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## RESEARCH ARTICLE

# A dual-process model of the effects of boundary segmentation on work–nonwork conflict

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**Abstract**

Segmentation of work from nonwork life is widely presented as desirable to maximize recovery from work. Yet it involves effort which may reduce its positive effects. We present a dual-process model of segmentation based on integrating boundary theory and self-regulation theory that shows how creating and maintaining boundaries can have both positive and negative effects. Segmentation allows individuals not only to psychologically detach from work, thereby reducing work–nonwork conflict, but can also deplete an individual's momentary capacity for state self-control, increasing work–nonwork conflict. We tested our model with two studies: a weekly diary study with a sample of 436 individuals and a daily diary study with data collected at two time points each day from 162 participants. Using a Bayesian approach, we find some support for our hypothesized dual pathways. In both studies, psychological detachment mediated a negative relationship between segmentation and work–nonwork conflict. In the daily study, self-control capacity mediated a positive relationship between segmentation and work–nonwork conflict, but this effect was present only when individuals worked onsite and not when working at home. This article contributes towards understanding the mechanisms explaining the relationship between segmentation and work–nonwork conflict and underscores the importance of self-regulation in this process.

**KEYWORDS**

Bayesian analysis, boundary theory, psychological detachment, segmentation, self-regulation, state self-control, work and family, work–nonwork conflict

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### Practitioner points

- Segmenting work from home life can have both positive and negative effects.
- Segmentation of work and nonwork life allows individuals to detach from work, and through this reduces work–nonwork conflict.
- At the same time, segmentation can deplete the capacity for state self-control, and in doing so increases work–nonwork conflict.
- The negative effect of segmentation effort on self-control capacity manifests when working from home rather than onsite.

## INTRODUCTION

Boundary theory and border theory (Ashforth et al., 2000; Clark, 2000; Nippert-Eng, 1996) have become central planks in research on the work–nonwork interface. Boundary theory focuses on how individuals create or maintain boundaries between work and nonwork, which can be cognitive, physical and behavioural (Allen et al., 2014; Ashforth et al., 2000). Border theory focuses on the borders of work and nonwork domains (Clark, 2000), which are ‘lines of demarcation between work and family roles’ and take three main forms: physical, temporal and psychological (Allen et al., 2014, p. 100). The theories share a notion that workers can reduce conflict between work and nonwork domains by trying to separate these aspects of their life, that is, by engaging in the act of segmentation. Research on recovery from work takes a similarly positive view on segmentation, explaining how it can help to achieve psychological detachment from work, that is, a ‘sense of being away from the work situation’ (Etzion et al., 1998, p. 579), which allows workers to restore the energy they deplete while at work (Sonnentag, 2018; Sonnentag et al., 2010, 2017, 2022). Consequently, segmentation is thought to be associated with virtues, such as less work–nonwork conflict (Allen et al., 2014; Kossek et al., 2006), as it means that more energy is available for involvement and engagement in nonwork life (Edwards & Rothbard, 2000).

Enacting segmentation might, however, come at a price. Segmenting work and nonwork domains requires applying effortful behavioural, physical and cognitive–emotional boundary management strategies (Althammer et al., 2021; Kreiner et al., 2009; Michel et al., 2014; Sturges, 2012). These range from physically removing oneself from working or setting psychological boundaries with colleagues to managing aversive feelings that have arisen during the working day while at home. Such activities can be viewed as self-regulatory behaviours (Gross, 1998; Michel et al., 2014), because they involve overriding and replacing the spontaneous and habitual response of attending to current tasks, thoughts or feelings with an alternative, goal-consistent response of segmentation. Crucially, because sustained self-regulatory effort can reduce willpower and attentional control (Inzlicht & Schmeichel, 2012), the effort needed to engage in segmentation might leave workers feeling mentally drained and exhausted, with less capacity to invest in their nonwork life (Edwards & Rothbard, 2000), and in turn increase work–nonwork conflict. The effort required to segment may be particularly pronounced under certain conditions. For example, when working onsite (e.g., in an office), the act of segmentation may be more depleting – as interruptions and pressures may enhance the chance of incomplete work tasks to preoccupy workers’ thoughts after the working day ends (Darouei & Pluut, 2021) and generate more intense work-related emotions (e.g., Pelly et al., 2022). As a result, working onsite could be associated with lower state self-control capacity.

The two lines of argument imply distinct ways in which segmentation may influence work–nonwork conflict. In the first, segmentation facilitates detachment and is therefore beneficial, whereas in the second expending effort through segmenting is depleting and can have negative consequences. Yet, despite some acknowledgement of the potentially effortful nature of segmentation in managing boundaries between work and nonwork domains (e.g., Allen et al., 2014; de Bloom et al., 2020; ten

Brummelhuis & Bakker, 2012), the emphasis in the literature has been on segmentation's positive consequences. In this article, we develop a dual-process model of the effect of segmentation on work–nonwork conflict, highlighting its positive *and* negative effects on workers and a condition under which the potential negative effects may be particularly salient. We focus on work–nonwork conflict as an outcome of these potentially counteracting processes, as it is a ‘key operationalization’ of the tension between work and the home, family and leisure (Kreiner et al., 2009, p. 704).

Our article contributes to the literature in several ways. First, we recognize that segmentation of work and nonwork domains may have contrasting positive and negative effects on work–nonwork conflict. In so doing, we correct the bias in the literature towards the positive consequences of setting and maintaining boundaries. Second, we further develop our understanding of the mechanisms that explain the relationship between segmentation and work–nonwork conflict. Extending previous research, we not only examine psychological detachment, but also the role played by reduced state self-control capacity, that is, the momentary reduction in willpower and attentional control induced by self-regulatory activity that is characterized by feelings of being mentally drained and exhausted (Hagger et al., 2010) – an area that has received little attention in the work–nonwork context (exceptions are Clinton et al., 2020; Junker et al., 2021). Third, we advance our understanding of the conditions under which the effects of segmentation may materialize, by studying work location – onsite versus at home – as a moderating factor. In so doing, we contribute to the broader literature on homeworking, the saliency of which has burgeoned since the COVID-19 pandemic (Ipsen et al., 2021; Otonkorpi-Lehtoranta et al., 2022; Wood et al., 2021, 2023).

We report two tests of our model. Study 1 is a weekly diary study using data collected with homeworkers during the pandemic. Study 2 is a daily diary study of employees working in the hybrid format after the pandemic.

## THE DUAL-PROCESS MODEL OF SEGMENTATION AND WORK–NONWORK CONFLICT

Boundary management is vital for achieving balance between work and nonwork (Allen et al., 2014, 2021; Kreiner et al., 2009). A key strategy for achieving boundary management is the construction of physical or psychological borders between work and nonwork through the active process of segmenting work from nonwork (Althammer et al., 2021; Ashforth et al., 2000; Clark, 2000). The consequence of this is expected to be a good work–nonwork balance, as the segmentation of work from family roles and other aspects of nonwork life is thought to reduce work–nonwork conflict (Powell & Greenhaus, 2010).

The literature on segmentation has largely focused on preferences, with the idea being that people with stronger preferences for segmentation will experience reduced work–nonwork conflict (e.g., Allen et al., 2014; Althammer et al., 2021; Chen et al., 2009; Kreiner, 2006; Park & Jex, 2011). A focus on people's preferences for segmentation implies that these are achieved using behavioural and cognitive strategies; people experience less work–nonwork conflict because they act in a way that compartmentalizes work from home life. Nonetheless, there can be obstacles to achieving segmentation as boundary violations occur frequently (Delanoeije et al., 2019; Hunter et al., 2019; Kerman et al., 2022). For example, employees may face demanding deadlines requiring overtime work, may need to go to their workplace out of hours to deal with an emergency or experience violations of their family boundaries from interruptions facilitated by mobile technology. Consequently, Allen et al. (2014) argue that people's segmentation behaviour has a stronger effect on work–nonwork conflict than their preferences.

Accounts of the effects of segmentation behaviour on work–nonwork conflict emphasize the role that segmentation plays in facilitating recovery from work. According to the effort–recovery model (Meijman & Mulder, 1998; Sonnentag et al., 2022), energy expended at work must be replenished via a process of recovery to achieve balance, rather than conflict, between work and nonwork domains. Theories of recovery from work argue that the ability to psychologically detach from work in a global sense (i.e., detaching from all aspects of work, including tasks, interpersonal connections and

fairness-related events; Smit, 2016) is crucial for recovery (Sonnentag et al., 2017, 2022) – and that segmentation can facilitate psychological detachment (Karabinski et al., 2021).

While the result of successfully enacted segmentation ought to be recovery and therefore energy restoration, the act of segmentation may itself consume energy. A hint at the energy costs of segmentation are made when Kossek et al. (2006, p. 363) observed that ‘when something good or bad is happening in one domain, it may be more difficult to buffer good or bad things entering the other life space’. Sonnentag, Binnewies, et al. (2010) explicitly discussed how transitioning between work and nonwork domains is harder for individuals when resources are depleted, while Cook (2020, p. 362) observed that separation of work and nonwork can ‘draw upon significant reserves of creativity, time, effort, work and discipline’. The costs of segmentation are well described by one respondent in Eddleston and Mulki’s (2017, p. 361) study, who states ‘I have learned to turn it [work] off ... It’s very hard to do’.

The effort required to enact segmentation has nonetheless received limited attention. The emphasis in the literature has been on energy loss at work, which necessitates creating or maintaining a strong boundary between work and nonwork to enable restoration, rather than on the energy that must be expended if one is to actively manage the boundary. In our dual-process model, we address the imbalance in the literature by simultaneously considering the effects of segmentation on work–nonwork conflict through promoting energy restoration, via psychological detachment, and instigating energy loss, via state self-control capacity.

## THE BENEFICIAL EFFECT OF SEGMENTATION ON WORK–NONWORK CONFLICT

The first arm of the dual-process model of segmentation, summarized in Figure 1, is the benign route from segmentation to lower levels of work–nonwork conflict. Performing various tasks during the working day requires expenditure of energy and the energy used at work needs to be restored in order to function optimally in both nonwork and work domains. Time outside work – particularly leisure time – can help workers replenish their energy stores (Geurts et al., 2003; Grandey & Cropanzano, 1999; Sonnentag, 2018; Sonnentag et al., 2022). However, Sonnentag and Fritz (2007) stress that employees need to detach themselves psychologically from work to achieve recovery when away from their jobs (ten Brummelhuis & Bakker, 2012), and the empirical evidence of positive effects of detachment on work recovery is convincing (Bennett et al., 2016; Wendsche & Lohmann-Haislah, 2017). Segmentation is therefore thought to facilitate recovery because physically and mentally disconnecting the work and nonwork domains enables psychological detachment. When workers engage in segmentation, we expect them to feel psychologically detached from work.

**Hypothesis 1a.** Segmentation is positively related to detachment from work.

The state of detachment facilitated through segmentation should enable people to cope better with the demands of both work and nonwork stressors. Successful functioning in work and nonwork roles requires the availability of energy (Demsky et al., 2014), which is in finite supply (Edwards & Rothbard, 2000), and having insufficient energy to invest in one’s nonwork life once the working day is finished is a large source of conflict between work and nonwork domains (e.g., Aw et al., 2021; Pak et al., 2022; ten Brummelhuis & Bakker, 2012). When individuals do not properly psychologically detach from their work, ‘the resources needed at work are continuously called upon’ (Sonnentag & Bayer, 2005, p. 396), which requires continuous investment of energy. Conversely, when individuals achieve a state of psychological detachment, it represents a ‘recovery experience’ that allows the replenishment of lost energy (Sonnentag & Fritz, 2007), facilitating greater involvement and engagement in nonwork aspects of their life and minimizing work–nonwork conflict (Demsky et al., 2014; Edwards & Rothbard, 2000).

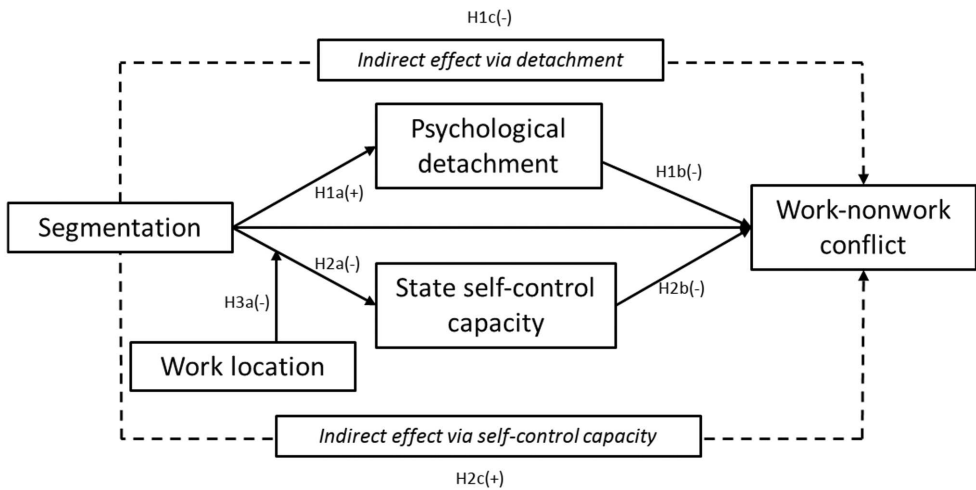


FIGURE 1 The dual-process segmentation model.

**Hypothesis 1b.** Detachment from work is negatively related to work–nonwork conflict.

Our reasoning that active management of the work–nonwork boundary through segmentation facilitates reaching a state of psychological detachment and that this detachment in turn enables the recovery of energy resources to invest in nonwork life and hence manage potential conflict situations implies an indirect effect. That is, segmentation ought to reduce work–nonwork conflict through fostering detachment from work.

**Hypothesis 1c.** Segmentation is indirectly negatively related to work–nonwork conflict, via detachment from work.

## THE DETRIMENTAL EFFECT OF SEGMENTATION ON WORK–NONWORK CONFLICT

The second arm of our dual-process model encompasses its detrimental effect. Enacting segmentation involves effort to actively manage the emotions that have occurred at work while not working and to control thoughts about work during nonwork time (e.g., Althammer et al., 2021). For instance, this may involve suppressing negative feelings arising from events in the workday (Gross, 1998), or trying to bury concerns about unfinished work tasks or difficult-to-resolve work issues (Kerman et al., 2022), while interacting with family members playing a parental or spousal role. This segmentation process involves two steps. First, the individual must override their default response, which undermines the goal of boundary management, this being the preoccupation with emotion or cognition that is spontaneously experienced (Michel et al., 2014; Nolen-Hoeksema et al., 2008). Second, the individual must replace this with an alternative response that is consistent with the goal of boundary management, such as expressing positive feelings or focusing attention on events in the nonwork domain. This is a process of self-regulation, whereby the individual needs to regulate core aspects of the self (Baumeister et al., 2007). As with other behaviours that require self-regulatory processes, like dieting, segmentation can be difficult. While default responses (experiencing current thoughts/feelings or desiring a delicious food item) are instinctive and habitual, the acts of suppressing these and overriding them with a new, non-instinctive response (expressing non-felt emotion/reorienting one's attention or declining the food item) are effortful (Muraven et al., 1998).

According to the process model of self-control, when such self-regulatory effort is sustained over time, it reduces a person's willpower and attentional control, leaving them feeling mentally drained



and exhausted and less likely to invest further effort into self-regulation (Inzlicht & Schmeichel, 2012). While there has been some debate about whether state self-control capacity is limited and whether people become meaningfully depleted after performing short self-control tasks in the laboratory (Dang, 2018; Hagger et al., 2016), a recent review concluded that field studies demonstrate that high self-regulatory demands are experienced as exhausting and ‘impair subsequent behaviour that requires people to overcome an easy, dominant response’ (Friese et al., 2019, p. 118). The self-regulatory effort needed to sustain segmentation could then impair people’s capacity to engage in further self-control.

**Hypothesis 2a.** Segmentation is negatively related to state self-control capacity.

People whose state self-control capacity is depleted will find it harder to perform subsequent acts of self-regulation (Friese et al., 2019), due to a combination of reduced motivation and attentional control (Inzlicht & Schmeichel, 2012). Consequently, a person who feels depleted due to prior self-control may struggle to muster the willpower to continue exerting control over their thoughts, feelings or behaviour. This is important because this may, contrary to the intention underlying segmentation, lead to work–nonwork conflict. Managing the balance between work and nonwork lives and avoiding conflict typically requires self-control (Edwards & Rothbard, 2000; Frone et al., 1992). As Clinton et al. (2020) explain, self-control is needed to maintain healthy social interactions (e.g., Finkel & Campbell, 2001) and to meet expected behavioural standards more generally (e.g., Muraven & Baumeister, 2000). An eventual failure to engage in subsequent self-control can manifest in unpleasant emotions experienced in the work domain resurfacing during interactions with one’s family and detracting from family life. Supporting this, several studies have established a relationship between the fatigue and exhaustion characteristic of reduced state self-control capacity and work–nonwork conflict (e.g., Clinton et al., 2020; Demerouti et al., 2004).

**Hypothesis 2b.** State self-control capacity is negatively related to work–nonwork conflict.

That segmentation reduces people’s state self-control capacity and this in turn increases the chances of work–nonwork conflict, suggests a further pathway through which segmentation might indirectly influence work–nonwork conflict. In this case, instead of having a negative relationship with work–nonwork conflict, segmentation will be positively indirectly related to work–nonwork conflict.

**Hypothesis 2c.** Segmentation is indirectly positively related to work–nonwork conflict, via state self-control capacity.

The two sets of indirect relationships suggest countervailing effects of segmentation. On the one hand, segmentation is expected to have negative effects on work–nonwork conflict, because it depletes the state self-control capacity that is necessary to invest in nonwork life. On the other hand, it is expected to reduce work–nonwork conflict, because it allows individuals to psychologically detach from work and engage more fully with nonwork life.

## STUDY 1

### Methodology

Our first empirical study is based on a weekly diary study that took place over 4 weeks during the second wave of the pandemic in the United Kingdom in September 2020. The study was conducted in two English universities, one in the Midlands and one in the South, and covered academic and non-academic employees. The weekly frequency of diaries was chosen to reflect the 7-day cycle of employees’ work and nonwork activities. An earlier baseline survey was used to obtain the informed consent of the participants and collect demographic data. The context of the study (university workers during the pandemic) meant that the participants, during the period of study, were all working entirely at home.

## Participants

A total of 621 participants from both universities took part in the diary study, representing 7% of the total of employees of the two universities. We distributed each diary on a Friday, asking participants to reflect on the workdays of the week just ending. As our hypotheses are at the within-person level, it was important to ensure that we had the largest number of observations possible (Ohly et al., 2010). As such, we only excluded from the analysis participants who completed the survey fewer than three times, as these would have increased the power at the between-person level, but could have reduced the power at the within-person level. There were 62 weekly surveys with missing values in one or more of the variables. Excluding these from the analysis, left a final sample of 436 participants who completed a total of 1579 weekly surveys. As a robustness evaluation, we also tested the model separately using the full sample which showed that the pattern of results remained consistent across all hypotheses.

The 436 participants in the final sample were between 22 and 73 years of age ( $M = 44.59$  years,  $SD = 11.57$ ), with 38% being from the Southern university. There were 336 female participants (77%) and 316 were married or living with a partner (74.3%). A total of 154 participants (35%) had between one to four children below the age of 18 and of these 15 participants were single parents.

## Measures

*Segmentation* was measured by a three-item scale that we developed for the purposes of this study: 'Over the last 7 days I have actively tried: to keep my work and personal life separate; to have clear boundaries between my work and personal life; to separate my work and personal activities throughout the day'. Participants responded on a 5-point Likert scale from 'strongly disagree' to 'strongly agree'. The scale has good reliability, achieving an overall Cronbach's  $\alpha$  of .92 and within-person composite reliability  $\omega$  of .86 (Geldhof et al., 2014).

*Detachment from work* was measured by a scale from Sonnentag and Fritz (2007) with three items: 'Over the last 7 days, during time after work, how often did you forget about work; not think about work at all; get a break from the demands of work'. A 5-point Likert scale was used that ranged from 'none of the time' to 'all of the time'. Cronbach's  $\alpha$  was .87 and the within-person  $\omega$  was .69.

*State self-control capacity* was measured using three questions from 'Twenge et al.' (2004) scale. The items selected were all negatively worded and reversed scored to ease interpretation of the results (such that a high score indicated high state self-control capacity). Participants responded on a 5-point Likert scale, ranging from 'strongly disagree' to 'strongly agree', to the following: 'During the last 7 days I felt drained; I felt mentally exhausted; My mental energy was running low'. The scale had good reliability with Cronbach's  $\alpha = .96$  and within-person  $\omega = .90$ .

*Work-to-nonwork conflict* is measured with a single item adapted from Voydanoff (1988): 'How often in the last 7 days did you feel work interfered with nonwork activities?' We used a 5-point Likert response scale ranging from 'never' to 'very often'.

We collected demographic data for age, gender, marital status, number of children and the University of the participants. We did not use these as controls as they are all between-person variables and would not influence our results which are at the within-person level.

## Analysis

All the hypotheses were tested simultaneously with a Bayesian model using Stan (Stan Development Team, 2023) and the brms package (Bürkner, 2018) in R (R Core Team, 2023). The model was specified as a multi-level model with random intercepts. All the independent variables were person-mean centred and therefore all the effects are at the within-person level. We added the week of data collection as a continuous predictor for all the variables in our model, testing the growth trajectory of every variable.



In doing so, we evaluate the increase or decrease of each variable over the course of the study, controlling for the effect that this might have on our results. We also specified autoregressive lag 1 effects for all the dependent variables to account for the effect of the previous week on the current week. These were specified as autoregressive residual errors rather than lagged responses, allowing to use all 4 weeks of data in the analysis. Indirect effects were estimated directly from the posterior samples of the model parameters (Wang & Preacher, 2015).

The model was analysed using Hamiltonian Monte Carlo with four simulation chains (separate simulation runs) and 2000 iterations per chain. The first 1000 iterations were warm-up and the rest were used for sampling. The model converged without problems, the  $\hat{R}$  statistic was below 1.01 for all model parameters (Vehtari et al., 2021) and the number of effective samples was more than 10% of the sampling iterations of each chain.

We used weakly informative priors, which allow for a range of possible values while excluding unrealistic estimates. For all the model residuals, priors were half-Student  $t$  distributions with 3 degrees of freedom, location of 0 and 2.5 scale. For all the intercepts, regression slopes and autocorrelation effects, we used normal distribution priors with 0 mean and 2 standard deviations for scale.

## Results

Descriptive statistics, ICC values and correlations between all variables are presented in Table 1. The ICC estimates suggest that the majority of variance is at the between-person level ranging between 60% and 74% of the total variance.

Prior to testing our model, we conducted multi-level confirmatory factor analysis to evaluate the construct validity of the three multi-item scales we used in our model: segmentation, psychological detachment and state self-control capacity. The three-factor model had an excellent model fit,  $\chi^2$  ( $df=48$ ) = 73.57,  $p=.01$ , CFI = .997, TLI = .996, RMSEA = .018 CI = [.009, .027], SRMRwithin = .039, SRMRbetween = .020. The three-factor model also fits the data significantly better than a single-factor model,  $\Delta\chi^2$  ( $df=6$ ) = 4872.35,  $p<.001$ , as well as two-factor models created by combining segmentation with detachment,  $\Delta\chi^2$  ( $df=4$ ) = 1088.89,  $p<.001$ , segmentation with state self-control capacity,  $\Delta\chi^2$  ( $df=4$ ) = 2807.74,  $p<.001$ , and detachment with state self-control capacity,  $\Delta\chi^2$  ( $df=4$ ) = 1079.50,  $p<.001$ .

To assess variance explained by our model, we estimated the Bayesian  $R^2$  (Gelman et al., 2019). In contrast to other  $R^2$  estimates of multi-level models, the Bayesian  $R^2$  does not distinguish the variance explained by between- and within-cluster components. In our calculation, however, we removed any variance explained by the random intercepts as these would inflate our estimate of  $R^2$ . Our predictors explained 3.98% of the variance for state self-control capacity, 10.60% for detachment and 9.21% for weekly work–nonwork conflict. We also found that the trajectory for detachment had a significant negative linear trend ( $b = -.04$ , CI = [-.06, -.01]) over the course of the study (i.e., psychological detachment from work fell over the weeks of the study) and the trajectory for work–nonwork conflict had a positive linear trend ( $b = .03$ , CI = [.00, .06]). All the autoregressive effects were significant, showing that the previous week had a positive effect on the current week for detachment from work ( $\varphi = .32$ , CI = [.20, .45]), state self-control capacity ( $\varphi = .21$ , CI = [.10, .31]) and work–nonwork conflict ( $\varphi = .23$ , CI = [.12, .37]). The autoregressive parameters are of comparable magnitudes, suggesting similar levels of stability and dynamism between them.

To evaluate the hypotheses, we present the model coefficients in Table 2 and the indirect effects in Table 3. The first set of hypotheses is about the beneficial effects of segmentation on work–nonwork conflict through enhanced psychological detachment. These were fully supported, as segmentation has a positive association with detachment ( $b = .10$ , CI = [.06, .15]) and detachment has a negative association with work–nonwork conflict ( $b = -.42$ , CI = [-.51, -.34]), which amalgamates to a negative indirect effect of segmentation on work–nonwork conflict via detachment (indirect =  $-.04$ , CI = [-.06, -.02]).

**TABLE 1** Descriptive statistics and correlations in study 1 ( $N = 436$  participants, 1579 observations).

		<i>M</i>	<i>SD</i>	<i>ICC</i>	1	2	3	4	5	6	7	8	9
1	Age	44.59	11.12										
2	Gender	1.23	.42		.06								
3	Marital status	1.27	.44		-.10	.00							
4	University	1.63	.48		.03	.11	.02						
5	Number of children	2.55	1.08		-.01	.12	-.27	.00					
6	Segmentation	3.83	.96	.60	-.01	-.08	.04	-.04	-.20	.06	.13	-.07	
7	State self-control capacity	2.73	1.23	.63	.15	.16	-.02	.04	-.08	.14		.21	-.29
8	Detachment	3.02	.92	.74	-.07	-.08	.01	-.02	-.18	.42	.49		-.36
9	Work–nonwork conflict	2.69	1.23	.68	.03	.01	-.07	-.09	-.20	-.29	-.50	-.72	

*Note:* Lower triangle shows between-person correlations, upper triangle shows within-person correlations. Gender: 2 = male, 1 = female; marital status: 2 = not married, 1 = married; University: 2 = midlands, 1 = south. Between-person  $|r| > .09$  is significant at  $p < .05$ ; within-person  $|r| > .05$  is significant at  $p < .05$ .

TABLE 2 Model coefficients for the dual-process model from study 1.

	Detachment			State self-control capacity			Work–nonwork conflict		
	<i>b</i>	95% CI		<i>b</i>	95% CI		<i>b</i>	95% CI	
Intercept	3.11***	3.01	3.21	2.69***	2.55	2.82	2.60***	2.48	2.74
Week	−.04**	−.06	−.01	.02	−.02	.06	.03*	.00	.06
Segmentation	.10***	.06	.15	.06	−.01	.13	−.01	−.07	.05
Detachment							−.42***	−.51	−.34
State self-control capacity							−.22***	−.27	−.17
$\varphi$	.32***	.20	.46	.21***	.10	.31	.23***	.12	.37
Between-level SD	.76	.70	.82	.94	.86	1.02	.99	.91	1.08
Residual SD	.50	.47	.53	.79	.75	.83	.67	.64	.71
Bayesian $R^2$ (%)	10.60	4.19	20.01	3.98	.95	8.48	9.21	5.34	15.74

Note:  $\varphi$ : autoregressive effect of 1 week lag. All predictors are at the within-person level. Parameter lies outside the interval: \* = 95%; \*\* = 99%, \*\*\* = 99.9%.

Abbreviation: CI, credible intervals.

TABLE 3 Summary of indirect effects in study 1.

	Predictor	Mediator(s)	<i>b</i>	95% CI	
H1c	Segmentation	Detachment	−.04	−.06	−.02***
H2c	Segmentation	State self-control capacity	−.01	−.02	.01
Combined	Segmentation	Combined	−.06	−.08	−.03***
Total	Segmentation	Combined	−.07	−.13	.00

Note: Dependent variable is work–nonwork conflict. Parameter lies outside the interval: \*\*\* = 99.9%.

The second hypothesis set concerns the detrimental arm of the processes linking segmentation to work–nonwork conflict through state self-control capacity. The results show that, contrary to Hypothesis 2a, segmentation did not have a significant association with state self-control capacity ( $b = .06$ ,  $CI = [-.01, .13]$ ), but state self-control capacity was negatively related to work–nonwork conflict ( $b = -.22$ ,  $CI = [-.27, -.17]$ ). Since the first path of the mediation was not significant, the indirect effect was not significant. Thus, we found support for Hypothesis 2b, but there was no support for either 2a or 2c.

As a post-hoc test, we examined the combined indirect and total effects of the two paths between segmentation and work–nonwork conflict. The combined effect was significant and negative (combined =  $-.06$ ,  $CI = [-.08, -.03]$ ), confirming that the path via state self-control capacity did not negate the effect via psychological detachment. The total effect of the combined indirect paths and the direct effect of segmentation on work–nonwork conflict was not significant (total =  $-.07$ ,  $CI = [-.13, .00]$ ).

## Discussion

The findings of our first study suggest support for only one arm of our dual-process model, with segmentation showing a negative association with work–nonwork conflict via detachment and no positive association via state self-control capacity. One distinct feature of our data was that our participants were all homeworkers due to the timing of the study, which ignores the possibility that work location might affect the relationship between segmentation and state self-control capacity. A further limitation is that we captured our variables on a weekly basis, when constructs like state self-control capacity and psychological detachment might fluctuate within a week.

## STUDY 2

In the second study, we examine the proposed mechanisms at the daily level with a sample of hybrid workers and integrate work location as a moderator of the relationship between segmentation and state self-control capacity. We argue that working from home can enhance the ease with which both steps of segmentation are able to be engaged, that is, first the suppression of spontaneous work-related thoughts and emotions and second the substitution of these with alternative nonwork thoughts and emotions. Thus, that segmentation is more depleting for state self-control capacity when working onsite.

Concerning the first step of the self-regulatory process of segmentation, we anticipate that people working from home will have less unfinished work to think about and experience less intense emotions during the working day, meaning that it is easier for them to inhibit their current thoughts and feelings. When working at home (as the sample in Study 1 did throughout the data collection period), the transition between work and nonwork is quick, enabling more time to complete working tasks (Olson-Buchanan & Boswell, 2006). Homeworkers also report experiencing fewer distractions, such as interruptions and office politics (Mann et al., 2000) and less time pressure (Darouei & Pluut, 2021) during their working day. Together, these factors should reduce the chance of homeworkers having to shut off from work with tasks outstanding and therefore having incomplete work tasks on their mind at the end of the day. When working at home, employees may also experience less intense negative emotions emanating from work (e.g., Pelly et al., 2022), in part because work-related interactions will be technology-mediated and the relative lack of social cues means that communications tend to be relatively duller in emotional tone (Kock, 2005) and in part because they are in an environment that they consider to be their 'safe space'. In contrast, when working onsite, the various forms of distraction, time pressure and in some cases long commutes may mean that people often leave work with unfinished tasks that dwell on their minds and their in-person interactions may intensify negative emotions, thus requiring more effort to suppress current thoughts and feelings when enacting segmentation.

In the second step of enacting segmentation, where boundary management responses are employed, we similarly expect that people working from home will find it easier and therefore less depleting, due to the enhanced personal control people have over their home environments. Frone (2003) argues people have more control over their environments and their time when working at home compared to at work, due to factors like less direct supervision. As Sanz-Vergel et al. (2011) elaborate, when working at home, the environment is not so much subject to formal rules or strict expectations. For example, while an action like leaving the workplace as a form of behavioural boundary management is visible and can be commented on and in theory sanctioned, finishing work when at home is much less visible to one's colleagues or manager.

A potential counter to these arguments is that the lack of physical boundaries between work and nonwork when working at home could exacerbate the always-on feeling caused by the invasive nature of mobile technology in the home (Chung, 2022; Derks & Bakker, 2014; Hislop et al., 2015), which in turn could make segmentation a more effortful and depleting activity. However, this argument ignores the agency that people have in their use of such technology (Schlachter et al., 2018; Symon & Pritchard, 2015). Moreover, the potential for mobile technology to allow work to infiltrate the nonwork domain is not unique to homeworkers (e.g., Park & Jex, 2011). What is likely more important than working location in relation to feeling always-on is individual differences, for example, in boundary management preferences (Derks et al., 2016; Hislop et al., 2015; Park et al., 2011).

We thus expect working onsite (vs. at home) to strengthen the predicted negative relationship between segmentation and state self-control capacity. Similarly, the indirect effect of segmentation on work–nonwork conflict via state self-control capacity will be conditional on work location. We therefore test the following additional hypotheses:

**Hypothesis 3a.** Work location moderates the negative relationship between segmentation and state self-control capacity, such that the relationship is stronger when working onsite.

**Hypothesis 3b.** The indirect positive relationship between segmentation and work–non-work conflict via state self-control capacity is conditional on work location, such that the indirect effect is stronger when working onsite.

## Methodology

In our second study we recruited participants using the Prolific online research platform, collecting data for 5 consecutive working days, twice a day. We took the first measurement around an hour after the end of the working day (“evening”), notifying participants at 18:00, because that is likely to be when participants were expected to actively engage in segmentation and to detach from work. As well as collecting data on segmentation and detachment, we also ascertained their work location during that day. The second measurement was collected later that night by notifying participants at 21:00 (“bedtime”) and included our measures of state self-control capacity and work–nonwork conflict.

## Participants

We recruited a total of 200 participants, who after being informed of the purpose and requirements of the study provided their consent to take part. We required participants to be in full-time employment in the United Kingdom and have regular working hours from 09:00 to 17:00 (to allow us to schedule diary entries and to maximize the data across the study period). We excluded participants working in jobs that would require them to work mostly onsite to ensure that our sample would include sufficient within-person variation in work location. Participants included workers in a variety of industries, including agriculture, food and natural resources, architecture and construction, arts, medicine, hospitality, tourism, police, military, manufacturing, retail, transportation, distribution and logistics.

To ensure that we captured sufficient within-person variation, we only included participants who had matched evening and bedtime survey responses on three or more days in our analysis, reducing the usable sample to 162 participants who completed 701 pairs of evening and bedtime surveys. To ensure robustness of the results, we compared the results from our selected sample with tests of the hypotheses using (a) the entire sample and (b) a sub-sample who completed four or more days of matched responses. The pattern of results remained consistent for all hypotheses with only small differences in the parameter estimates.

The sample's ages ranged between 20 and 63 years of age ( $M = 39.73$  years,  $SD = 10.99$ ) and 79 of the participants were female (48.77%). A total of 104 participants were married or living with a partner (64.20%), 102 (62.96%) had between one to five children and 16 participants were single parents. The modal group of the participants worked in management, finance, marketing and administration (26.5%), followed by the education sector (25.3), government and public administration (19.8%), technology and engineering (9.9%), information technology (9.9%), legal services (4.9%) and other professional services (3.7%).

## Measures

We used the same measures as in Study 1 to capture segmentation (Cronbach's  $\alpha = .94$ , within-person  $\omega = .90$ ), detachment from work (Cronbach's  $\alpha = .94$ , within-person  $\omega = .88$ ), state self-control capacity (Cronbach's  $\alpha = .95$ , within-person  $\omega = .89$ )<sup>1</sup> and the single-item measure of work–nonwork conflict.

<sup>1</sup> In this study, we used the full seven-item version of Twenge et al.'s (2004) scale, which included four additional items, such as ‘I felt like my willpower was gone’. While the full scale performed well in terms of reliability and the pattern of results was the same using the shortened three-item version, we report our findings here with the three-item version of the scale that we used in Study 1, for alignment between the studies.

Multi-level confirmatory factor analyses once again revealed an excellent fit of the three-factor model, that is, segmentation, detachment and state self-control capacity,  $\chi^2$  ( $df = 48$ ) = 37.26,  $p = .87$ , CFI = 1.000, TLI = 1.003, RMSEA = .000, CI = [.000, .013], SRMRwithin = .013, SRMRbetween = .021. This model was also a significantly better fit to the data than one with all the items combined into a single-factor model,  $\Delta\chi^2$  ( $df = 6$ ) = 2629.31,  $p < .001$ . Similarly, it was also better than two-factor models where we combined segmentation with detachment,  $\Delta\chi^2$  ( $df = 4$ ) = 1115.91,  $p < .001$ , segmentation with state self-control capacity,  $\Delta\chi^2$  ( $df = 4$ ) = 1133.04,  $p < .001$ , and detachment with state self-control capacity,  $\Delta\chi^2$  ( $df = 4$ ) = 1131.02,  $p < .001$ .

We also added a dichotomous variable for work location denoting whether most work hours in the day were worked onsite or at home. Participants worked onsite more of the days during the study (437 days; 62.34%), averaging 2.69 days worked onsite per person. We also collected the same demographic data as in the first study, which were at the between-person level and not included in the analysis.

## Analysis

We evaluated our three sets of hypotheses using a Bayesian multi-level approach. The specification of the model and priors for the analysis were the same as in the first study, with the only difference being the inclusion of the interaction between working onsite and segmentation. Indirect effects, simple slopes and conditional indirect effects were estimated from the posterior samples of the model parameters. As with the first study, we used four simulation chains and the model converged after 2000 iterations satisfying the  $\hat{R}$  statistic and effective sample size requirements. All the continuous independent variables were person-mean centred. The categorical variable work location was coded as 1 for working onsite and  $-1$  for working at home. This was then centred to ease interpretation of the results.

## Results

The descriptive statistics, correlations and ICC scores for all the variables are displayed in Table 4. The ICC scores ranged between .50 and .66, which is slightly smaller than those obtained in the first study, meaning that there is more within-person variability in the daily data.

The Bayesian  $R^2$  (Gelman et al., 2019), which excluded the influence of the random intercepts in our model, was relatively low for all the variables. Our predictors explained 2.49% of variance for detachment from work, 4.90% for state self-control capacity and 3.44% for work–nonwork conflict. The effect of day showed a positive linear growth for psychological detachment ( $b = .10$ , CI = [.05, .14]), indicating an upwards trend during the week such that participants were more likely to detach as they were approaching the weekend. In contrast to the first study, the only significant autoregressive effect was for state self-control capacity ( $\varphi = .19$ , CI = [.05, .35]).

The results for the parameter estimates are shown in Table 5 and the results for the indirect and conditional indirect effects in Table 6. The first set of hypotheses was fully supported and consistent with the results of the first study, revealing that segmentation had a positive effect on psychological detachment ( $b = .12$ , CI = [.05, .21]), psychological detachment had a negative effect on work–nonwork conflict ( $b = -.19$ , CI = [-.28, -.10]) and that segmentation had a negative indirect relationship with work–nonwork conflict via detachment (indirect =  $-.02$ , CI = [-.05, -.01]). For the second set of hypotheses, we only found support for hypothesis 2b, the negative effect of state self-control capacity on work–nonwork conflict ( $b = -.10$ , CI = [-.18, -.01]) and no support for the effect of segmentation on state self-control capacity or indirect effect on work–nonwork conflict via state self-control capacity.

The third set of hypotheses (Hypotheses 3a and 3b), which are new to this study, evaluates the moderating role of work location on the effect of segmentation. For Hypothesis 3a, we found a significant



**TABLE 4** Descriptive statistics and correlations in study 2 ( $N=162$  participants, 701 observations).

		<i>M</i>	<i>SD</i>	<i>ICC</i>	1	2	3	4	5	6	7	8	9
1	Age	40.14	10.90										
2	Gender	1.51	.50		-.05								
3	Marital status	1.35	.48		-.02	-.04							
4	Number of children	1.11	1.13		.42	-.02	-.29						
5	Work location	.25	.97		.15	-.10	-.08	.22		-.04	.00	-.01	.01
6	Segmentation	3.82	.79	.50	.03	.06	.05	.11	.08		-.02	.10	-.09
7	State self-control capacity	2.94	1.07	.66	.14	.16	-.07	-.04	.02	.25		.21	-.13
8	Detachment	3.10	.96	.56	.02	.08	.04	-.02	-.10	.27	.41		-.20
9	Work–nonwork conflict	2.28	.96	.52	-.08	-.08	-.17	-.03	.02	-.44	-.46	-.46	

*Note:* Lower triangle shows between-person correlations, upper triangle shows within-person correlations. Work location: 1 = work from home, -1 = work onsite; gender: 2 = male, 1 = female; marital status: 2 = not married, 1 = married. Between-person  $|r| > .16$  is significant at  $p < .05$ ; within-person  $|r| > .08$  is significant at  $p < .05$ .

TABLE 5 Model coefficients for the dual-process model from study 2.

	Detachment			State self-control capacity			Work–nonwork conflict		
	<i>b</i>	95% CI		<i>b</i>	95% CI		<i>b</i>	95% CI	
Intercept	2.80***	2.61	2.99	2.95***	2.74	3.16	2.22***	2.02	2.42
Day	.10***	.05	.14	-.01	-.05	.04	.02	-.02	.07
Segmentation	.12**	.05	.21	-.01	-.10	.08	-.09	-.19	.00
Work location				.01	-.08	.11			
Segmentation × work location				-.16***	-.26	-.06			
Detachment							-.19***	-.28	-.10
State self-control capacity							-.10*	-.18	-.01
$\varphi$	.06	-.07	.21	.19**	.05	.35	.10	-.03	.24
Between-level SD	.88	.76	1.01	.96	.83	1.10	.87	.75	1.00
Residual SD	.78	.73	.84	.83	.77	.89	.84	.78	.90
Bayesian $R^2$ (%)	2.49	.87	5.82	4.90	.97	12.73	3.44	1.46	7.15

Note:  $\varphi$ : autoregressive effect of 1 week lag. All predictors are at the within-person level. Parameter lies outside the interval: \* = 95%; \*\* = 99%, \*\*\* = 99.9%; work location: -1 = work from home, 1 = work onsite.

Abbreviation: CI, credible intervals.

interaction effect between segmentation and work location ( $b = -.16$ ,  $CI = [-.26, -.06]$ ) on state self-control capacity. There were no direct effects for either segmentation or work location on their own, which suggests that working onsite in and of itself did not deplete state self-control capacity; rather the act of segmenting was differentially depleting when working onsite versus when homeworking. Figure 2 illustrates the interaction effect showing that, in line with the hypothesis, the effect of segmentation on state self-control capacity is negative and significant when working onsite ( $b = -.16$ ,  $CI = [-.30, -.03]$ ). Unexpectedly, we found a positive significant association between segmentation and state self-control capacity when participants were working at home ( $b = .16$ ,  $CI = [.02, .30]$ ).

We evaluated Hypothesis 3b using the index of moderated mediation (Hayes, 2015), which was significant ( $IMM = .02$ ,  $CI = [.00, .04]$ ). The conditional indirect path from segmentation to work–nonwork conflict via state self-control capacity was significant and positive when participants worked onsite (indirect = .02,  $CI = [.00, .04]$ ), but was non-significant when working at home.

As a post-hoc analysis, we evaluated the combined effect of our dual pathways to determine whether overall the detachment pathway counteracts the state self-control capacity pathway or vice versa. The results showed that the combined indirect effect is significant and negative when working at home (combined =  $-.04$ ,  $CI = [-.07, -.01]$ ), suggesting that for days worked at home, the positive effects of segmentation via detachment outweigh any potential negative effects via state self-control capacity. However, the two paths cancel each other when working onsite (combined =  $-.01$ ,  $CI = [-.04, .02]$ ). When considering the direct and indirect effects, however, the total effect was significant and negative for both when working either onsite (total =  $-.10$ ,  $CI = [-.20, -.00]$ ) or at home (total =  $-.13$ ,  $CI = [-.24, -.03]$ ), and thus also significant regardless of the conditional effect of work location (total =  $-.12$ ,  $CI = [-.22, -.02]$ ).

## Discussion

The findings of Study 2 offer support for our dual-process model of the effects of segmentation on work–nonwork conflict, providing evidence for a positive pathway via detachment and a negative pathway via reduced state self-control capacity. However, the negative pathway was only significant on days when people had worked onsite. The positive and negative effects of segmentation on these days cancelled each other out, thus nullifying the relationship between the act of segmenting and work–nonwork

TABLE 6 Indirect, moderating and conditional indirect effects in study 2.

	Predictor	Mediator(s)	Moderator	Outcome	<i>b</i>	95% CI	
H1c	Segmentation	Detachment		Work–nonwork conflict	-.02	-.05	-.01**
H2c	Segmentation	State self-control capacity		Work–nonwork conflict	-.01	-.01	.01
H3a	Segmentation		Home	State self-control capacity	.16	.02	.30*
			Onsite	State self-control capacity	-.16	-.30	-.03*
H3b	Segmentation	State self-control capacity	Home	Work–nonwork conflict	-.02	-.04	.00
			Onsite	Work–nonwork conflict	.02	.00	.04*
			Index of moderated mediation		.02	.00	.04***
Combined	Segmentation	Combined paths	Home	Work–nonwork conflict	-.04	-.07	-.01***
			Onsite	Work–nonwork conflict	-.01	-.04	.02
			Overall effect (regardless of moderator)		-.02	-.05	-.00*
Total	Segmentation	Combined paths	Home	Work–nonwork conflict	-.13	-.24	-.03**
			Onsite	Work–nonwork conflict	-.10	-.20	-.00*
			Overall effect (regardless of moderator)		-.12	-.22	-.02*

Note: Moderator is work location; parameter lies outside the interval: \* = 95%; \*\* = 99%, \*\*\* = 99.9%.

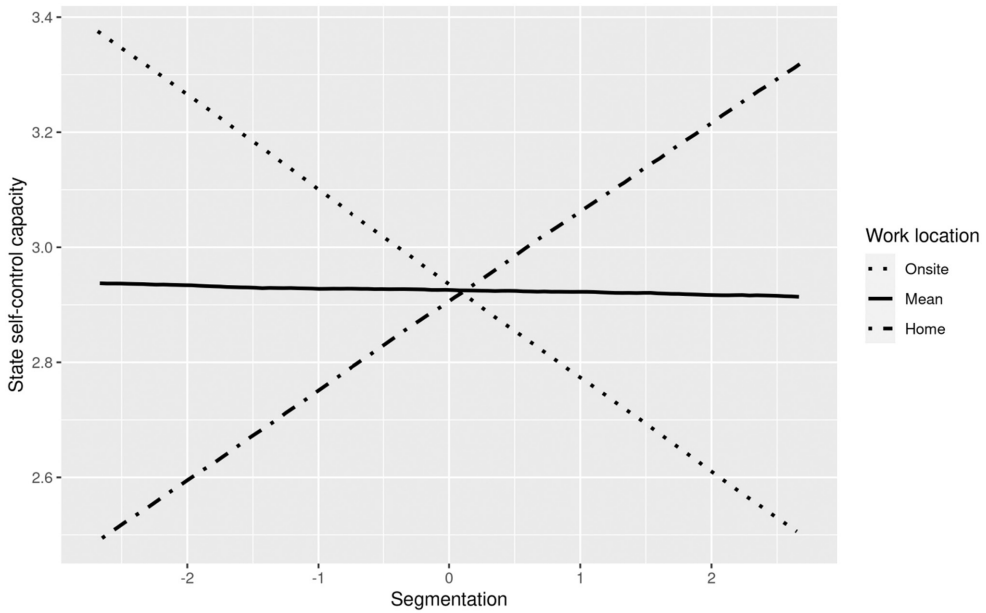


FIGURE 2 The moderating effect of hours working onsite on the effect of segmentation on state self-control capacity.

conflict, as a strong version of our dual-process might posit. When working at home, the effect of segmentation on state self-control capacity was instead positive effect but did not result in an indirect effect on work–nonwork conflict.

## GENERAL DISCUSSION

In this article, we developed a dual-process model to explain how enacting segmentation can have simultaneously positive and negative effects on work–nonwork conflict. Specifically, segmentation can promote detachment from work and in doing so reduce work–nonwork conflict and at the same time, as an effortful self-regulatory process, it can deplete self-control resources, thereby increasing work–nonwork conflict.

The results from our first study of homeworkers do not support the two pathways, revealing only a negative association between segmentation and work–nonwork conflict via psychological detachment. While state self-control capacity was positively associated with work–nonwork conflict, it was not a pathway through which segmentation took effect. In our second study, we theorized that enacting segmentation might not deplete state self-control capacity equally in all situations and that people's work location – at home versus onsite – might moderate this relationship. The results show support for this conditional effect and the dual paths model of a positive effect via detachment and the negative one via self-control capacity.

### Contributions to theory and practice

Our dual-process model of segmentation contributes to discussions of active boundary management of the interface between work and nonwork (de Bloom et al., 2020; Junker et al., 2021) and demonstrates the conflicting mechanisms that connect segmentation and work–nonwork conflict. This potentially explains why employees may fail to reduce conflict even when considerable effort is expended building or maintaining boundaries.

We demonstrate that, on the one hand, segmentation can reduce conflict by enabling workers to psychologically disconnect from work and therefore detach while in the nonwork domain, allowing for the restoration of energy that has been expended while at work (e.g., Sonnentag et al., 2022). Yet on the other hand, because segmentation involves the active management of one's thoughts and emotions, in which the default response to attend to one's current thoughts and feelings must be overridden, the act itself can be seen as self-regulation, which is an effortful process (e.g., Muraven et al., 1998) that can drain the energy needed to invest in nonwork life. This second process, however, was conditional on work location, such that the draining effect of segmentation manifests into work–nonwork conflict only when individuals are working onsite but not when working from home.

Our finding that segmentation may have a more detrimental side, at least when working onsite, raises questions regarding why individuals continue to enact this type of boundary management strategy if it depletes their state self-control capacity. However, our analyses suggested that the combined effect of the two pathways of segmentation on work–nonwork conflict when working onsite is to cancel each other. Thus, when segmentation has a detrimental effect (i.e., when working onsite), that is, only to blunt the beneficial pathway and does not amalgamate to increasing work–nonwork conflict. It may also be the case that alternative boundary management strategies, such as integration of work and nonwork life, are themselves effortful and depleting of state self-control capacity. Although this cannot be addressed with this study, our findings suggest that it could be a worthwhile avenue to explore.

Our research is novel in integrating theories of self-regulation processes (e.g., Inzlicht & Schmeichel, 2012) with boundary management (Ashforth et al., 2000; Clark, 2000; Nippert-Eng, 1996). Although the importance of self-regulation in this context has been highlighted before (e.g., Allen et al., 2014), empirical research is limited and to this date has only provided conflicting evidence. For example, Junker et al. (2021) showed that trait self-control is associated with work–nonwork conflict in a between-person study, but found no evidence for a similar effect in a within-person study. In contrast, and similar to our findings, Clinton et al. (2020) showed that state self-control capacity had a negative association with work–nonwork conflict. It is likely that state self-control capacity, by fluctuating more over time than trait self-control, has a greater effect on work–nonwork conflict.

Our research also develops theory and can stimulate future research by identifying work location as a condition that moderates the relationship between segmentation and state self-control capacity. The findings also question the notion that working at home can make ‘switching off’ more challenging (e.g., because of the lack of physical boundaries between work and nonwork; Hislop et al., 2015). Rather, results suggest that segmentation is a more effortful and draining activity when working on location (e.g., in an office). We suggest that because of working fixed official hours and commuting workers are more likely to end their working day with unfinished tasks outstanding on their mind and that the in-person interactions during onsite working may produce more intense negative emotional reactions, making inhibition of current thoughts and feelings more challenging when working onsite than at home.

The study has practical implications for how organizations can support their employees to minimize work-to-nonwork conflict. Interventions aimed at reducing work–nonwork conflict need to consider the countervailing processes that are at play when employees attempt to maintain boundaries between work and nonwork. This is especially true when the effect of segmentation effort is more detrimental (e.g., as per our findings on days when working onsite) and critically when there are policies that prohibit or limit working at home. Organizations and line managers may need then to ensure that employees have the flexibility to decide when they may work at home or onsite, thereby reducing the risk of effort to segment depleting state self-control capacity.

Interventions directed at training individuals to utilize segmentation strategies should also consider the potential costs of segmentation. For example, Althammer et al. (2021) used a mindfulness intervention to train employees on cognitive–emotional strategies to improve detachment, well-being and work-life balance. While the intervention was effective in most respects, it did not reduce strain-based work–family conflict. This might be explained by our dual-process model, which suggests that the effort involved in applying segmentation strategies might come at the cost of reducing the energy needed to minimize work–nonwork conflict.

## Strengths, limitations and future directions

The strengths of our research stem from using data from two different diary designs that ensure that we have avoided issues of retrospective bias (Ohly et al., 2010). The first of these involved the collection of data over multiple weeks and a large number of participants, which is unusual for diary studies. The second, based on a more conventional sample size, used data over multiple days, with two measurements points each day, and time separation when testing some of the associations in our model (e.g., the pathways between segmentation and state self-control capacity and between detachment and work–nonwork conflict). The use of Bayesian methods is another strength of the study as it offers several advantages over frequentist approaches, such as estimating the full joint distribution of parameters estimates instead of the maximum likelihood of each parameter (see Kruschke et al., 2012; Wang & Preacher, 2015).

A key limitation of the first study is that we did not use lagged effects as the weekly interval is too long for lagged effects to be useful in evaluating the specific hypotheses of the article. As such, this prevents any causal interpretation of the results. Although in the second study we used lagged effects, this only partially addressed the issue as some of the variables were, for practical reasons, measured concurrently. A related limitation is that both studies relied on self-report measures, which may result in common-method variance (Podsakoff et al., 2003). The fact that we have used lagged effects in the second study may have at least limited any inflation of the observed relationships due to common-method bias. Common-method bias creates difficulties in detecting interaction effects (Siemsen et al., 2010) and thus the significant hypothesized moderation offers some reassurance that such bias is limited.

A further limitation of the first study is the distinctive context of working from home during lockdown, which limits the generalizability of the results. In addition, the sample from the study was from a single industry (higher education), further limiting generalizability. Nevertheless, the second study involved data from multiple sectors in the United Kingdom outside of the pandemic context and most of the relationships examined were largely consistent between studies, with the key difference being the detrimental effect of segmentation when working onsite which was not tested in the first study. While we need to exercise caution when generalizing from the first study, the congruence of the results with the second study provides some reassurance of their validity.

This study opens new directions for further research. To affirm our findings and extend their generalizability, future studies can evaluate the model with participants that are working only onsite and do not have the flexibility to change work location each day. The emphasis here was on work-to-nonwork conflict rather than nonwork-to-work conflict because one of the key hypothesized mechanisms, psychological detachment from work, is presumed to be important for the former but not the latter. Nevertheless, nonwork-to-work conflict could also be influenced by depletion or replenishment of self-control capacity, and future studies could extend the present model in that direction to fully understand the role of self-control capacity in work–nonwork conflict. Similarly, it will be interesting to shift the focus from conflict to positive outcomes and examine whether self-control capacity can influence work–nonwork enrichment (Carlson et al., 2006). The link between detachment and state self-control capacity in the model may also require further examination. In theory, psychologically detaching from work could preserve state self-control capacity, yet it is also possible that individuals who are depleted of resources are less able to psychologically detach (Sonnetag, 2018; Sonnetag & Fritz, 2015).

Future studies might also consider if variables other than work location, such as resources like job autonomy and support from colleagues or family, are important for determining whether segmentation reaps rewards or cause problems when it comes to conflict between work and nonwork. Work stressors may be relevant moderating factors, given the ‘recovery paradox’, which holds that recovery processes (such as psychological detachment) are impaired when stressors are high (Sonnetag, 2018). The work–home resources model (ten Brummelhuis & Bakker, 2012) also suggests that high demands can prompt a resource loss spiral, wherein investment of resources (e.g., via the self-regulatory process of segmentation) is not sufficient to overcome the level of demands.



A further conditional variable that might be important to consider in relation to the link between segmentation and state self-control capacity is the extent to which segmentation is enacted volitionally, that is, because the worker chooses to segment, rather than feeling obligated to do so, for example, due to pressures relating to nonwork responsibilities. Integrative self-control theory (Kotabe & Hofmann, 2015) argues that a key factor in determining how taxing self-regulation is, is whether internal desire aligns with the self-control goal. In instances of segmentation enacted completely volitionally, the act may be less depleting because even though the person still has to override their default response, their desire, to distance from work, matches the goal of segmentation. Conversely, when segmentation is extrinsically motivated, such as when an employee wishes to keep working to get the job finished but feels obliged to segment in order to fulfil nonwork commitments, the desire and goal mismatch and segmentation may be more costly.

## CONCLUSIONS

Forming and maintaining a physical or psychological boundary between work and nonwork lives can be an important strategy for reducing conflict between the two domains. Our research shows, however, that effort on this act of segmentation may not always yield the benefits of this investment. When working primarily at home, expending effort on segmentation is wise because it reaps rewards: it enables psychological detachment and through this route reduces work–nonwork conflict. Yet, when working onsite, effort expended on segmentation can leave a person with insufficient state self-control capacity to invest in their nonwork life, cancelling out the positive aspects of detachment and nullifying the benefits for work–nonwork conflict. By theorizing and demonstrating support for this dual-process model of segmentation, our research adds an important dimension to our understanding of how people navigate the work–nonwork boundary.

## AUTHOR CONTRIBUTIONS

**George Michaelides:** Conceptualization; methodology; formal analysis; investigation; data curation; writing – original draft; writing – review and editing. **Karen Niven:** Conceptualization; writing – original draft; writing – review and editing. **Stephen Wood:** Conceptualization; writing – original draft; writing – review and editing. **Ilke Inceoglu:** Conceptualization; writing – review and editing.

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## CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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