supported. No significant relationships were found between within-domain work resources and WHI, which is in line with our theoretical model in Figure 1.

Table 3 reveals that work demands were not significantly related to WHE (Model 5), which is in line with our theoretical model. Several boundary-spanning resources, supervisor support ( $\beta = .11, p < .01$ ), co-worker support ( $\beta = .12, p < .01$ ), and use of flexible work arrangements ( $\beta = .11, p < .05$ ) were significantly and positively related to WHE, thus confirming Hypotheses 8b, 9b, and 10b. Contrary to predictions, boundary-spanning demands were not significantly related to WHE. Accordingly, Hypothesis 7a was not supported. Among job resources, only job variety ( $\beta = .12, p < .01$ ) was significantly and positively related to WHE (Model 5), supporting Hypothesis 6. Contrary to Hypothesis 5, job control did not reveal a significant relationship with WHE.

Examining the coefficients for control variables in the final models of Tables 2 and 3 reveals that sex was found to be significant in both Tables. Other things being equal, women experienced both higher work-to-home interference and higher work-to-home enrichment than men. Supervisors reported significantly higher levels of work-to-home interference due to higher work demands (Model 1 in Table 2). When these are held constant (Model 2), the difference in WHI between supervisors and non-supervisors becomes insignificant. In addition, supervisors consistently report significantly higher levels of work-to-home enrichment than employees without supervisor responsibilities (Table 3). It seems that a management position supplies individuals with more or better skills and knowledge which translate into a better performance in the family domain than a non-management position. With respect to industry effects, there are indications that employees in retail experience less work-to-family enrichment than other employees. However, this relationship is not statistically significant once boundary-spanning resources are included in the analysis, indicating that retail workers have fewer resources at their disposal than health



Table 3: Regression analysis of work-to-home enrichment, standardized coefficients,  $N = 999$

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Controls</i>					
Female sex	.17**	.15**	.16**	.15**	.15**
Age	.05	.04	.04	.04	.05
Education	-.03	-.03	-.04	-.04	-.04
Supervisor	.11**	.13**	.09*	.09*	.08*
Married/cohabiting	.03	.03	.03	.03	.02
No. of children	.01	.00	.00	.01	.01
Health care	-.04	-.02	.00	.01	.01
Retail	-.16**	-.14**	-.10*	-.09*	-.04
<i>Work demands</i>					
Working hours		-.03	-.04	-.04	-.03
Overtime on short notice		-.05	-.05	-.05	-.03
Psych. job demands		-.05	-.07	-.07	-.06
Job insecurity		-.03	-.02	-.02	-.02
<i>Work resources</i>					
Job control			.06	.06	.02
Job variety			.13**	.13**	.12**
<i>Boundary-spanning demands</i>					
Org. time expectations				.03	.02
<i>Boundary-spanning resources</i>					
Supervisor support					.11**
Coworker support					.12**
FWA use					.11*
$F$	4.08**	3.47**	4.66**	4.39**	5.81**
$R^2$	.04	.05	.07	.07	.11
Adjusted $R^2$	.03	.03	.05	.05	.09
Change in $R^2$		.00	.02	.00	.04

Notes: \* $p < .05$ , \*\* $p < .01$ . Health care and retail are dummy-coded. IT is the reference category.

care and IT employees.

## Discussion

### Summary and interpretation of results

The present paper tested an extended version of [Voydanoff's \(2004\)](#) 'differential salience vs. comparable salience' model in a sample of German service sector employees. The model posits that work demands and resources are differentially salient for work-home interference and work-home enrichment, whereas boundary-spanning demands and resources are comparably salient to both concepts. The present study partially supports the extended salience model, yielding some findings that diverge from [Voydanoff's \(2004\)](#) theoretical framework as well as her previous empirical findings. In line with the theoretical model, work demands including working hours, psychological job demands, and job insecurity were found to be significantly and positively related to WHI. Contrary to predictions and [Voydanoff's \(2004\)](#) findings, overtime on short notice was not significantly related to WHI. The relationship became insignificant once organizational time expectations were taken into account, thereby suggesting that overtime on short notice may act as a mediator. Being asked to stay longer at work on short notice seems to create perceptions of a time-demanding organization which does not respect employees' non-work responsibilities and private life besides work. Such perceptions constitute an important part of an organizations work-family culture, and were found to increase employees' feelings of work negatively interfering with their private life. According to [Voydanoff's \(2004\)](#) classification of boundary-spanning demands and resources and the salience model, organizational time expectations are boundary-spanning demands which have a comparable impact on both forms of work-to-home interference. However, the present study fails to find a significant relationship between organizational time expectations and WHE, thereby suggesting that boundary-spanning demands are differentially rather than comparably salient to the work-family interface.

Several boundary-spanning resources, support from supervisor and colleagues and the use of flexible working time arrangements yielded significant, negative relationships with WHI and significant, positive relationships with WHE. Supportive supervisors and co-workers are important resources that enrich employees' lives and can offset negative work-to-home interference in organizations with high organizational time expectations. Boundary-spanning resources explained four per cent of the variance in WHI and two per cent of the variance in WHE, thereby confirming the argument of comparable salience of the theoretical model.

Among work resources, only job variety was found to be significantly related to WHE. Contrary to our theoretical model, job control was not significantly re-

lated to work-to-home enrichment. [Voydanoff \(2004\)](#) found a positive, although small effect ( $\beta = .05, p < .05$ ) of job autonomy on work-to-family facilitation. There are two possible explanations for these divergent findings. The first one is based on the different dependent variables used in both studies. Whereas the present study focused on work-to-home enrichment ([Greenhaus and Powell, 2006](#)), [Voydanoff \(2004\)](#) looked at work-to-family facilitation. These are different constructs in the work–family literature. Work-family facilitation occurs when an individual’s engagement in one life domain (e.g. work) results in enhanced functioning of another life domain (e.g. family) ([Wayne et al., 2004](#)). Hence, facilitation focuses on improvements in system (e.g. family) functioning, whereas enrichment focuses on the improvement of individual performance or quality of life ([Carlson et al., 2006](#)). For example, the application of participative management skills at home may enable an individual to perform more effectively as a parent (enrichment), and may further lead to less conflict and better parent–child interactions (facilitation) ([Wayne, 2009](#)). In addition, whereas the [Voydanoff \(2004\)](#) measure focuses more on the affective component of facilitation (e.g. moods and energy that are transferred), the present study focuses on developmental work-to-home enrichment, one of three different dimensions of WHE ([Carlson et al., 2006](#)). Developmental WHE refers to the acquisition or refinement of skills, knowledge, behaviors, or ways of viewing things rather than moods and attitudes (affective WFE). Job control/autonomy is a psychological construct that provides employees with a sense of control, which in turn may well stimulate affective WFE or the form of facilitation examined by [Voydanoff \(2004\)](#). However, having control over one’s work may not necessarily provide employees with tangible skills or knowledge necessary for developmental work-to-family enrichment to occur.

A second explanation may be grounded in the respective work environments. Recent research on contemporary, post-Fordist work environments yielded some ambiguous findings with respect to job control and employee behaviors and work-to-home interference. [Van Echtelt et al. \(2006\)](#), for example, found that employees in organizations which provided them with high levels of control over working time and location, worked much longer hours than they actually wanted to (the ‘autonomy paradox’). In these work environments the focus was on task and project completion rather than on clock time. Employees were so immersed in completing their work tasks and projects that they spent even more time at work. Although they formally had the right to adjust their working hours, the work environment did not allow an actual reduction. Contrary to the view that schedule control and job autonomy are resources that decrease WHI, [Schieman and Glavin \(2008\)](#) hold them responsible for a ‘blurring’ of the borders between work and home. They were able to show that this work–home role blurring is associated with increased levels of work-to-home conflict. In a similar vein,

Schieman *et al.* (2009) found that employees with high levels of authority and decision-making latitude experienced higher levels of negative work-to-home interference. They argued that because of certain ‘cultural dictates’ (p. 986) about flexibility in organizations, work resources might not realize their positive impact on the work–non-work interface. These studies thus provide some indication that job control may only exert its positive impact on work-to-home enrichment under certain organizational conditions. Future research may apply a more complex view of the relationships between within-domain and boundary-spanning demands and resources and the work–family interface (e.g. by including interactions between various demands and resources).

To summarize, work resources explained two per cent of the variance on WHE. Neither job control nor job variety revealed a significant relationship with work-to-home interference. Despite the non-significant relationship between overtime on short notice and WHI, work demands explained 33 per cent of the variance in WHI. No significant relationships were found between work-demands and WHE. Boundary-spanning resources were comparably salient to WHI (four per cent of variance explained) and WFE (two per cent of variance explained), whereas boundary-spanning demands were only find to salient to WHI. Overall, these findings partially confirm our extended salience model.

## Theoretical and applied implications

The findings of the present study have several theoretical implications. First, the study tested Voydanoff’s (2004) differential salience vs. comparable salience model in a different national context. To our knowledge, the model has only been tested with a US sample of employees. However, testing theoretical models, especially across different national/cultural settings, are important before firm conclusions can be drawn. Further, the present study extends Voydanoff’s (2004) model by including boundary-spanning demands which have been suggested by Voydanoff (2005a). However, our findings, drawn from a German sample of service sector employees, suggest that boundary-spanning demands are differentially salient rather than comparably salient to WHI and WHE. With respect to boundary-spanning resources, our study confirms that there is a merit in distinguishing boundary-spanning resources as conceptually different from within-domain resources as they are related to both WHI and WHE. Finally, the study provides initial empirical evidence on antecedents of work-to-home enrichment in a German work context.

From an applied perspective, the findings of the present study suggest that organizations which aim at reducing employees’ work-to-home conflict need to go beyond the mere reduction of work demands and create a family-supportive work environment. This is a challenging and long-term task for organizations, but the findings of this study suggest that it is worthwhile for companies to

engage in this endeavor. It is particularly beneficial for organizations to invest into employees' boundary-spanning resources because support from supervisor and colleagues as well as flexible work arrangements (all important components of a family-supportive work environment) were found to lead to two positive consequences for employees: less negative work-to-home interference and higher work-to-home enrichment. In addition, organizations need to be careful in creating perceptions of a time-demanding organization that does not respect employees' non-work obligations. Once established, deeply held beliefs, assumptions, and values about the priority of work and family life are difficult to change (Andreassi and Thompson, 2008).

## Limitations and future research suggestions

When interpreting the results of the present study, several limitations of the research design should be kept in mind. First, the sample is comprised of service sector employees, meaning that the results may not generalize to a larger population of workers. Future studies would benefit from investigating a broader array of industries. A second limitation of the study is its cross-sectional, non-experimental design which does not allow for definite causal conclusions (Spector, 2002; Stone-Romero and Rosopa, 2007).

Although the results of the study are largely consistent with the assumed causal model in Figure 1, we cannot rule out rival explanations of detected relationships. Experimental research designs and longitudinal studies are required in the future to clearly determine the directionality of the proposed relationships. Further, all variables were self-reported by the study participants, introducing the possibility that common method variance may influence the results. In order to empirically address this issue, Lindell and Whitney's (2001) partialling technique was applied in this study. Correlations remained significant, suggesting that the results are not significantly affected by common method variance. However, future research should definitely aim at collecting data from multiple data sources.

Apart from methodological improvements, several content-related suggestions for future research can be pointed out. As already mentioned in the discussion section, the present study examines a different concept of positive work-to-home interference, namely work-to-home enrichment (Greenhaus and Powell, 2006), as compared to work-to-family facilitation in the Voydanoff (2004) study. A further check for the robustness of the 'differential salience vs. comparable salience' model across different cultural and national contexts would be to use the same constructs and measures. In addition, the present study only focused on the developmental dimension of work-to-home enrichment (Carlson *et al.*, 2006) and applied a uni-dimensional measure of work-to-home interference (Wagena and Geurts, 2000). Future studies may assess whether work and boundary-

spanning demands and resources relate differently to other dimensions of WHE and WHI. Finally, future research may include different boundary-spanning demands (e.g. bring work home) to further clarify whether these demands are comparably or differentially salient to the work–family interface.

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