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The competing influence of psychological job control on family-to-work conflict

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Abstract

Psychological job control has typically been negatively related to work-to-family and family-to-work conflict. Based on the job demand-resource model and boundary theory, we argue that psychological job control may indirectly be positively related to family-to-work conflict by both increasing supplemental work, that is, the rate of engagement in work outside of formal working hours without receiving compensation aided by mobile technology, and work-to-family conflict. We hypothesize that this proposed positive indirect relationship will be lower among employees who perceive a high segmentation norm at their workplace. Based on a two-wave study of 4518 employees, we obtained support for a serial moderated mediation model that suggests a dual effect of psychological job control on family-to-work conflict, such that psychological job control was positively associated with family-to-work conflict through supplemental work and work-to-family conflict at low levels of segmentation norms. By examining the dual effects of psychological job control, this study aims to further understand the mechanisms involved in determining whether and when psychological job control, together with supplemental work, encourages employees to uphold or cross boundaries between work and nonwork domains. Our findings imply that psychological job control can both be a resource and a demand depending on the levels of segmentation norms.

KEYWORDS
boundary theory, family-to-work conflict, psychological job control, segmentation norms, supplemental work, work-to-family conflict

> **Practitioner points**
> - High levels of psychological job control may increase family-to-work conflict and the use of unpaid overtime.
> - Organizations should explicitly enforce segmentation norms to make a distinction between work and home.
> - Our results point to a dilemma for companies, on the one hand, companies may be tempted to restrict access to email after formal working hours, but this may reduce job control, which may also lead to negative consequences such as family-to-work conflict.

BACKGROUND

An increasing number of companies provide employees with flexible work options, thereby increasing employees' control over their work and reducing conflict between the family and work domains (Aryee et al., 2013; Gonzalez-Mulé & Cockburn, 2021; Grotto & Lyness, 2010). This trend is likely to continue due to teleworking policies during the COVID-19 pandemic and technological developments that make working anytime and anywhere easier (Derks et al., 2014). Kossek et al. (2006) emphasized the importance of recognizing an employee's personal perception of the flexibility provided by an organization, that is, psychological job control (Karasek, 1979; Kossek et al., 2006). Psychological job control, or the perception that one can control one's work in terms of when, where and how to work (Kossek et al., 2006), has, thus far, been found to have a positive impact on family-to-work conflict (Demerouti et al., 2001; Gonzalez-Mulé & Cockburn, 2021; Michel et al., 2011; Park et al., 2020). Family-to-work conflict refers to situations where an employee is distracted on the job by personal obligations, such as housework or caring for a child (Gutek et al., 1991; Reina et al., 2017). Family-to-work conflict has been found to have detrimental effects on important factors for individuals and organizations, such as stress and burnout, job satisfaction and performance (see Amstad et al., 2011; Brummelhuis et al., 2010; Carlson et al., 2019; Eby et al., 2005).

Although the perceptions of psychological job control have frequently been found to buffer the negative effects of demands in the workplace (Bakker et al., 2003, 2005; Brummelhuis & Bakker, 2012) and lower work–home conflict (Demerouti et al., 2001; Grotto and Lyness 2010), research also suggests that psychological job control and similar measures are positively associated with outcomes that arguably have a negative impact on family-to-work conflict, such as engagement in unpaid overtime, increased work intensity and stress (Chung & van der Horst, 2020; Eurofound, 2020; Halbesleben et al., 2009; Mazmanian et al., 2013). Contradictory findings may imply that psychological job control under certain conditions may blur boundaries between work and nonwork domains, while in other conditions, it may help employees uphold such boundaries. In this paper, the contradictory findings on the role of psychological job control in predicting family-to-work conflict are further investigated by examining the potential mediating role of supplemental work and work-to-family conflict and the conditional role of segmentation norms on this relationship.

Supplemental work is defined as engaging in role-prescribed job tasks aided by technology at home or while on holiday (Fenner & Renn, 2004). Past research has not considered the isolated effects of supplemental work on work-related outcomes. Relying on boundary theory, this study argues that employees experiencing psychological job control may perceive boundaries as more permeable because they feel in control concerning where and how to work. This, in turn, may encourage supplemental work because one is physically located outside of the office while engaging with work, and thus, this indicates boundary crossing (Chesley, 2006; Park et al., 2020; Schieman & Glavin, 2008). Supplemental work may disrupt family matters and encourage work-to-family conflict, which refers to work interfering with family obligations and duties at home (Gutek et al., 1991). We argue that work-to-family conflict due to supplemental

work will ultimately lead to family-to-work conflict. A better understanding of these proposed relationships is important because employees who experience conflict between family and work tend to report higher levels of stress and burnout, lower job satisfaction and poorer employee and coworker performance (see Amstad et al., 2011; Brummelhuis et al., 2010; Carlson et al., 2019; Eby et al., 2005).

An important contingency factor influencing whether employees are more or less likely to uphold boundaries between work and nonwork domains is segmentation norms. Segmentation norms refer to organizational expectations and normative behaviours promoting clear work-home boundaries (Derks et al., 2014; Kreiner, 2006). Because organizations may not only provide different degrees of autonomy but also develop segmentation norms concerning boundaries between the work and nonwork domains (Kreiner, 2006; Kreiner et al., 2006), employees may perceive boundaries between work and nonwork domains as either permeable or impermeable, enabling employees to either separate or integrate work and home (Ashforth et al., 2000). Segmentation norms may function as an important boundary condition for psychological job control. On the one hand, one could expect the commonly found negative relationship between psychological job control and family-to-work conflict when segmentation norms are high. In this situation, employees will likely feel empowered to not bring work into the home domain. On the other hand, this relationship can turn positive in situations with low segmentation norms, probably encouraging the tendency to bring work into the home domain and may consequently increase family-to-work conflict through supplemental work and work-to-family conflict.

In this paper, the timely question is asked, 'to what extent do segmentation norms increase or decrease the indirect effect of psychological job control on family-to-work conflict through supplemental work and work-to-family conflict (see Figure 1)?' Tempted by perceived positive experiences during the COVID-19 pandemic, companies are introducing more flexibility through schedule control for their employees as a high-performance measure in the hope of increasing productivity (Chung & van der Horst, 2020). As a result, psychological job control may increase, which may have unintended consequences on family-to-work conflict by encouraging supplemental work. Work-to-family conflict is of particular importance in this context since supplemental work may typically be performed at home and therefore lead to work interfering with family-related issues. With increasing work-to-family conflict, employees may feel the need to catch up on family matters on the job, which might interrupt the tasks at hand (family-to-work conflict; French & Allen, 2020).

We aim to contribute to the literature by examining the potential negative effects of psychological job control and supplemental work by studying the underlying mechanisms and conditions that can lead to family-to-work conflict. These contradictory findings are examined from both a job-demand resource (JD-R) perspective and a boundary theory perspective. Combining these two theoretical frameworks allows for a deeper understanding of when psychological job control changes from a resource to a stressor. According to the JD-R model, perceived job control and autonomy are considered as resources for minimizing stress (Demerouti et al., 2001). However, scholars have previously argued that depending on the work context, some resources can become demands (Bakker & Demerouti, 2017). We, thus,
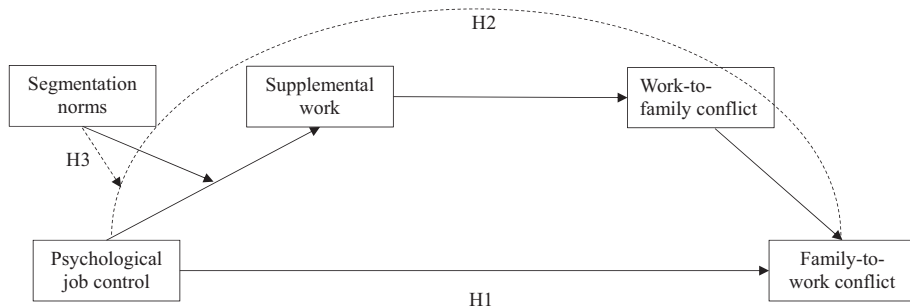

FIGURE 1 Hypothesized serial moderated mediation model.

contribute to the JD-R model by arguing that low segmentation norms represent one such work context where psychological job control becomes a demand rather than a resource.

Similarly, boundary theory posits that control enables effective boundary management (Kossek et al., 2011). This, however, does not account for why and when employees work more when they experience psychological job control (Mazmanian et al., 2013) and how this may influence the work–family interface. This study thereby contributes to the JD-R literature and boundary theory by investigating when and why employees who experience psychological job control cross or uphold boundaries between work and nonwork domains. This also extends our current understanding of boundary theory by testing both an individual (i.e. psychological job control) and a situational antecedent (i.e. segmentation norms) of boundary crossing in the same model, as boundary issues more often have been examined separately on individual and organizational terms (Kossek & Lautsch, 2012).

Mobile technology is an essential part of supplemental work. By investigating the circumstances under which supplemental work may facilitate negative employee outcomes, an understanding is also gained of when and why mobile technology encourages negative, positive, or neutral outcomes (Ashforth et al., 2000; Piszczek, 2017). If job control is positively associated with supplemental work for low levels of segmentation norms, then an important practical implication of this study is that organizations and supervisors should communicate expectations on the separation of work and home life to their employees.

Theory and hypothesis

Psychological job control and family-to-work conflict

According to the JD-R model (see Demerouti et al., 2001), job resources are aspects of the job that relate to physical, psychological, social or organizational variables that help employees achieve work goals, reduce job demands and stimulate personal growth and development (Demerouti et al., 2001). Psychological job control is one of these variables (Karasek, 1979; Kossek et al., 2006), whose importance is also acknowledged within boundary theory, which argues that psychological job control facilitates employees' choice to separate boundaries between work and nonwork domains (Kossek et al., 2006). Boundary theory describes role transitions or 'boundary crossing' between work and nonwork roles. People form psychological, physical and temporal boundaries between work and nonwork roles and can choose to either integrate work and nonwork roles or separate the two (Ashforth et al., 2000; Park et al., 2020). Previous research on both the JD-R model and boundary theory has documented that psychological job control has a positive impact on the work–home interface. For example, Grotto and Lyness (2010) found that resources, such as job control, were associated with significantly lower levels of work–home conflict. Control over work time has also been found to support employees' satisfaction with work-family balance because it is closely related to the ability to manage multiple role demands (Kossek et al., 2006, 2011). Furthermore, Kossek and Lautsch (2012) found both indirect and direct effects of perceived control over boundary management on work–family conflict.

Although most research linking psychological job control with the work–family interface has focused on the workplace as a primary source of conflict between work and home, some research has revealed that family obligations can have negative consequences for work life (see Frone et al., 1997; Nohe et al., 2014; Venkatesh et al., 2019). The family–work literature suggests that family matters may conflict with work due to a shortage of time and energy, which may in turn result in feelings of burnout at work (see Brummelhuis et al., 2010).

Although family-to-work conflict is related to resources and role pressures within the family domain, this study argues that resources from the work domain, such as psychological job control, can crossover and provide opportunities in the family domain, for example, employees with high psychological job control may be better able to respond to family demands by changing their work schedules accordingly. Specifically, psychological job control is a job-related resource that is thought to alleviate demands at

work, and psychological job control can carry over into the family domain and thus alleviate demands therein (Zedeck, 1992). Controlling how much, where, when and how to work increases people's ability to meet demands from both work and family without risking penalties in either domain and reduces the strain that employees may feel when work constraints make it difficult to attend to important family matters (Thomas et al., 1995; Valcour, 2007). Furthermore, according to the work-home resources model (Brummelhuis & Bakker, 2012) and the ideas of work-family enrichment/spillover/crossover theory (see Carlson et al., 2019), contextual resources from the work domain will impact functioning in the family domain through a gain in personal resources. For example, Carlson et al. (2019) found that job resources, such as psychological job control, are positively related to marital satisfaction and family functioning. Thus, resources in the work domain may transfer to the family domain and buffer against potential negative interplays between the two domains. It is, therefore, hypothesized that:

Hypothesis 1.   Perceived psychological job control is negatively related to family-to-work conflict.

Psychological job control, supplemental work and work-to-family conflict

While psychological job control is a resource that can lower family-to-work conflict, perceived control over where, when and how to work can also become a demand when employees cross boundaries between work and nonwork domains by engaging in supplemental work. By definition, supplemental work is performed outside of formal working hours and thus may impede dealing with family matters effectively and in a timely manner, thus increasing work-to-family conflict (Fenner & Renn, 2004). Consequently, employees may have to attend to family matters at work, interrupting their workday and increasing the likelihood of experiencing family-to-work conflict (French & Allen, 2020). Hence, psychological job control may be indirectly positively related to family-to-work conflict by encouraging employees to engage in supplemental work, which in turn can result in work-to-family conflict.

According to boundary theory, boundaries are characterized by permeability and flexibility. Boundaries are flexible when they can be moved and when roles can be enacted in different locations. For example, hospital medical staff have inflexible boundaries since their work cannot be performed outside of the hospital grounds (Ashforth et al., 2000; Zerubavel, 1996). Past research has demonstrated that boundary flexibility is associated with increased unpaid overtime and mobile device usage (Chung & van der Horst, 2020; Mazmanian et al., 2013), as well as boundary crossing (Park et al., 2020).

Permeability describes the extent to which one can physically be in one role domain but can be occupied with another domain (Ashforth et al., 2000). For example, attending a family event but thinking of work and answering emails would describe a highly permeable situation. As such, supplemental work would be enabled by perceiving boundaries as permeable. Psychological job control may increase one's perception of permeability, as one feels in control concerning where, when and how to work and may therefore be positively related to supplemental work. Barley et al. (2011) found that maintaining a sense of control was related to employees frequently engaging in answering emails after hours and on weekends. Similarly, research identified schedule control as an antecedent of using mobile technology after work hours (Chesley, 2006). In another study, Schieman and Glavin (2008) found a positive association between schedule control, frequency of bringing work home and contact with colleagues after work hours. Psychological job control goes beyond just schedule control, as it also indicates whether employees experience control over where and how to work (Kossek et al., 2006). Taken together, these findings may indicate a positive association between psychological job control and supplemental work.

Supplemental work may, in turn, prevent one's ability to effectively attend to family matters at home, thus triggering work-to-family conflict (Barley et al., 2011; Fenner & Renn, 2010). Supplemental work is performed at home or other locations outside of the office and regular working hours without compensation. As such, supplemental work differs from other types of technology-aided work, such as telework and remote or virtual work, in that supplemental work is unstructured and is not formally requested by the

employer. Other types of technology-aided work, such as remote or virtual work, happen during regular working hours and have a formalized structure. Supplemental work, however, is performed after hours to catch up on work or to complete additional tasks and is not formalized or compensated by the employer. Therefore, supplemental work differs from overtime work; overtime is formally compensated work, and working hours are formally extended by the employer (Fenner & Renn, 2004). In general, past research has demonstrated that work performed through mobile technology interferes with the family domain (Chen & Karahanna, 2014; Derks et al., 2015). For example, Derks and Bakker (2014) found a positive association between daily smartphone use and work-home interference. Supplemental work, specifically, has also been associated with work-to-family conflict (Fenner & Renn, 2010).

Increased work-to-family conflict may in turn enable family matters to spill over to the workplace and interfere with work matters (French & Allen, 2020). Traditionally, work-to-family and family-to-work conflicts have different antecedents and outcomes. While work-to-family conflict has antecedents rooted in the work domain, such as longer working hours, family-to-work conflict is believed to be more strongly related to family-related antecedents, such as care responsibilities (Byron, 2005; Mesmer-Magnus & Viswesvaran, 2005). However, research has demonstrated the combined effects of work-to-family and family-to-work conflict (Shimazu et al., 2013), and findings also suggest high correlations between the two concepts (Byron, 2005). Work-to-family conflict implies role conflict between work and family matters and is positively associated with family stress (Byron, 2005; Frone et al., 1997). This suggests that work-to-family conflict interferes with solving family issues. Due to perceptions of boundary permeability, time or attention may be transferred between domains to deal with issues arising in the other domain (Ashforth et al., 2000). More specifically, time or attention is transferred from the family domain to solve a work-related issue (Edwards & Rothbard, 2000). One way that employees may deal with such interruptions of family matters is to postpone their personal obligations and attend to them during work hours, thus transferring time or attention from the work domain to the family domain and, thereby, increasing the likelihood of experiencing family-to-work conflict (Edwards & Rothbard, 2000; French & Allen, 2020). Therefore, work-to-family conflict may serve as an antecedent of family-to-work conflict.

Taken together, we expect psychological job control to be positively associated with family-to-work conflict through supplemental work and work-to-family conflict and hypothesize the following:

Hypothesis 2. Psychological job control is indirectly positively related to family-to-work conflict through both supplemental work and work-to-family conflict.

The moderating role of segmentation norms

In addition to a direct and indirect relationship, we argue that segmentation norms will act as a contextual contingency influencing the indirect effect of psychological job control on family-to-work conflict via supplemental work. This indirect relationship may be buffered or exacerbated by segmentation norms. Indeed, an employees' perception of how coworkers separate work and family life will affect their own degree of separation. As psychological job control increases the permeability of boundaries, social and organizational norms concerning whether to separate or integrate work and nonwork domains become more important, as well as supporting employees in their efforts to uphold boundaries (Glavin & Schieman, 2010).

Integration of work and family involves blending and merging aspects of the work and family domains. As opposed to blending two domains, segmentation refers to the separation of work and family (Kreiner, 2006). According to boundary theory, boundaries between work and nonwork domains are socially created through interactions with others. People in similar social structures tend to create similar classifications of boundaries between work and nonwork domains or shared norms in this regard (Piszczek & Berg, 2014; Zerubavel, 1996). According to Kreiner (2006), organizations will vary in their efforts to promote environments characterized by either integration or segmentation, thereby creating

different segmentation norms. When working in organizations with high segmentation norms, employees typically perceive other employees' separation between work and their personal lives (Derks et al., 2015; Park et al., 2011).

With low segmentation norms, employees will be more likely to blend work and family, which ultimately may lead to work-to-family and family-to-work conflict (see Derks et al., 2015; Yang et al., 2019). Expectations within a work group to respond to emails or incoming calls and deliver results while at home may interrupt important personal obligations or disturb employees' sense of control over how they spend their personal time (Gadeyne et al., 2018). Work interruptions at home seem to be evaluated as more negative by employees working in environments characterized by less social support (Glavin & Schieman, 2010). Previous research suggests that organizations with norms expecting the use of mobile technology after work hours feed into work-to-family conflict (Derks et al., 2015; Fenner & Renn, 2010).

Taken together, this may suggest that segmentation norms, together with psychological job control, influence the degree to which boundaries are viewed as permeable and determine the extent to which employees engage in supplemental work. As previously argued, employees with higher psychological job control may perceive boundaries as more permeable, and boundaries between work and nonwork domains become more fluid (Chesley, 2006; Schieman & Glavin, 2008). Low segmentation norms may exacerbate these permeability perceptions, since employees share the perception of not separating work and nonwork domains (Piszczek & Berg, 2014; Zerubavel, 1996). Consequently, although psychological job control is a work-related resource according to the JD-R model, it may be perceived as a work-related demand in contexts defined by low segmentation norms, that is, one must use their control to choose when to work to comply with organizational expectations. High psychological job control, together with low segmentation norms, may thus foster supplemental work.

Although employees experiencing high levels of psychological job control may face family-to-work conflict via supplemental work and work-to-family conflict (Derks et al., 2015; Schieman & Glavin, 2008), we also argue that psychological job control can function as a work-related resource for those working in an environment characterized by higher segmentation norms. Indeed, the JD-R model is recognized as a flexible model, which may create ambiguity as to whether a specific job characteristic should be considered as a job resource or a job demand and that this consideration may be dependent upon one's work context (Bakker & Demerouti, 2017). In contexts characterized by high segmentation norms, employees collectively enact boundaries between work and nonwork domains, and boundaries seem to be less permeable, despite high levels of psychological job control (Glavin & Schieman, 2010; Piszczek & Berg, 2014). Even though employees experience high psychological job control, they may not exercise this control because of a shared perception that upholds boundaries between work and nonwork domains. Consequently, employees will engage in less supplemental work and experience less work-to-family conflict (Derks et al., 2015). The following, therefore, is hypothesized:

Hypothesis 3. Segmentation norms moderate the indirect relationship between psychological job control and family-to-work conflict, mediated by supplemental work and work-to-family conflict. Specifically, higher segmentation norms will attenuate the indirect relationship, while lower segmentation norms will accentuate the indirect relationship.

METHODS

Sample and procedure

The data were collected at two points in time in 2013 and distributed to members of a Norwegian union in the financial sector. In total, 22,893 employees from 215 companies participated in the survey. Most of the respondents (68.3%) worked in the banking sector, 24.5% worked in the insurance sector and 5.7% worked in other sectors. Across sectors, the three most common professions were customer

advisors (24.4%), consultants (15.5%) and clerks (12.1%). Only 8.2% of the participants had leadership responsibilities.

To avoid common response bias (Podsakoff et al., 2012), the independent (perceived psychological job control), moderator (segmentation norms), and the first mediator (supplemental work) variables were collected at time one, while the second mediator (work-to-family conflict) and the dependent variable (family-to-work conflict) were collected 3 weeks later at time two. A temporal separation of 3 weeks is considered sufficient for previous information to leave the short-term memory and thereby decrease the respondents' ability to recall previously provided answers (Podsakoff et al., 2003).

A total of 6571 respondents completed the survey at time one, which corresponds to a 28.7% overall response rate. Only participants who completed the survey at time one were invited to participate at time two. A total of 4518 of the participants completed the surveys at both points in time, which corresponds to a response rate of 68.7%. The study was registered and approved by the Norwegian Centre for Research Data (NSD) before the data were collected. Questionnaires were distributed via an electronic survey system. Participants were invited via email to participate in the study. The email informed participants that participation was voluntary and that they had the right to remove their responses from the dataset. Furthermore, participants were informed that their data would be treated confidentially, responses would not be reported to any organization or on an individual level, email addresses would be permanently deleted after data collection was completed and data would only be used for research purposes. By clicking the link in the email, participants consented to participate in the study. Only members of the project group had access to the data file and survey. We matched participants' responses using their email addresses. All participant email addresses were removed, and the dataset was anonymized after the data collection was completed.

The gender distribution of the participants was 42.6% male and 57.4% female ($\sigma = .49$). The average age of the participants was 48.31 years ($\sigma = 10.27$), and they had, on average, 1.7 children ($\sigma = 1.10$; see also Table 2).

Measures

The survey was conducted in Norwegian, and all measures, except for supplemental work, were translated into Norwegian. All measures were translated by and discussed with bilingual Norwegian/Americans.

Supplemental work

Supplemental work was assessed with a nine-item scale developed by Dysvik and Kuvaas (see Buch et al., 2013). The items were measured on a five-point scale ranging from 'never or very seldom' to 'most weekdays and sometimes weekends'. The scale was used in its original language, which was Norwegian. Supplemental work is defined as uncompensated work that happens at home after working hours and is aided by technology (Fenner & Renn, 2004). Therefore, the items asked participants to indicate how much they worked after working hours without receiving compensation. For example, 'How often do you answer work-related phone calls outside of formal working hours without receiving compensation, such as time off and/or overtime pay?' and 'How often do you answer work-related emails outside of formal working hours without receiving compensation such as time off and/or overtime pay?' To capture whether work after hours happened as a means of catching up on work and/or avoiding overload the following day, the scale included the following items: 'How often do you work additional hours from home to make the next day less hectic without receiving compensation, such as time off and/or overtime pay?' and 'How often is it difficult for you to meet performance requirements without working unpaid overtime?' (See Appendix A for the complete scale.) The scale yielded a Cronbach's alpha of .92.

Psychological job control

Psychological job control was assessed with a seven-item scale developed by Kossek et al. (2006). The items (e.g. 'To what extent does your job permit you to decide on your own about WHERE the work is done?', 'To what extent does your job permit you to decide about WHEN the work is done?', 'To what extent does your job permit you to decide on your own about HOW to go about doing the work?') were rated on a 5-point Likert scale ranging from 'very little' to 'very much' or 'very inaccurate' to 'very accurate'. The scale yielded a Cronbach's alpha of .81.

Segmentation norms

Segmentation norms were assessed with a four-item questionnaire adopted by Kreiner (2006) and scored on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. The questions reflected the participants' perceptions of workplace segmentation norms. For example, 'My workplace lets people forget about work when they're at home'. The scale yielded a Cronbach's alpha of .85.

Family-to-work and work-to-family conflict

Family-to-work and work-to-family conflict were measured with a four-item survey each developed by Gutek et al. (1991), and each item was rated on a five-point scale ranging from 'strongly agree' to 'strongly disagree'. Items measuring family-to-work conflict included 'I'm often too tired at work because of the things I have to do at home' and 'My superiors and peers dislike how often I am preoccupied with my personal life while at work'. The scale yielded a Cronbach's alpha of .77. Items measuring work-to-family conflict included 'After work I come home too tired to do some of the things I'd like to do' and 'My family/friends dislike how often I am preoccupied with my work while I am at home'. The scale yielded a Cronbach's alpha of .85.

Control variables

Based on previous research findings, gender, age and the number of children of participants were controlled for. For example, Allen and Finkelstein (2014) observed gender differences in family-to-work conflict. Past research also indicates that the number of children and age are antecedents of family-to-work conflict (Allen & Finkelstein, 2014; Michel et al., 2011).

Analytic strategy

Before testing the hypotheses, we conducted a MIMIC model in Mplus with the MLMV estimator and control variables (age, number of children and gender) to test whether the five-factor model fits the data. Five competing models were tested – testing one-factor, two-factor, three-factor, four-factor and five-factor solutions. We consulted chi-square and CFI change statistics, as well as CFI and RMSEA, to ascertain model fit. In the one-factor solution, all variables were loaded on one latent factor. In the two-factor solution, segmentation norms were tested as a separate factor, while all remaining variables were loaded on one factor. In the three-factor solution, segmentation norms and supplemental work were tested as separate latent factors, while the remaining variables were loaded on one factor. In the four-factor solution, we tested segmentation norms, supplemental work and perceived job control as separate factors and the two remaining variables (work-to-family and family-to-work conflict) as one

T A B L E 1 Fit indices and MIMIC results.

Model	Chi-sq	df	p Value	ΔChi-sq	Δdf	p Value	CFI	ΔCFI	RMSEA	SRMR
1. Latent factor (all variables load on one factor, control variables: Gender, Age, Number of Children)	30,908.16	431	.00				.43		.128	.14
2. Latent factors (Factor 1: Segmentation norms, Factor 2: remaining variables, control variables: Gender, Age, Number of Children)	26,137.12	427	.00	6093.84	4	.00	.51	−.08	.118	.128
3. Latent factors (Factor 1: Segmentation norms, Factor 2: supplemental work, Factor 3: remaining variables, control variables: Gender, Age, Number of Children)	21,111.01	422	.00	6253.78	5	.00	.61	−.10	.107	.137
4. Latent factors (factor 1: Segmentation norms, factor 2: Supplemental work, Factor 3: Perceived job control, Factor 4: remaining variables, control variables: Gender, Age, Number of Children)	14,024.88	416	.00	8766.87	6	.00	.74	−.13	.087	.085
5. Latent factors (Factor 1: Segmentation norms, Factor 2: Supplemental work, Factor 3: Perceived job control, Factor 4: family-to-work conflict, Factor 5: Work-to-family conflict, control variables: Gender, Age, Number of Children)	10,419.39	409	.00	3704.03	7	.00	.81	−.07	.075	.071

latent factor. In the last model, five latent factors were tested with all variables as separate latent factors (see Table 1 for an overview of the models and MIMIC model results).

Subsequently, we tested three different latent models in Mplus with a maximum likelihood estimator and bootstrapping (1000 iterations) to test the hypotheses (Muthén & Muthén, 1998-2017). First, we tested the direct relationship between psychological job control (X) and family-to-work conflict (Y). In the second model, we tested a latent serial mediation with supplemental work (M1) and work-to-family conflict (M2) as mediators. We calculated the indirect relationship between psychological job control and family-to-work conflict through supplemental work and work-to-family conflict with the 'model constraint' command in MPlus. This method allows for testing both mediators concurrently, as followed in recent studies (Lin et al., 2021) and recommended in the literature (Zhao et al., 2010). In the last model, we tested a latent moderated mediation and added segmentation norms (W) moderating the relationship between psychological job control (X) and supplemental work (M1). We calculated the interaction effect with the 'XWITH' command, multiplying the latent variables psychological job control (X) and supplemental work (W). We calculated the simple slope test for high, medium and low levels of the moderator segmentation norms with the 'model constraint' command in Mplus. Latent factors have a mean of zero, which means that the variables for the interaction do not have to be mean centered. Therefore, medium levels of the moderator were set to zero, the mean, high levels at two, two standard deviations above the mean and low levels at minus two, two standard deviations below the mean. Mplus provides both AIC

TABLE 2 Descriptive statistics, correlations and scale reliabilities.

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender[a]	1.43	.49								
2. Age	48.36	10.27	.04**							
3. Children	1.72	1.1	.05**	.26**						
4. Psychological job control	3.01	.79	.16**	.07**	−.08**	(.81)				
5. Work-to-family conflict	2.42	1.03	−.001	−.05**	−.02	−.13**	(.85)			
6. Segmentation norms	3.54	.96	−.13**	.02	−.04**	−.24**	−.18**	(.85)		
7. Family-to-work conflict	1.38	.58	.03	−.17**	.01	−.05**	.26**	−.09**	(.77)	
8. Supplemental work	1.83	.87	.24**	−.09**	.06**	.24**	.37**	−.37**	.07**	(.92)

Note: **Correlation is significant at the .01 level (two-tailed). *Correlation is significant at the .05 level (two-tailed).

[a]1 = Female, 2 = Male.

and BIC as fit indices for latent models, including moderation, and we compared the model fit of the three models. We provide unstandardized coefficients and confidence intervals at the 99% and 95% levels.

RESULTS

Upon inspection of the correlation matrix, supplemental work was significantly correlated with both the independent variable psychological job control ($r = .24$, $p < .01$), the second mediator work-to-family conflict ($r = .37$, $p < .01$), the moderator segmentation norms ($r = −.37$, $p < .01$) and the dependent variable family-to-work conflict ($r = .07$, $p < .01$). Psychological job control was negatively correlated with family-to-work conflict ($r = −.05$, $p < .01$) and the moderator segmentation norms ($r = −.24$, $p < .01$, see also Table 2).

We conducted a MIMIC model in Mplus with the MLMV estimator including all variables from our model and control variables. We tested five competing models controlling for gender, age and number of children in all models. The five-factor solution with psychological job control, segmentation norms, supplemental work, work-to-family conflict and family-to-work conflict as separate factors yielded the best fit (RMSEA = .075 CI 90% [.075, .077], CFI = .81, SRMR = .071 and chi-square [409] = 10,419.39, $p < .001$). Although the chi-square statistic is significant, the chi-square change statistic (chi-square Δ [7] = 3704.04, $p < .001$) indicates that the larger model fits the data better than the smaller four-factor solution (see Table 1). However, before proceeding to test our hypothesis, we consulted the modification indices and allowed for within-construct residuals to correlate. Specifically, we allowed residual correlations among supplemental work items six and two, items nine and five, and items eight and one. We also allowed within-construct residual correlations among items four and five of family-to-work conflict and among the first two work-to-family conflict items. Decisions as to which items were to be correlated were conceptually motivated. Respondents may understand items in a similar manner due to similar wording (Brown & Moore, 2012; MacCallum et al., 1992). For example, items one and eight from the supplemental work scale, 'How often do you answer work-related phone calls outside of formal working hours without receiving compensation, such as time off and/or overtime pay?' and 'How often do you answer work-related phone calls from your boss without receiving compensation, such as time off and/or overtime pay?' are similarly worded. Although the CFI is still lower than what is commonly considered acceptable, the fit improved and indicates that the five-factor solution has the better fit (RMSEA = .064 CI 90% [.063, .066], CFI = .86, chi-square [404] = 7607.071, $p < .001$).

According to Cheung and Rensvold (2002), more complex models can yield a smaller CFI and may erroneously indicate a poor fit of the model. Therefore, they suggested inspecting the CFI change. A CFI changes smaller than or equal to −.01 indicates invariance between the two models being compared and that the null hypothesis of invariance cannot be rejected. The CFI change of the five-factor solution with

correlated residuals (−.052) and without (−.068, see Table 1) indicates that the null hypothesis of invariance can be rejected and that the five-factor solution is a superior fit in comparison to the four-factor solution (Cheung & Rensvold, 2002).

First, we tested a one-factor solution with all variables loading on one factor (RMSEA = .13, CFI = .43, chi-square [431] = 30,908.16, $p < .001$), which had the poorest fit. We then tested a two-factor solution with segmentation norms as a separate factor and all other variables loading on one factor, which also yielded a poor fit (RMSEA = .12, CFI = .52, chi-square [427] = 26,137.12, $p < .001$). The three-factor solution, with segmentation norms and supplemental work as two separate factors, also yielded a poorer fit than the five-factor solution (RMSEA = .11, CFI = .61, chi-square [422] = 21,111.01, $p < .001$). The four-factor solution with segmentation norms, supplemental work, and psychological job control as separate factors and family-to-work and work-to-family conflict as one factor yielded a poorer fit than the five-factor solution (RMSEA = .08, CFI = .74, chi-square [416] = 14,024.88, $p < .001$).

Hypothesis testing

We tested three competing models to test our hypotheses and ascertain the model with the best fit. The full model, serial moderated mediation with supplemental work and work-to-family conflict as mediators, had both the lowest AIC and BIC, suggesting the best fit compared to the previous models (see Table 3; Vrieze, 2012). In model one, we only tested the direct relationship between psychological job control and family-to-work conflict (see Table 3). Psychological job control was negatively related to family-to-work conflict ($B = −.05$, $p < .01$ 99% CI [−.104, −.004]), supporting Hypothesis 1. The coefficient indicates a small effect.

In the next model, we added both mediators, supplemental work and work-to-family conflict (see Table 3). The direct relationship between psychological job control and family-to-work conflict was not significant, as indicated by confidence intervals at both the 99% and 95% levels ($B = .01$, $p > .1$, 99% CI [−.054, .066], 95% CI [−.040, .052]) after adding the mediators. Psychological job control was positively related to supplemental work ($B = .29$, $p < .001$, 99% CI [.081, .491]) and negatively related to work-to-family conflict ($B = −.22$, $p < .001$, 99% CI [−.275, −.162]). Supplemental work was positively related to work-to-family conflict ($B = .49$, $p < .001$, 99% CI [.429, .541]) and negatively related to family-to-work conflict ($B = −.1$, $p < .001$ 99% CI [−.531, −.044]). This indicates that supplemental work by itself does not promote family-to-work conflict. Work-to-family and family-to-work conflict had a positive significant relationship ($B = .29$, $p < .001$, 99% CI [.229, .353]). The coefficient suggests a medium-sized effect.

The additional parameters revealed a significant small indirect relationship between psychological job control and family-to-work conflict via supplemental work and work-to-family conflict ($B = .04$, $p < .001$, 99% CI [.008, .073]). This supports the second hypothesis that psychological job control indirectly positively relates to family-to-work conflict via supplemental work and work-to-family conflict.

In the third model, we added segmentation norms moderating the relationship between psychological job control and supplemental work (see Table 3). We tested the indirect relationship between psychological job control and family-to-work conflict at the mean level (zero) and two standard deviations above (minus two) and below the mean (two).

The association between psychological job control and family-to-work conflict was not significant, as indicated by confidence intervals at both the 99% and 95% levels ($B = .002$, $p > .1$, 99% CI [−.053, .058], 95% CI [−.04, .044]). Psychological job control was positively related to supplemental work ($B = .18$, $p < .001$, 99% CI [.075, .292]) and negatively related to work-to-family conflict ($B = −.22$, $p < .001$, 99% CI [−.273, −.165]). Both coefficients suggest small relationships. The association between psychological job control and supplemental work was, as expected, moderated by segmentation norms ($B = −.07$, $p < .05$, 95% CI [−.121, −.016]). The coefficient suggests a small interaction effect. Segmentation norms also had a small negative direct relationship with supplemental work ($B = −.26$, $p < .01$, 99% CI [−.30, −.227]), suggesting that segmentation norms discourage supplemental work. The relationship between work-to-family and family-to-work conflict was significantly positive ($B = .30$, $p < .001$, 99% CI [.227,

TABLE 3 Results of the serial moderated mediation model.

Independent variables	Model 1 Family-to-work conflict		Model 2 Supplemental work		Work-to-family conflict		Family-to-work conflict		Model 3 Supplemental work		Work-to-family conflict		Family-to-work conflict	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Gender	.04	.02	.33***	.03	−.1***	.02	.05*	.02	.29***	.03	−.08**	.02	.05*	.02
Age	−.01**	.001	−.01***	.001	.0	.001	−.01***	.001	−.01***	.001	.00	.001	−.01***	.001
Number of children	.05**	.01	.03**	.01	−.02	.01	.05***	.01	.03**	.01	−.02	.01	.05***	.01
Psychological job control	−.05**	.02	.29***	.08	−.22***	.02	.006	.02	.18**	.02	−.22***	.02	.002	.02
Supplemental work					.49***	.02	−.1***	.02			.49***	.02	−.10**	.02
Work-to-family conflict							.29***	.02					.30**	.02
Segmentation norms									−.26**	.01				
Segmentation norms × Psychological job control									−.1**	.03				
AIC	300,516.33		300,686.86						300,193.12					
BIC	301,146.83		301,355.57						300,874.57					

Note *p < .05 **p < .01 ***p < .001; unstandardized path coefficients and fit indices are reported.

Abbreviation: SE, standard errors.

.351]). The coefficient suggests a medium-sized effect. Supplemental work was positively related to work–family conflict ($B = .49$, $p < .001$, 99% CI [.429, .54]) and, as in the previous model, negatively related to family-to-work conflict ($B = −.10$, $p < .001$, 99% CI [−.149, −.041], see also Table 3). The coefficients suggest medium and small effect sizes.

The simple slope test revealed a small significant positive indirect relationship between psychological job control and family-to-work conflict via both supplemental work and work-to-family conflict at both low ($B = .05$, $p < .001$, 99% [CI .01, .08]) and medium levels ($B = .03$, $p < .001$, 99% [CI .008, .043]) of segmentation norms. The indirect relationship was not significant at high levels of segmentation norms, as indicated by confidence intervals of both 99% and 95% ($B = .07$, $p > .1$, 99% [CI −.009, .022], 95% CI [−.005, .018]). This supports the third hypothesis that psychological job control is positively related to family-to-work conflict through both supplemental work and work-to-family conflict at low levels of segmentation norms. However, this relationship decreases when segmentation norms increase (see also Figure 2).

DISCUSSION

The present research contributes to the JD-R model and boundary theory by investigating an important mechanism underlying the dual effects of psychological job control on family-to-work conflict, that is, the indirect effect through supplemental work and work-to-family conflict. Specifically, we investigated the conditional role of segmentation norms on the relationship between psychological job control and supplemental work. We argued that job control is in itself a work-related resource that reduces family-to-work conflict (Karasek, 1979), but that supplemental work associated with high levels of job control fosters work-to-family conflict, which in turn increases family-to-work conflict (Figure 3).

Theoretical implications

The first main finding of this study, the negative relationship between psychological job control and family-to-work conflict, is in line with both the JD-R model and boundary theory (Kossek et al., 2006).

Indirect relationship at low, high, and medium values of moderator segmentation norms
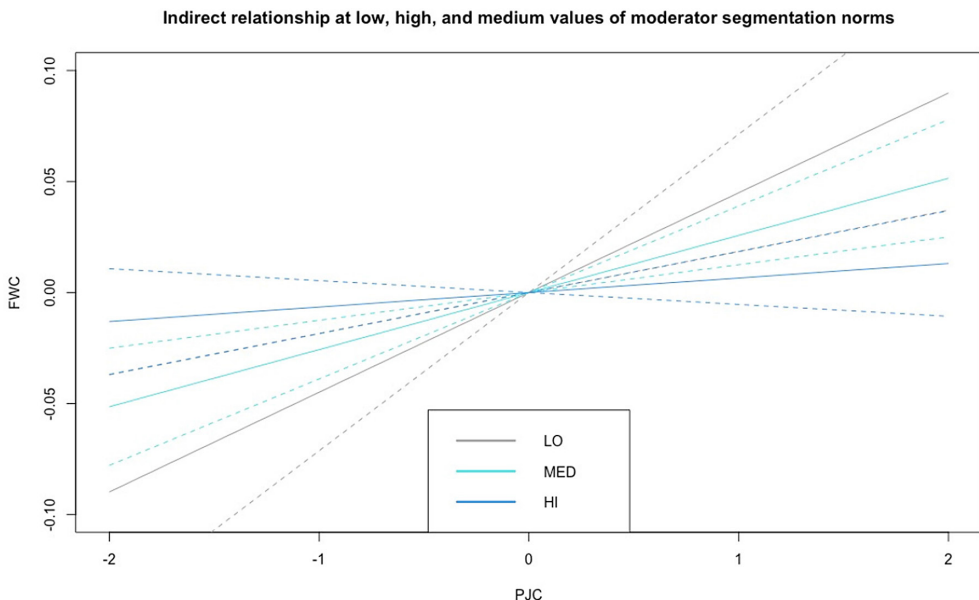
F I G U R E 2   Conditional indirect effect of psychological job control via supplemental work and work-to-family conflict at low, medium and high values moderator segmentation norms (dotted lines are confidence intervals).
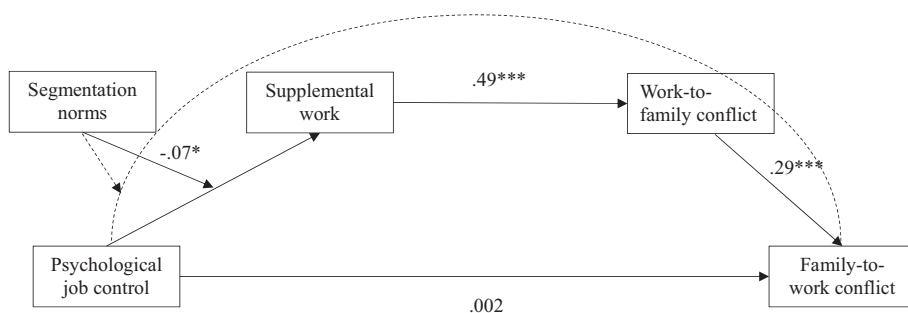
FIGURE 3 Serial moderated mediation model. *p < .05 **p < .01 ***p < .001.

This finding provides empirical evidence to support both the theoretical underpinnings of the JD-R model and boundary theory (Carlson et al., 2019; Zedeck, 1992) by demonstrating that resources or stressors from one domain crossover and consequently lead to challenges or opportunities in the other domain and that control enables effective boundary management (Kossek & Lautsch, 2012). In this case, psychological job control reduces negative effects from the home domain on the work domain by providing personal resources to cope with family stressors (Brummelhuis & Bakker, 2012; Carlson et al., 2019) and strengthens the boundary between the work and family domains. For example, psychological job control enables employees to solve family-related challenges when they occur instead of postponing them, which would otherwise disrupt concentration at work (Nohe et al., 2014). This finding exemplifies that work resources can have positive effects on the family domain.

The second main finding of this study, however, demonstrates the potential downside of psychological job control in that it positively relates to family-to-work conflict through supplemental work and work-to-family conflict. This indicates that employees with higher psychological job control may perceive boundaries between work and family as more permeable, which in turn fosters boundary crossing and consequently supplemental work. Engaging in supplemental work indicates that employees have crossed the boundary between work and nonwork domains; they are physically located at home but are behaviorally involved with work (Ashforth et al., 2000). As such, psychological job control does its job: employees feel in control of where when and how to work, even if it may lead to potentially negative outcomes. The finding that psychological job control positively predicts supplemental work supports previous research findings demonstrating that autonomy, together with the availability of mobile technology, encourages unpaid overtime (Chung & van der Horst, 2020; Mazmanian et al., 2013). Overall, this contributes to a better understanding of boundary theory by demonstrating that control alone does not always help to uphold boundaries between work and nonwork domains, but may at the same time, it fosters boundary crossing by enabling supplemental work. A richer understanding of when and why the use of technology-enabled work may have negative employee outcomes was also gained (Ashforth et al., 2000; Piszczek, 2017). Enabling supplemental work, psychological job control thus fosters technology-enabled work, which may intensify work overall (Piszczek, 2017).

Additionally, the finding that supplemental work positively relates to work-to-family conflict is in line with previous findings indicating that supplemental work interferes with family issues (Fenner & Renn, 2010). This finding supports our argument that although psychological job control is a work-related resource according to the JD-R model and boundary theory, employees may not be able to adequately address family-related issues because of supplemental work; therefore, family-related issues spill over into the work domain (French & Allen, 2020). This was also supported by our finding that work-to-family conflict acted as an antecedent of family-to-work conflict, as indicated by the direct positive relationship between work-to-family and family-to-work conflict. Our findings also shed light upon the potential mechanism underlying negative outcomes associated with psychological job control, namely, that what is perceived as a resource in the work domain can be perceived as a demand in the family domain. This also contributes to understanding the JD-R model by demonstrating one route through which a work-related resource can turn into a work-related demand.

This finding was further contextualized by considering the conditional effects of segmentation norms on the psychological job control/supplemental work relationship. The third main finding of this study included that the indirect relationship was buffered by segmentation norms; at low levels of segmentation norms, employees experienced more family-to-work conflict. The indirect relationship between psychological job control and family-to-work conflict decreased at medium levels of segmentation norms and was not significant at high levels of segmentation norms. This may indicate that while psychological job control by itself seems to increase the perception of the permeability of boundaries and encourage boundary crossing, segmentation norms help employees uphold boundaries between work and nonwork domains. Furthermore, we found that psychological job control is unrelated to family-to-work conflict in contexts with high segmentation norms, indicating that the indirect effect does not exist in such environments. Observing whether colleagues uphold boundaries between work and home discourages employees from engaging in supplemental work, which in turn may prevent work-to-family conflict. This is also supported by the negative significant direct relationship between segmentation norms and supplemental work. This is in line with boundary theory, which suggests that people in the same social structures create similar schemas concerning work and nonwork domains (Ashforth et al., 2000; Piszczek & Berg, 2014; Zerubavel, 1996). These findings contribute to JD-R model by demonstrating that segmentation norms are an important contextual factor and boundary condition for the outcomes of psychological job control. Specifically, we gain understanding in which work contexts, that is, low segmentation norms, job characteristics such a psychological job control can become a demand rather than a resource (Bakker & Demerouti, 2017). This finding also extends our understanding of boundary theory by demonstrating when the interaction of individual and contextual factors enables and hinders boundary crossing (Kossek & Lautsch, 2012). Furthermore, insight is gained into when organizational norms concerning work–family boundaries influence whether the use of mobile technology during nonwork hours and individual preferences lead to positive or negative outcomes (Derks et al., 2015; Fenner & Renn, 2010; Gadeyne et al., 2018).

Taken together, the results of this study demonstrate the dual implications of psychological job control. On the one hand, psychological job control is a resource that buffers family-to-work conflict. On the other hand, it positively relates to family-to-work conflict through supplemental work and work-to-family conflict. This implies that engagement in supplemental work distracts one from dealing with family-related matters in a timely fashion, which in turn may lead to disruptions at work triggered by family demands. Furthermore, our results contribute to previous research on the JD-R model by demonstrating the underlying processes through which psychological job control may lead to negative consequences.

Limitations and suggestions for future research

This study is not without limitations. First, the study is based on partially cross-lagged data or a half-longitudinal design without controlling for the influence of potential third variables (Cole & Maxwell, 2003). The independent variable, psychological job control, and the first mediator, supplemental work, were measured at time one. The second mediator, work-to-family conflict, and the dependent variable, family-to-work conflict, were measured at time two. However, our design may reduce the possibility of common-method bias to some extent since some variables were time separated (Podsakoff et al., 2012). No causal inferences can be made and cannot dismiss the possibility that the estimates of the mediation were to some extent biased (Maxwell & Cole, 2007). To fully investigate mediational mechanisms underlying the relationship between psychological job control and family-to-work conflict, future research should implement a longitudinal approach over time. In some periods, employees could work more or less after hours depending on the current demands and deliverables of the company. This was not taken into account in the current study. It is possible that the amount of supplemental work fluctuates over time, together with demands and deliverables. Past research has found that work-to-family and family-to-work conflict fluctuate throughout the day and vary in intensity (French & Allen, 2020). Thus, it is possible

that work-to-family and family-to-work conflict may not always go together, as our findings may suggest, but that one may periodically experience one without the other. Hence, studying the relationship between psychological job control and supplemental work and work-to-family and family-to-work conflict over time could provide more nuanced insights into when psychological job control leads to negative outcomes and the other processes involved in these situations.

Second, where supplemental work took place was not controlled. Although the scale used specified that supplemental work happens at home outside of regular working hours and one question specifically asked how often employees take work home, we did not measure how often employees worked from home or other flextime practices in the company. These variables can potentially influence whether supplemental work is viewed as such by employees. For example, employees who often work from home may not adhere to regular working hours and may not perceive working after hours as supplemental work. Previous research reports that remote workers work longer hours and may even work when sick (Charalampous et al., 2019; Eurofound, 2020). This could mean that employees working remotely do not experience supplemental work as such, but rather as part of their regular working hours. Future research on supplemental work should take this into account to clarify the construct and the boundaries between working and nonworking hours for remote workers. The difference between working remotely and working from an office may also impact the degree to which employees experience work-to-family and family-to-work conflict. Past research indicates that telecommuters experience less family-to-work conflict (Kossek et al., 2006). Therefore, future research should consider how many hours employees work at home or at the office.

Furthermore, since the relationship between psychological job control and family-to-work conflict was studied together with supplemental work that is performed after hours and outside of the office, the question arises as to whether the location where the work is performed matters. In other words, does it matter whether the family-related disruption happens in the home office or the work office? Disruptions from family-related tasks could be more frequent when working from home, but they can be resolved more quickly. This is an important question to ask when teleworking has increased, and some companies may no longer provide physical offices. Future research should take this into account when exploring family-to-work conflict.

Similarly, our findings suggest that to benefit from psychological job control, organizations must foster segmentation norms. With an increase in working remotely post-pandemic, the question arises of how organizations can uphold shared norms when employees are unable to observe the indicators of the said norms. Increased remote work may lead to heterogeneous perceptions of segmentation norms and, consequently, may foster negative outcomes of psychological job control, such as family-to-work conflict. Future research should investigate how organizations can uphold segmentation norms when employees are working remotely and what the indicators are of segmentation norms. For example, with a qualitative research approach, one could further investigate which indicators employees use to identify segmentation norms when primarily working from home. With a quantitative approach, researchers could explore how many days of collocated work is necessary to uphold similar perceptions of segmentation norms.

Third, we did not measure segmentation or boundary management preferences, that is, individual preferences concerning separation or integration of work in different domains (Kreiner, 2006), together with supplemental work. Individual preferences as to where work is performed may influence how much employees engage in supplemental work and whether supplemental work is performed voluntarily (Kossek & Lautsch, 2012). Segmentation or integration preferences may be a contributing variable to our counterintuitive finding of a direct negative relationship between supplemental work and family-to-work conflict, indicating that supplemental work may lower family-to-work conflict. For example, employees who prefer to integrate work and family domains may voluntarily engage in supplemental work, while employees with segmentation preferences may only engage in supplemental work involuntarily, and thus experience it as a more intrusive demand. Consequently, supplemental work may have diverging outcomes for employees depending on their segmentation preferences. For employees with an integration preference, supplemental work may indeed have positive consequences. Future research should study to what extent boundary management preferences affect supplemental work.

Fourth, we did not control how many hours employees spent on household chores and childcare. Participants in this study had on average 1.7 children, and this particular control variable had a significant effect on both supplemental work and family-to-work conflict. Additionally, our analysis revealed a significant effect of gender on supplemental work. This could be due to gender differences concerning hours spent on other chores. Past research shows mixed results concerning the impact of gender on work-to-family and family-to-work conflict (Eby et al., 2005; Michel et al., 2011; Shockley et al., 2017). Some research indicates that gender is a moderator between work domain antecedents and family-to-work conflict (Michel et al., 2011). Furthermore, studies have indicated that psychological job control only has a negative relationship with work-to-family conflict for women (Hwang & Ramadoss, 2017). Thus, gender could be an important variable for the relationship between supplemental work and family-to-work conflict. Future research should also measure how many hours participants spend performing household chores and childcare to investigate the gender differences in supplemental work and segmentation norms.

Fifth, the sample included 215 different companies within the financial sector; therefore, it is not possible to determine any company-specific factors influencing segmentation norms. We also did not include questions in the survey about practices aimed at increasing psychological job control or segmentation norms, such as formal policies concerning flexible hours or telecommuting, which can affect both segmentation norms and psychological job control (Kossek et al., 2006). However, having a diverse sample is advantageous since it increases the generalizability of the findings (Kreiner, 2006).

Sixth, the effect sizes in this study are frequently categorized as small, but researchers have also argued that effect sizes differ among research topics and should be evaluated considering typical findings. Furthermore, small effect sizes can be of both theoretical and practical importance (Cohen, 2013). The effect sizes in this study are similar to what previous studies on work–family conflict have found (Allen et al., 2013; French & Allen, 2020) and may thus still be of both theoretical and practical importance.

Finally, our MIMIC model with five latent factors yielded a fit that was below what is commonly viewed as an acceptable fit (RMSEA = .064 CI 90% [.063, .066], CFI = .86, chi-square [404] = 7607.071, $p < .001$). Although the RMSEA statistic may be acceptable, the chi-square is too large, which may indicate a slight misspecification of the model. However, the chi-square statistic is sensitive to the sample size, since the chi-square test is defined as sample size minus 1 time the minimum of a fit function. Due to our large sample size ($N = 4518$), even a minor and negligible misspecification may result in model rejection. In small sample sizes, severe misspecifications may not be detected by chi-square, and incorrect models can be accepted. This is about the power of the test, or simply the type II error, and the ability to detect model misspecifications, that is, power, increases with sample size (Saris et al., 2009; Satorra & Saris, 1985). Models are not correctly specified if parameters that are zero in the population are estimated or when parameters that are not zero in the population are fixed to zero. The second one is the most severe misspecification. To investigate whether a misspecification is severe, Saris et al. (2009) introduced the standard error of the expected parameter change (EPC) and the power of the modification test (MI test). Because EPC is asymptotically normally distributed and MI is chi-square with 1 degree of freedom, Saris et al. (2009) advised the following: high power and significant MI, inspect the EPC; nonsignificant MI and high power, no misspecification; low power and significant MI, misspecification is present; and low power and nonsignificant MI, the test is inconclusive. To investigate this in our data, a power analysis was conducted. We found several misspecifications that led us to further investigate the possible sources of the misspecification (see Table 4).

First, we conducted an EFA to further investigate the underlying issue and found that items of psychological job control load on two different factors in the data (see Table 5). Items one to three load on one factor, while items four to six load on another factor. Item seven has a very low eigenvalue, suggesting that it can be omitted (see Table 5). The first three items are originally from the job diagnostics survey and measure autonomy (how to work; Hackman & Oldham, 1980), while the last four items measure control over where and when work is performed (Kossek et al., 2006). Based on our data, the EFA may suggest that autonomy concerning how to work and control concerning work location and scheduling are two different factors.

T A B L E 4   Power of modification test.

Items	Items	MI	EPC	Power	Decision
Segmentation norms Item 4	Segmentation norms Item 5	1724.315	.48	1	*epc:m*
Supplemental work Item 2	Supplemental work Item 6	1511.546	.431	1	*epc:m*
Segmentation norms Item 2	Segmentation norms Item 3	1251.497	.721	.998	*epc:m*
PJC Item 4	PJC Item 6	1205.47	.538	1	*epc:m*
PJC Item 4	PJC Item 5	1157.095	.539	1	*epc:m*
WFC Item 1	WFC Item 2	1117.043	.474	1	*epc:m*
Supplemental work Item 5	Supplemental work Item 9	839.329	.127	1	*epc:m*
PJC Item 2	PJC Item 3	817.353	.276	1	*epc:m*
PJC Item 1	PJC Item 2	752.208	.238	1	*epc:m*
PJC Item 2	PJC Item 4	530.356	−.271	1	*epc:m*
Supplemental work Item 1	Supplemental work Item 8	486.729	.19	1	*epc:m*
PJC Item 3	WFC Item 4	481.192	.324	1	*epc:m*
WFC	Supplemental work Item 7	478.073	.413	1	*epc:m*
PJC Item 5	PJC Item 6	450.945	.31	1	*epc:m*
PJC Item 2	PJC Item 6	446.306	−.227	1	*epc:m*
Supplemental work	PJC Item 6	392.856	.379	.999	*epc:m*
FWC Item 3	FWC Item 4	373.395	.109	1	*epc:m*
PJC	Supplemental work Item 7	371.038	−.419	.996	*epc:m*
FWC Item 1	FWC Item 2	370.192	.284	1	*epc:m*
PJC Item 2	PJC Item 5	350.298	−.206	1	*epc:m*

Abbreviations: EPC, expected parameter change; EPC:m, inspection of the EPC leads to conclusion: misspecification; EPC:nm, inspection of the EPC leads to conclusion: no misspecification; FWC, family-to-work conflict; m, misspecification; MI, modification index; nm, no misspecification; PJC, psychological job control; WFC, work-to-family conflict; I, inconclusive.

We ran two CFA models, the first with all items of psychological job control loading on one latent factor (items one to six loading on one factor) and the second with psychological job control as a two-factor solution (items one to three loading one factor one, items four to six loading on factor two). The two-factor solution yielded a much better fit (RMSEA = .058 CI 90% [.051, .065], CFI = .99, chi-square [8] = 182.45, $p<.001$) than the one-factor solution (RMSEA = .259 CI 90% [.252, .266], CFI = .741, chi-square [9] = 3977.69, $p<.001$). This may suggest that considering psychological job control as two separate factors, that is, items one to three (i.e. autonomy) and items four to six (i.e. control as to where and when to work) separately, would yield more parsimonious models.

To further investigate whether considering psychological job control as two separate variables would yield more parsimonious models, we tested two alternative MIMIC models and moderated mediation models with psychological job control as two latent variables (autonomy, items one to three as one latent variable, and control as to where and when to work, items four to six as one latent variable). We first performed two MIMIC models including all variables in our model (supplemental work, segmentation norms, work-to-family and family-to-work conflict) and either items one to three loading one latent factor, or items four to six loading on one latent factor. We controlled for gender, age and number of children in both models. As with our original model, we allowed residual correlations among supplemental work items six and two, items nine and five and items eight and one. We also allowed within-construct residual correlations among items four and five of family-to-work conflict and among the first two work-to-family conflict items. In the first MIMIC model with items one to three (i.e. autonomy) loading on one latent factor (RMSEA = .054, CFI = .92, chi-square [294] = 3985.744, $p<.001$) and in the second model items four to six (i.e., control as to where and when to work) load on one factor (RMSEA = .056, CFI = .92, chi-square [294] = 4199.559, $p<.001$). Both models have a good fit, supporting our notion that psycho-

T A B L E   5   EFA results.

Items	Factor					
	1	2	3	4	5	6
Work-to-family conflict (*a* = .85)						
1. After work, I come home too tired to do some of the things I'd like to do	.02	**.69**	.00	−.15	.15	−.11
2. On the job I have so much work to do that it takes away from my personal interests	.18	**.84**	−.03	−.11	.13	−.08
3. My family/friends dislike how often I am preoccupied with my work while I am at home	.35	**.65**	−.10	−.02	.14	.04
4. My work takes up time that I'd like to spend with family/friends	.32	**.73**	−.09	−.06	.13	.00
Family-to-work conflict (*a* = .77)						
1. I'm often too tired at work because of the things I have to do at home	.01	.12	−.04	.00	**.75**	−.03
2. My personal demands are so great that it takes away from my work	.01	.06	−.04	.00	**.89**	−.02
3. My superiors and peers dislike how often I am preoccupied with my personal life while at work	.01	.10	−.01	−.08	**.43**	.00
4. My personal life takes up time that I'd like to spend at work	.05	.08	−.03	−.03	**.63**	.04
Segmentation norms (*a* = .85)						
1. My workplace lets people forget about work when they are at home	−.21	−.12	**.81**	−.01	−.05	−.07
2. At my workplace, people are able to prevent work issues from creeping into their home life	−.20	−.16	**.82**	.03	−.05	−.01
3. Where I work, people can keep work matters at work	−.13	.06	**.65**	−.07	−.01	−.15
4. Where I work, people can mentally leave work behind when they go home	−.18	.01	**.65**	−.06	−.05	−.15
Supplemental work (*a* = .92)						
1. How often do you answer work-related phone calls outside of formal working hours without receiving compensation, such as time off and/or overtime pay?	**.69**	.10	−.15	.07	.00	.10
2. How often do you read work-related emails outside of formal working hours without receiving compensation, such as time off and/or overtime pay?	**.70**	.07	−.19	.11	.02	.19
3. How often do you update your professional knowledge without receiving compensation, such as time off and/or overtime pay?	**.65**	.11	−.11	.03	.05	.02
4. How often do you work outside of formal working hours without receiving compensation, such as time off and/or overtime pay?	**.78**	.14	−.09	.03	−.02	.04
5. How often do you take work home with you without receiving compensation, such as time off and/or overtime pay?	**.85**	.11	−.10	.04	.01	.09
6. How often do you answer work-related emails outside of formal working hours without receiving compensation, such as time off and/or overtime pay?	**.81**	.06	−.16	.08	.03	.16
7. How often is it difficult for you to meet performance requirements without working unpaid overtime?	**.60**	.32	−.11	−.11	.02	−.07
8. How often do you answer work-related phone calls from your boss without receiving compensation, such as time off and/or overtime pay?	**.67**	.05	−.09	.00	.04	.07
9. How often do you work additional hours from home in order to make the next day less hectic without receiving compensation, such as time off and/or overtime pay?	**.86**	.11	−.08	.03	.02	.10
Psychological job control (*a* = .81)						
1. How much autonomy is there at your job?	.05	−.12	−.03	**.72**	−.05	.23
2. To what extent does your job permit you to decide on your own about how to go about doing the work?	.07	−.08	−.04	**.84**	−.06	.20
3. The job gives me considerable opportunity for independence and freedom in how I do the work	.08	−.10	−.05	**.74**	−.04	.31
4. To what extent does your job permit you to decide on your own about WHERE the work is done?	.19	−.01	−.15	.21	.02	**.81**
5. To what extent does your job permit you to decide about WHEN the work is done	.14	−.02	−.09	.23	.03	**.70**
6. I have the freedom to work wherever is best for me—either at home or at work	.27	−.02	−.21	.22	.00	**.67**
7. I do not have control over when I work (R)	−.03	−.09	−.02	.17	−.03	**−.23**

Note: Extraction method: maximum likelihood, rotation method: varimax rotation with Kaiser normalization.

Bold values indicate that items load on one factor.

logical job control may be two separate factors in our data. This may also indicate that considering each factor separately may lead to more parsimonious models.

To check whether our results still hold when psychological job control is separated into two different latent predictors, we performed a serial moderated mediation with items one to three (i.e. autonomy) as one latent predictor and a second analysis with items four to six (i.e. control as to where and when to work) as one predictor. The results yield similar findings as our original model with psychological job control as one latent factor (see Tables 1 and 2 below). In the simple slope test of the first model with items one to three loading on one latent factor as predictor, we find that the indirect effect from the predictor to family-to-work conflict through supplemental work and work-to-family-conflict is moderated by segmentations norms at low and medium levels ($B = .02$, $p < .001$, 99% [CI .001, .037]; $B = .01$, $p < .001$, 99% [CI .006, .019]), but not at high levels of segmentation norms ($B = .01$, $p > .1$, 95% [CI −.003, .015]; see Table 6 and Figure 4).

The simple slope test of the second model (items four to six as a latent predictor) revealed similar findings, the indirect effect through supplemental work and work-to-family conflict was significantly moderated at low and medium levels of segmentation norms ($B = .04$ $p < .001$, 99% [CI .026, .054]; $B = .02$, $p < .001$, 99% [CI .016, .03]; see Figure 5). The indirect effect was not significant at high levels of segmentation norms ($B = .01$, $p > .1$, 95% [CI −.001, .014]; see Table 7).

Both models yielded similar results to our original model with psychological job control as one latent variable. The indirect effect via supplemental work and work-to-family conflict significantly predicts family-to-work conflict and is moderated by segmentation norms. Taken together, this may indicate that psychological job control can be treated as two separate factors. We used the original scale developed by Kossek et al. (2006) since we wanted to investigate psychological job control and not autonomy or control concerning where and when to work separately. Future research should, however, further investigate the psychometric properties of psychological job control.

A second source of misspecification may be that additional parameters may be needed to account for the time variation. After consulting the modification indices, we observed that time-one variables load on some of the time-two factors. Not taking time variation into account may induce slight misspecification. To fully correct for that would imply enlarging the model by two-time factors to consider the panel data setup. The present MIMIC model (despite its slight misspecification), however, already contributes to explaining major aspects of the association among substantive variables, such as psychological job control, family-to-work and work-to-family conflict. To avoid the panel data structure, future work should apply a fully longitudinal design by measuring all variables at all time points.

Implications for practice

Previous research has recommended that companies increase psychological job control to reduce work–family conflict and family-to-work conflict (Michel et al., 2011). Our findings indicate, however, that merely increasing the control employees have over where and when to work may not lead to the desired outcomes, but this may instead have unintended negative effects, such as engagement in supplemental work and family-to-work conflict. The discussion of the potential dual effects of psychological job control comes at a time when employers are providing increasing flexibility and autonomy for their employees. Based on the results of this study, one may argue that providing too much psychological job control is detrimental for employees. However, this leads to a dilemma: should organizations restrict access to emails to prevent supplemental work and at the same time decrease psychological job control, which may lead to other negative consequences?

The findings of this study hold a glimmer of hope that companies can increase segmentation norms and thereby increase thresholds to engage in supplemental work. Segmentation norms depend on how managers communicate and set expectations concerning when work should be performed. Both managers and peers can set examples of desired segmentation norms (Kreiner, 2006). Managers should be careful their communications with employees match their own behaviour. Communicating that supple-

TABLE 6 Serial moderated mediation with items one to three as latent predictor.

Independent variables	Supplemental work		Work-to-family conflict		Family-to-work conflict	
	B	*SE*	*B*	*SE*	*B*	*SE*
Gender	.32***	.02	−.1***	.02	.05*	.02
Age	−.01***	.001	.00	.001	−.01***	.001
Number of children	.03**	.01	−.02	.01	.05***	.01
Autonomy (Items 1–3)	.09***	.02	−.19***	.02	−.019	.02
Supplemental work			.46***	.02	−.09***	.02
Work-to-family conflict					.28***	.02
Segmentation norms	−.28***	.01				
Segmentation norms × items 1–3	−.03	.03				
AIC	303,787.95					
BIC	304,443.93					

Note: *p < .05 **p < .01 ***p < .001; unstandardized path coefficients and fit indices are reported.

Abbreviation: *SE*, standard errors.
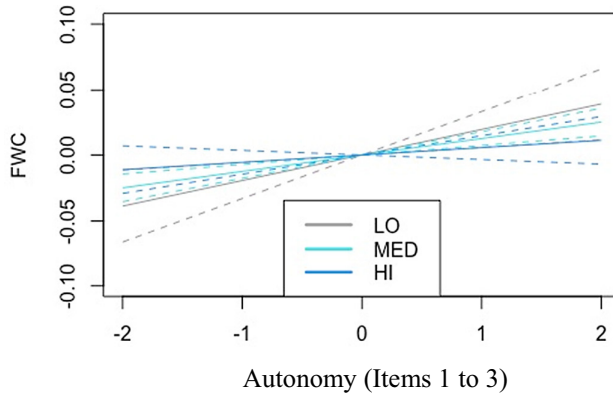
FIGURE 4 Conditional indirect effect of autonomy (items 1–3) via supplemental work and work-to-family conflict at low, medium and high values moderator segmentation norms (dotted lines are confidence intervals).
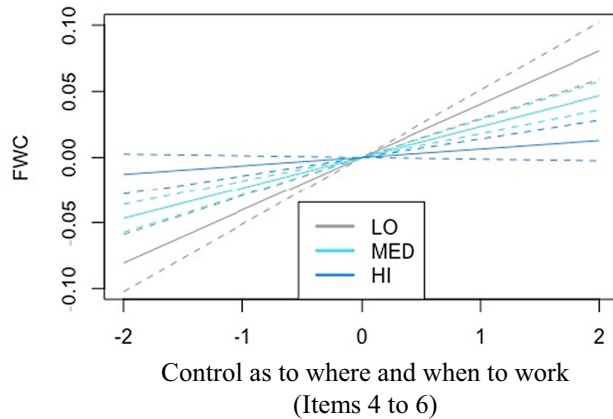
FIGURE 5 Conditional indirect effect of control as to where and when to work (items 4–6) via supplemental work and work-to-family conflict at low, medium and high values moderator segmentation norms (dotted lines are confidence intervals).

TABLE 7 Serial moderated mediation with Control as to where and when to work (items four to six) as latent predictor.

Independent variables	Supplemental work		Work-to-family conflict		Family-to-work conflict	
	B	*SE*	*B*	*SE*	*B*	*SE*
Gender	.27***	.02	−.1***	.02	.04	.02
Age	−.01***	.001	.00	.001	−.01***	.001
Number of children	.03**	.01	−.02*	.01	.05***	.01
Control as to where and when to work (Items 4–6)	.17***	.02	−.08***	.01	.02*	.01
Supplemental work			.48***	.02	−.11***	.02
Work-to-family conflict					.29***	.02
Segmentation norms	−.24***	.01				
Segmentation norms × items 1–3	−.06***	.01				
AIC	251,783.72					
BIC	252,388.74					

Note: *p* < .05 **p* < .01 ***p* < .001; unstandardized path coefficients and fit indices are reported.

Abbreviation: SE, standard errors.

mental work is unnecessary should be followed up. For instance, managers should restrain from answering and writing emails after hours to set a positive example that performing supplemental work is not necessary. Koch and Binnewies (2015) found that supervisors who demonstrated more segmentation behaviour were perceived as 'work-life-friendly' role models. A more recent study found that leaders who experience positive family events at home were perceived as transformational leaders by their employees (Lin et al., 2021). This also implies that organizations should hold positive family events for their leaders to foster segmentation norms (Lin et al., 2021).

Our results have implications for policies not only at the organizational level but also at the national level. For example, France has a 'disconnect' policy to avoid unpaid overtime; employees are not obliged to respond to work queries after formal working hours, and companies are required to publish a charter defining when employees should be able to disconnect (Petroff & Cornvin, 2017). Considering our findings concerning the dual outcomes of psychological control, such official policies may be favourable for employee well-being and may foster general acceptance of higher segmentation norms.

AUTHOR CONTRIBUTIONS
Dominique Kost: Conceptualization; formal analysis; writing – original draft; writing – review and editing. **Karoline Hofslett Kopperud:** Writing – original draft; writing – review and editing. **Robert Buch:** Conceptualization; writing – original draft; writing – review and editing. **Bård Kuvaas:** Writing – original draft; writing – review and editing. **Ulf Henning Olsson:** Writing – review and editing.

CONFLICTS OF INTEREST
All authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT
Research data are not shared.

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APPENDIX

Supplemental work measure

	Never or very rarely 1	A few times a month 2	A few times a week 3	On most workdays 4	On most workdays and sometimes during the weekend 5
How often do you answer work-related phone calls outside of formal working hours without receiving compensation, such as time off and/or overtime pay? (1)	☐	☐	☐	☐	☐
How often do you read work-related emails outside of formal working hours without receiving compensation, such as time off and/or overtime pay? (2)	☐	☐	☐	☐	☐
How often do you update your professional knowledge without receiving compensation, such as time off and/or overtime pay? (3)	☐	☐	☐	☐	☐
How often do you work outside of formal working hours without receiving compensation, such as time off and/or overtime pay? (4)	☐	☐	☐	☐	☐
How often do you take work home with you without receiving compensation, such as time off and/or or overtime pay? (5)	☐	☐	☐	☐	☐
How often do you answer work-related emails outside of formal working hours without receiving compensation, such as time off and/or overtime pay? (6)	☐	☐	☐	☐	☐
How often is it difficult for you to meet performance requirements without working unpaid overtime? (7)	☐	☐	☐	☐	☐
How often do you answer work-related phone calls from your boss without receiving compensation, such as time off and/or overtime pay? (8)	☐	☐	☐	☐	☐
How often do you work additional hours from home in order to make the next day less hectic without receiving compensation, such as time off and/or overtime pay? (9)	☐	☐	☐	☐	☐