



Article

Buffering and Boosting Effects of the Home Environment on Daily Work Engagement

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Academic Editor: Simon Jebsen

Submitted: 13 November 2024 Revised: 13 November 2025 Accepted: 5 January 2026 Published: 30 June 2026

Abstract

This study examines how home demands and home resources jointly shape employees' work engagement under working-from-home conditions. Based on the work-home resources (WH-R) model and conservation of resources (COR) theory, we investigate whether home resources buffer the negative relationship between home demands and work engagement and whether home demands strengthen (boost) the positive relationship between home resources and work engagement. We also examine the direct effects of home demands and home resources on work engagement, provided given that working from home renders makes home-based conditions more proximal to employees' work-related states. Using a daily diary design, data were collected from 102 university teaching staff in China over five consecutive workdays (510 daily observations). Multilevel analyses revealed that home demands were negatively related to daily work engagement, whereas home resources were positively related to work engagement. Moreover, home resources buffered the negative effects of home demands on work engagement, and high home demands amplified the positive effects of home resources. These interaction effects were observed for home physical demands but not for home emotional demands. Our findings demonstrate the contingent, cross-domain resource dynamics through which home environments influence daily work engagement and stress the importance of considering home-based demands and resources in sustaining engagement in remote work contexts. Theoretical and managerial implications are discussed.

Keywords: home demands; home resources; work engagement; buffering and boosting hypotheses; WH-R model; COR theory

JEL: J24, J28, J81, M54, I23

1. Introduction

The COVID-19 pandemic accelerated the widespread adoption of working from home, which fundamentally alters how employees experience and manage the boundaries between work and home. Under remote work arrangements, employees no longer transition between physically and psychologically distinct domains; instead, work is embedded within the home environment, thereby making home-related conditions more proximal to employees' work-related states than under traditional office-based arrangements (Allen et al., 2015; Piasna, 2020; Van Ruysseveldt et al., 2011; Wang et al., 2021). This shift raises important questions about how home environments shape employees' work engagement, which is a motivational state that is central to individual well-being and organisational performance (Schaufeli et al., 2002).

Work engagement refers to a positive, fulfilling work-related state characterised by vigour, dedication, and absorption (Schaufeli et al., 2002). Prior research on work engagement has predominantly adopted a job-centred perspective, focusing on how job demands and job resources shape employees' motivational experiences (Bakker and Demerouti, 2007; Schaufeli, 2017). Although this line of research has generated robust insights, it provides a

limited account of engagement dynamics under working-from-home conditions, where home-based demands and resources may directly influence employees' energy, motivation, and focus at work.

Consider, for example, a university lecturer delivering online classes while simultaneously managing caregiving responsibilities at home. Daily interruptions, household tasks, and emotional strain may drain energy and impair work engagement, whereas emotional support from household members or a harmonious home atmosphere may replenish personal resources and sustain motivation. This example illustrates how the home environment can simultaneously deplete and restore resources essential for work engagement on a day-to-day basis. Despite the increasing prevalence of such experiences, empirical research that examines how daily home demands and home resources jointly shape work engagement remains unclear.

To address this gap, we draw on the work-home resources (WH-R) model (ten Brummelhuis and Bakker, 2012) and conservation of resources (COR) theory (Hobfoll, 1989). The WH-R model extends the logic of the job demands-resources framework by explicitly incorporating both work and home domains and proposing that contextual demands and resources in one domain influence outcomes



in another through their effects on personal resources. COR theory further posits that individuals strive to obtain, protect, and build valued resources and experience strain when these resources are threatened or depleted. These frameworks suggest that home demands may undermine work engagement by depleting personal resources, whereas home resources may enhance work engagement by replenishing them.

Importantly, we claim that the WH-R and COR frameworks also imply that the effects of home demands and home resources may not be independent. Individuals with ample resources are less vulnerable to resource loss, while the motivational value of resources becomes more salient under conditions of high demand (Halbesleben et al., 2014). Therefore, home resources may conceivably buffer the negative effects of home demands on work engagement, and high home demands may simultaneously amplify the positive effects of home resources. Examining such interactive processes is particularly important in remote work contexts, where boundaries between domains are highly permeable and resource dynamics are likely to fluctuate daily (Blazewski and Walker, 2018; Farndale et al., 2020).

Although prior studies have examined fluctuations in home demands and home resources (e.g., Butler et al., 2009), relatively little research has focused on how these daily fluctuations relate to work engagement, especially in working-from-home contexts (Chen, 2024). Moreover, existing studies have tended to emphasise instrumental forms of home support, while paying less attention to affective qualities of the home environment, such as a positive home atmosphere, that may play a critical role in sustaining work engagement during prolonged periods of remote work (Sonnetag and Fritz, 2015).

The present study addresses these gaps by examining the daily relationships between home demands, home resources, and work engagement using a within-person diary design. Focusing on university teaching staff working from home during the COVID-19 pandemic in China, we investigate whether home resources buffer the negative relationship between home demands and work engagement and whether home demands strengthen the positive relationship between home resources and work engagement. By capturing short-term fluctuations across consecutive workdays, this study provides insight into the dynamic, cross-domain processes through which home environments shape employees' engagement at work.

This research contributes to the literature in several ways. First, it extends work engagement research beyond its traditional job-centred focus by empirically demonstrating that daily work engagement is shaped by home-based demands and resources under working-from-home conditions. Second, by testing interactive effects between home demands and home resources, this study advances the WH-R model by revealing contingent, rather than purely additive, cross-domain resource dynamics. Third, the study

contributes to COR theory by illustrating how gain–loss principles operate in daily home-to-work processes, particularly when work and home boundaries are blurred. In sum, these contributions flag the importance of viewing work engagement as a life-embedded state shaped by employees' broader resource ecology rather than solely by workplace characteristics.

2. Theoretical Framework

2.1 Conceptualising Home Demands and Resources

In the present study, we conceptualise home demands and home resources by adapting the demand–resource logic originally developed in the job demands–resources (JD-R) model to the home domain (Bakker and Demerouti, 2007; Demerouti et al., 2001). *Home demands* refer to physical, psychological, or social aspects of the home that require sustained effort and are therefore associated with physiological or psychological costs, whereas *home resources* refer to aspects of the home that facilitate goal attainment, reduce demands, or foster recovery and personal growth. This conceptualisation positions the home as a parallel context in which resource loss–gain processes occur, which is in line with both the WH-R model and COR theory.

Empirical studies suggest that resource depletion and replenishment processes frequently span domain boundaries, such that pressures originating in one domain can undermine functioning in another, particularly when recovery opportunities are constrained (Butler et al., 2009; Van Ruysseveldt et al., 2011). Accordingly, home demands and home resources constitute integral components of the broader resource ecology shaping daily work engagement, especially under working-from-home conditions where boundaries between work and home are highly permeable (Allen et al., 2015; Van Ruysseveldt et al., 2011; Wang et al., 2021; Zafari et al., 2019).

We focus on two home resources—home support and a positive home atmosphere—because they capture both instrumental and affective dimensions of support within the home (Peeters et al., 1995; Wayne et al., 2006). Home support reflects tangible, emotional, or informational assistance provided by household members, whereas a positive home atmosphere captures the broader socio-emotional climate of the household, including shared positivity, low conflict, and relational warmth (Lawson et al., 2013; Sonnetag and Fritz, 2015). This distinction is particularly relevant for remote work contexts, where continuous exposure to the home environment amplifies the influence of ambient affective conditions on employees' work-related motivational states (ten Brummelhuis and Bakker, 2012).

A positive home atmosphere represents an ambient resource that permeates daily home experiences and fluctuates over short time intervals, thereby making it well suited to a within-person research design. Prior research indicates that such affective home climates foster recovery experiences, emotional stability, and energy restoration that

are critical for sustaining work engagement (Sonnentag and Fritz, 2015; Ten Brummelhuis et al., 2014). Unlike discrete helping behaviours, a positive home atmosphere reflects a contextual condition that shapes individuals' capacity to replenish resources across the day and is therefore theoretically aligned with daily resource-based models of work engagement.

2.2 Home Demands, Home Resources, and Work Engagement

Based on the WH-R model, we conceptualise work engagement as a work-related motivational state that reflects individuals' available personal resources. Home demands are expected to undermine work engagement by depleting these resources, whereas home resources are expected to enhance work engagement by replenishing them. Empirical studies indicate that high home demands reduce individuals' available time, energy, and attentional capacity for work, thereby diminishing work engagement (De Clercq et al., 2019; Li et al., 2019; Venkatesh et al., 2019).

Conversely, home resources have been shown to improve affect, motivation, and self-regulatory capacity, which in turn facilitate greater focus and involvement in work tasks (Edwards and Rothbard, 2000; Friedman and Greenhaus, 2000; Lapierre et al., 2018). In remote work contexts, affective qualities of the home environment may exert particularly strong influence on daily vigour and dedication, sometimes exceeding the impact of traditional job resources (Ipsen et al., 2021; Lapierre et al., 2018). These findings reveal the importance of examining home-based resources as proximal determinants of daily work engagement under working-from-home conditions.

2.3 Interactive Effects of Home Demands and Home Resources

Drawing on COR theory, individuals with ample resources are less vulnerable to resource loss and better positioned to protect against further depletion, whereas individuals with fewer resources are more susceptible to loss spirals (Halbesleben et al., 2014; Hobfoll, 1989). In this light, home resources are expected to buffer the negative effects of home demands on work engagement, which is in line with the buffering hypothesis (Kahn and Byosiere, 1992). Empirical research supports this logic by showing that supportive home conditions can mitigate the detrimental effects of demanding home circumstances on work-related outcomes (Dewe et al., 2010; Karatepe and Bektashi, 2008; Nasuridin and O'Driscoll, 2012).

At the same time, COR theory posits that the value of resources increases under conditions of heightened demand, as resource loss becomes more salient and threatening (Halbesleben et al., 2014). Under high home-demand conditions, home resources may therefore exert stronger positive effects on work engagement by preventing further depletion and facilitating resource recovery. Together,

these arguments indicate that home demands and home resources function as interdependent forces whose effects on work engagement are contingent rather than additive.

2.4 Home Resources, Culture, and Buffering Processes

We maintain that the extent to which home resources buffer the effects of home demands may depend on cultural norms that govern emotional experience, expression, and regulation. In collectivistic cultural contexts such as China, individuals are socialised to prioritise interpersonal harmony and relational stability, often through emotional restraint, suppression, or avoidance of overt emotional expression (Hofstede, 2001; Markus and Kitayama, 1991). These cultural norms shape not only how emotional strain is experienced but also how individuals respond to it in daily life.

Within such contexts, emotionally induced home demands, such as criticism, tension, or emotional withdrawal, may be regulated internally rather than externalised or communicated to others (Butler et al., 2007; Chiang, 2012). As a result, emotional strain may be less likely to trigger active coping behaviours or explicit resource mobilisation, such as seeking reassurance, discussing tensions, or drawing on interpersonal support. Buffering effects are most likely to emerge when strain cues prompt individuals to mobilise contextual resources. However, when emotional strain is regulated through restraint and internal suppression, employees may be less likely to externalise or resource-seek in response to emotional demands, thereby reducing the conditions under which home resources translate into observable buffering interactions.

Therefore, we claim that home emotional demands may primarily exert *direct resource-depletion effects* rather than interactive effects with home resources. In contrast, home physical demands, which involve tangible effort, time investment, and behavioural disruption (e.g., caregiving, household responsibilities, interruptions), are more likely to elicit visible coping responses and draw upon contextual support. Such demands may therefore be more amenable to buffering through supportive and resource-rich home environments. This distinction provides a theoretically grounded basis for anticipating differential interaction patterns across demand types within the WH-R and COR frameworks, particularly in East Asian cultural contexts characterised by emotion regulation norms emphasising restraint (Piasna, 2020; Van Ruysseveldt et al., 2011).

Our cultural reasoning is primarily intended to explain variation in buffering processes rather than gain amplification (boosting effects). Buffering effects depend on how individuals perceive and respond to strain cues, which are influenced by socially embedded expectations about appropriate coping and response patterns. In contrast, gain-amplification processes reflect the heightened instrumental value of resources under demand, a mechanism that is less contingent on cultural display rules.

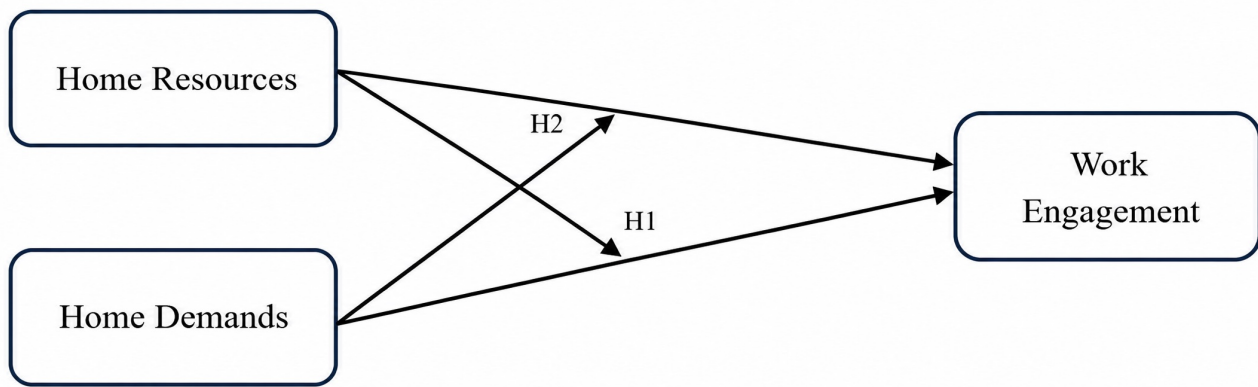


Fig. 1. The research framework of this study.

Based on the above reasoning, we propose the following hypotheses and depict the research framework in Fig. 1. In line with the WH-R model and COR theory, the hypotheses are specified at the level of general demand–resource relationships. However, we recognise that home demands and home resources can take different forms. The empirical analyses thus distinguish between specific types of home demands and home resources to examine how these general mechanisms manifest across different contextual conditions.

Hypothesis 1. Home resources buffer the negative relationship between home demands and work engagement. Specifically, the negative relationship between home demands and work engagement is weaker when home resources are high (vs. low).

Hypothesis 2. Home resources influence work engagement particularly when home demands are high (vs. low). Specifically, the positive relationship between home resources and work engagement is the strongest when home demands are high (vs. low).

3. Methods

3.1 Participants and Procedures

We conducted a daily diary study with teaching staff members from universities in China. During the COVID-19 pandemic, the Chinese government implemented lockdown and stay-at-home policies across provinces, and teaching staff members were required by university administrators to deliver instruction online from home. Under these conditions, home demands and home resources were likely to fluctuate across days, potentially shaping employees' work engagement on a daily basis (Du et al., 2018; Grzywacz et al., 2002). This dynamic nature of home experiences makes teaching staff working from home a particularly appropriate sample for the present study. Accordingly, a daily diary design was employed to capture short-term within-person fluctuations in the focal variables.

Prior to data collection, we collaborated with a survey company in China to contact teaching staff members at universities that had previously partnered with the company. Participants were informed that their responses would remain anonymous and confidential, that participation was voluntary, and that they could withdraw from the study at any time.

Two types of data were collected: a baseline survey and daily diary surveys. On the first day of the study, participants completed a baseline survey assessing demographic variables. On the same day, participants were invited to complete the first daily diary survey at approximately 6:00 p.m., corresponding to the typical end of the workday for teaching staff working on campus. The daily diary surveys assessed variables expected to fluctuate over time, including home demands, home resources, and work engagement. The daily surveys were administered over five consecutive workdays. Data collection began at slightly different times for different participants, and the survey company ensured timely completion through its tracking system.

In total, 417 teaching staff members were invited to participate, and 159 agreed to do so. After incomplete responses were excluded, 102 usable participants were retained, corresponding to a usable completion rate of 64% among participants who had provided consent. Although no age group represented a majority of the sample, the largest age group was 26–30 years (14.2%), followed by 31–35 years (8.7%) and 36–40 years (2.9%). The two most common living arrangements were living with parents (11.8%) and living with a spouse (11.3%).

3.2 Measures

Previous research indicates that during the COVID-19 pandemic, individuals often assumed additional household responsibilities (i.e., home physical demands; Zhang and Ma, 2020) and experienced increased interpersonal conflict during periods of social isolation (i.e., home emotional demands; Mesa Vieira et al., 2020). Other studies suggest that individuals attempted to maintain a positive and harmo-

nious home environment (i.e., positive home atmosphere; Joseph et al., 2020) and became more willing to provide assistance to household members (i.e., home support; Zhang and Ma, 2020). Based on this literature, we operationalised home physical demands and home emotional demands as indicators of home demands, and positive home atmosphere and home support as indicators of home resources.

All daily diary items were revised to reflect day-specific experiences. To ensure conceptual equivalence with the original scales, a translation and back-translation procedure was conducted using two trained English–Chinese translators (Brislin, 1980).

3.2.1 Daily Diary Measures

3.2.1.1 Home Demands. Home physical demands and home emotional demands were measured using a 4-item scale developed by Gutek et al. (1991; average Cronbach's $\alpha = 0.91$) and a 4-item scale developed by Schuster et al. (1990; average Cronbach's $\alpha = 0.92$), respectively. The original Gutek et al. (1991) items assessed family-to-work conflict and were adapted to align with the present research context. A sample item was "Today, I was preoccupied by things at home". Responses were rated on a 5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The original Schuster et al. (1990) items focused on family members; the term family was replaced with home to fit the study purpose. A sample item was "Today, how often did home members get on your nerves"? Responses were rated on a 5-point scale ranging from 1 (Never) to 5 (Always).

3.2.1.2 Home Resources. Positive home atmosphere was measured using a 3-item scale developed by Wayne et al. (2006; average Cronbach's $\alpha = 0.94$), and home support was measured using a 4-item scale developed by Peeters et al. (1995; average Cronbach's $\alpha = 0.94$). The Wayne et al. (2006) items originally assessed family-to-work enrichment and were adapted to the present context. A sample item was "Today, things at home have been great for me". Responses were rated on a 5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The Peeters et al. (1995) items originally referred to colleagues or managers; these terms were replaced with *home members*. A sample item was "Today, home members paid attention to my feelings and problems", rated on a 5-point scale from 1 (Never) to 5 (Always).

3.2.1.3 Work Engagement. Work engagement (average Cronbach's $\alpha = 0.89$) was measured using the daily version of the Utrecht Work Engagement Scale (UWES; Breevaart et al., 2012), consisting of six items assessing daily vigour, dedication, and absorption. Daily absorption was excluded because it has been shown to be conceptually and empirically less sensitive to short-term contextual fluctuations than vigour and dedication (Schaufeli and Bakker, 2001). Absorption reflects deep concentration and immersion in

work tasks, which are often task-contingent and less directly influenced by daily resource dynamics. Prior studies have therefore recommended focusing on vigour and dedication when examining daily work engagement (González-Romá et al., 2006; Rodríguez-Muñoz et al., 2014).

This rationale is particularly relevant for university teaching staff working from home during the COVID-19 pandemic, whose work was often characterised by fragmented attention, frequent interruptions, and rapid task switching between teaching, student communication, and household responsibilities. Under such conditions, absorption may be structurally constrained rather than motivationally driven, whereas vigour and dedication more directly capture energetic investment and perceived work significance. Accordingly, excluding absorption allows for a more context-sensitive operationalisation of daily work engagement. Sample items included "Today, I was bursting with energy" (vigour) and "Today, I was enthusiastic about my job" (dedication). Responses were rated on a 5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree).

3.2.2 Baseline Measures

Following Bernerth and Aguinis (2016), demographic variables theoretically related to work engagement were included as control variables, including age (Goštautaitė and Bučiūnienė, 2015) and cohabitation status (Kravina et al., 2014).

3.3 Analytic Strategy

The data had a multilevel structure, with repeated daily observations nested within individuals. Accordingly, a two-level model was specified, with daily observations at Level 1 ($N = 510$) and individuals at Level 2 ($N = 102$). Power analysis using the Optimal Design programme indicated acceptable statistical power (value >0.80 ; Spybrook et al., 2008). Hypotheses were tested using HLM 7 (version 7.0, Scientific Software International, Inc., Skokie, IL, USA) (Raudenbush et al., 2011).

Level-1 predictors (home demands and home resources) were centred around each individual's mean, and Level-2 variables were grand-mean centred (Xanthopoulou et al., 2008). Intraclass correlations (ICC) were computed using intercept-only models to justify the use of multilevel modelling (Tims et al., 2011). Moderation hypotheses were tested sequentially using a null model, a model including control variables and the independent variable (Model 1), a model adding the moderator (Model 2), and a model including the interaction term (Model 3). Interaction terms were created following Aiken, West, and Reno (1991) by multiplying mean-centred predictors and moderators.

4. Results

Table 1 presents the means, standard deviations, average reliabilities, ICC, and correlations among the study

Table 1. Means, standard deviations, averaged reliabilities, ICC1, and correlation results.

Variables	<i>M</i>	<i>SD</i>	ICC1	1	2	3	4	5	6	7
Level-2 variables										
1. Age	3.25	0.92		-						
2. Cohabitant	2.25	0.79		0.20*	-					
Level-1 variables										
3. Home physical demands	2.82	1.07	0.29			(0.91)				
4. Home emotional demands	2.28	1.00	0.21			0.21***	(0.92)			
5. Positive home atmosphere	3.69	1.10	0.28			-0.22***	-0.25***	(0.94)		
6. Home support	3.49	1.08	0.25			-0.31***	-0.42***	0.42***	(0.94)	
7. Daily work engagement	3.29	0.83	0.37			-0.45***	-0.41***	0.53***	0.53***	(0.89)

Note: *: $p < 0.05$; ***: $p < 0.001$ ($N = 510$ occasions, $N = 102$ participants).

Age: 1 = Under 20 years old, 2 = 21–25 years old, 3 = 26–30 years old, 4 = 31–35 years old, 5 = 36–40 years old, 6 = 41 years old and above. Cohabitant: 1 = Live alone, 2 = Parents, 3 = Husband/Wife, 4 = Siblings, 5 = Roommates/Friends, 6 = Relatives, 7 = Others.

Parenthetical values represent the averaged reliability. ICC1 represents intraclass correlations.

variables. Because all measures were self-reported, we assessed the potential impact of common method variance prior to hypothesis testing by estimating a single-factor confirmatory factor analysis, in which all measurement items were specified to load onto one latent factor (Iverson and Maguire, 2000). The model yielded poor fit indices ($\chi^2/df = 27.18$; NFI = 0.44; CFI = 0.45; RMSEA = 0.23), suggesting that a single common factor was unlikely to account for the observed covariation among the measures and that common method variance was therefore unlikely to pose a serious concern in this study.

ICC supported the multilevel structure of the data: work engagement ($\rho = 0.37$; 63% within-person variance), home physical demands ($\rho = 0.29$; 71%), home emotional demands ($\rho = 0.21$; 79%), positive home atmosphere ($\rho = 0.28$; 72%), and home support ($\rho = 0.25$; 75%).

Table 2 presents the results of the multilevel analyses. Consistent with our hypotheses, home demands (home physical demands and home emotional demands) were negatively associated with work engagement, whereas home resources (positive home atmosphere and home support) were positively associated with work engagement across all models. Hypothesis 1 predicted that home resources would buffer the negative relationship between home demands and work engagement. As shown in Table 2, positive home atmosphere moderated the effect of home physical demands on work engagement ($b = 0.14$, $p < 0.001$), and home support also moderated this relationship ($b = 0.07$, $p < 0.05$).

Simple slope analyses were conducted to interpret the significant interactions (Aiken et al., 1991; Frazier et al., 2004). For employees with low positive home atmosphere, the relationship between home physical demands and work engagement was more negative ($b = -0.25$, $p < 0.001$) than for those with high positive home atmosphere ($b = -0.11$, $p > 0.05$). Similarly, for employees with low home support, the relationship between home physical demands and

work engagement was more negative ($b = -0.25$, $p < 0.001$) than for those with high home support ($b = -0.18$, $p > 0.05$). These patterns supported the buffering role of home resources. Although positive home atmosphere and home support did not moderate the relationship between home emotional demands and work engagement, Hypothesis 1 received partial support, emerging consistently for home physical demands. Fig. 2 illustrates the buffering effect of positive home atmosphere on the relationship between home physical demands and work engagement.

Hypothesis 2 predicted that home demands would moderate the positive relationship between home resources and work engagement, such that this relationship would be stronger under high home-demand conditions. Simple slope analyses indicated that the positive relationship between positive home atmosphere and work engagement was stronger when home physical demands were high ($b = 0.43$, $p < 0.001$) than when they were low ($b = 0.29$, $p < 0.001$). Similarly, the positive relationship between home support and work engagement was stronger under high home physical demands ($b = 0.29$, $p < 0.01$) than under low home physical demands ($b = 0.22$, $p < 0.001$). No comparable moderation effects were observed for home emotional demands. Accordingly, Hypothesis 2 received partial support, limited to home physical demands. Fig. 3 presents the moderating effect of home physical demands on the relationship between home support and work engagement.

5. Discussion

5.1 Theoretical Implications

Our study findings have several theoretical implications. First, by adopting a within-person perspective, we demonstrate that daily fluctuations in home demands and home resources are central to understanding short-term variation in work engagement under working-from-home conditions. As revealed in this study, the within-person

Table 2. Multilevel estimates of the models predicting work engagement with home demands as a predictor and resources as a moderator.

Model Variables	3a			3b			3c			3d		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>
Age	0.02	0.07	0.29	0.02	0.07	0.29	0.02	0.07	0.29	0.02	0.07	0.29
Cohabitant	0.09	0.07	1.24	0.09	0.07	1.24	0.09	0.07	1.24	0.09	0.07	1.24
Positive home atmosphere	0.29***	0.04	6.86				0.34***	0.05	6.77			
Home support				0.22***	0.04	5.47				0.24***	0.04	6.11
Home physical demands	-0.25***	0.04	-6.87	-0.25***	0.04	-6.50						
Home emotional demands							-0.23***	0.04	-5.58	-0.21***	0.04	-5.30
Positive home atmosphere * Home physical demands	0.14***	0.03	4.29									
Home support * Home physical demands				0.07*	0.03	2.50						
Positive home atmosphere * Home emotional demands							-0.01	0.04	-0.35			
Home support * Home emotional demands										0.02	0.04	0.46
		χ^2			χ^2			χ^2			χ^2	
Level 1 (Daily) Variance	0.26			0.30			0.29			0.31		
Level 2 (General) Variance	0.29	663.60***		0.28	573.23***		0.26	620.58***		0.28	539.66***	
-2 LL		967.37			1026.76			994.91			1051.32	
Δ -2 LL		19.38			0.22			7.10			6.69	

Note: *: $p < 0.05$; ***: $p < 0.001$ ($N = 510$ occasions, $N = 102$ participants).

For presentation purposes, only the last models (Model 3s) with control variables included are provided.

Model 3a = positive home atmosphere \times home physical demands; Model 3b = home support \times home physical demands; Model 3c = positive home atmosphere \times home emotional demands; Model 3d = home support \times home emotional demands.

Estimates and standard errors are rounded for presentation. Accordingly, minor discrepancies may occur when t-values are recalculated from the rounded values shown in the table.

variation in the home demands and home resources we tested exceeded 70%, indicating that these contextual home factors meaningfully shape daily engagement dynamics. Existing studies have examined fluctuations in home demands and resources (e.g., [Butler et al., 2009](#)); however, few studies have explicitly linked these fluctuations to daily work engagement in remote work contexts. Our findings therefore extend the work engagement and work–home interface literature by positioning the home as a proximal and dynamic driver of work engagement during working from home.

Second, drawing on the WH-R model, this study provides empirical support for cross-domain resource transmission by showing that home demands and home resources exert direct effects on work engagement. While the WH-R model theorizes that contextual conditions in one domain influence outcomes in another via personal resources ([ten Brummelhuis and Bakker, 2012](#)), empirical tests of these propositions at the daily level remain limited. Our findings clarify that work engagement is not solely shaped by job-related conditions but is directly affected by home-based demands and resources when work–home boundaries are highly permeable ([Blazejewski and Walker, 2018](#); [Farn-dale et al., 2020](#)). In doing so, we strengthen the applicability of the WH-R model to remote and hybrid work arrangements that have become increasingly prevalent following the COVID-19 pandemic ([Wang et al., 2021](#)).

Third, and more centrally, this study advances understanding of work engagement by demonstrating that home demands and home resources operate as interdependent forces whose effects are contingent rather than additive. Specifically, home resources buffered the negative relationship between home demands and work engagement, while high home demands simultaneously amplified the positive effects of home resources. These interaction patterns indicate that the motivational value of home resources becomes particularly salient under conditions of elevated home demands, consistent with gain–loss asymmetry principles in COR theory ([Halbesleben et al., 2014](#)). Rather than treating buffering and motivational processes as separate mechanisms, our findings empirically integrate these processes into a unified cross-domain resource dynamic.

Importantly, the theoretical significance of these interaction effects lies not in their magnitude but in their diagnostic value for identifying boundary conditions under which resources become consequential. Interaction effects provide insight into when and for whom demands and resources matter, particularly in complex, multicausal daily work environments. By demonstrating that home resources are most impactful when home demands are high, this study offers direct empirical support for COR theory’s contention that resource gains become more salient in contexts of resource threat or loss.

Fourth, this study highlights a culturally contingent boundary condition of cross-domain resource models. Al-

though home resources buffered the effects of home physical demands, we did not observe similar buffering effects for home emotional demands. In collectivistic cultural contexts such as China, emotion regulation norms emphasising restraint and harmony may reduce the salience of emotional strain and limit the activation of contextual buffering mechanisms ([Butler et al., 2007](#); [Markus and Kitayama, 1991](#)). As a result, home emotional demands may primarily exert direct, internally regulated depletion effects rather than interactive effects with home resources.

In this light, the buffering logic proposed by the WH-R and COR frameworks may generalise most strongly to cultural and situational contexts in which emotional strain is more openly expressed and interpersonal support is more readily mobilised, whereas in contexts characterised by emotional restraint, emotional demands are more likely to operate through direct depletion pathways rather than contingent, interaction-based processes. These findings refine the cultural boundary conditions of cross-domain resource theories and caution against assuming uniform buffering mechanisms across socio-cultural contexts ([Piasna, 2020](#); [Van Ruysseveldt et al., 2011](#)).

Finally, by identifying home demands and home resources as proximal antecedents of daily work engagement, this study reconceptualises work engagement as a cross-domain, life-embedded state rather than a purely job-driven phenomenon. While prior research has emphasised workplace determinants of engagement ([Bakker and Demerouti, 2007](#)), our findings indicate that analogous demand–resource processes operate within the home domain and shape engagement on a daily basis. This perspective invites future research to further integrate work and home domains within a unified resource framework, such as an expanded Job–Home Demands–Resources model, to better capture engagement dynamics in boundaryless work contexts.

5.2 Research Limitations and Future Research Avenues

Despite its contributions, this study has several limitations that suggest promising directions for future research. First, we examined a specific occupational group—university teaching staff in China—during a period of enforced working from home. Although this context is theoretically appropriate for examining daily home-to-work resource dynamics, the extent to which the findings generalise to other occupations, organisational settings, or national contexts remains uncertain ([Koekemoer and Mostert, 2006](#)). Future research could extend this work by examining employees in other sectors, such as healthcare, service, or manufacturing, as well as by testing the proposed relationships in hybrid or voluntary remote-work arrangements to assess the robustness of the findings across different work configurations.

Second, although the interaction effects between home demands and home resources were statistically sig-

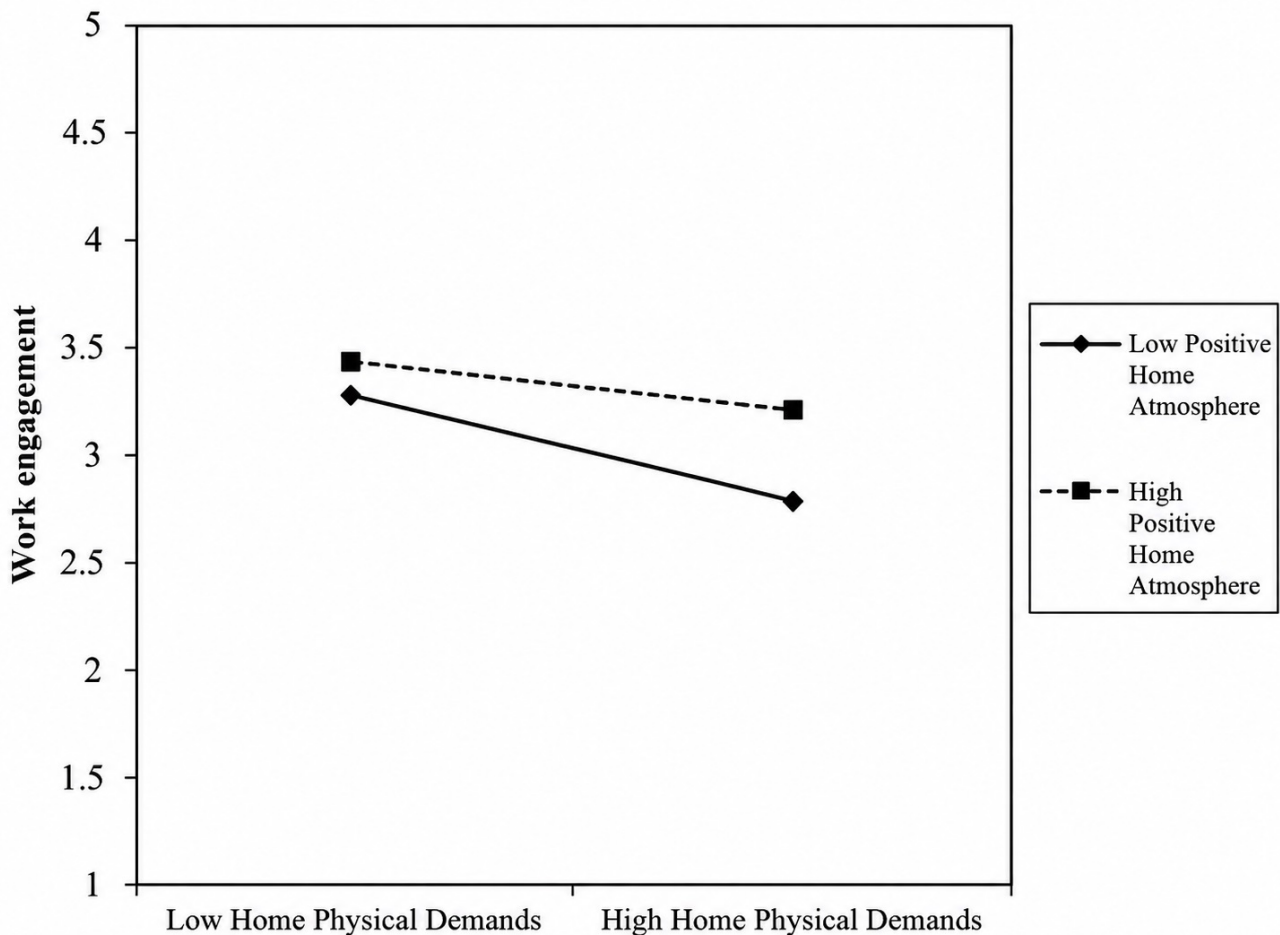


Fig. 2. The effect of a positive home atmosphere on the negative relationship between home physical demands and work engagement.

nificant, they accounted for a relatively modest proportion of variance in work engagement. Such effect sizes are common in nonexperimental field studies, particularly those employing within-person, daily diary designs to examine cross-domain processes (Frazier et al., 2004; Siemsen et al., 2010). Rather than indicating limited substantive importance, these modest interaction effects show the multicausal nature of daily work engagement and the value of identifying theoretically meaningful boundary conditions. Future research could build on this work by incorporating additional contextual or personal moderators such as job characteristics, boundary management strategies, or individual differences to further clarify when and for whom home-based resources are most consequential.

Third, the present study focused on home demands that primarily reflect hindrance-type stressors, such as physical strain and emotional tension. Drawing on the broader job demands–resources literature, future research could distinguish between hindrance and challenge home demands (Crawford et al., 2010). Certain home demands such as caregiving responsibilities or skill-building domes-

tic tasks may carry challenge characteristics that foster meaning, growth, or positive spillover, thereby contributing to work engagement under some conditions. Examining such distinctions would allow future models to adopt a more detailed and humanistic view of home demands and their potential motivational implications.

Fourth, the present model focused exclusively on home-to-work processes. However, working from home often blurs domain boundaries in both directions, such that job demands and job resources may also spill over into the home domain. Future research could therefore extend the model by incorporating job demands and job resources as predictors and home-related outcomes such as home engagement, recovery experiences, or family well-being as dependent variables. Such extensions would align with the bidirectional logic of the WH-R model and provide a more comprehensive understanding of cross-domain resource flows in remote and hybrid work settings.

Finally, this study did not explicitly incorporate personal resources, such as self-efficacy, optimism, or boundary management capability, which are conceptualised as

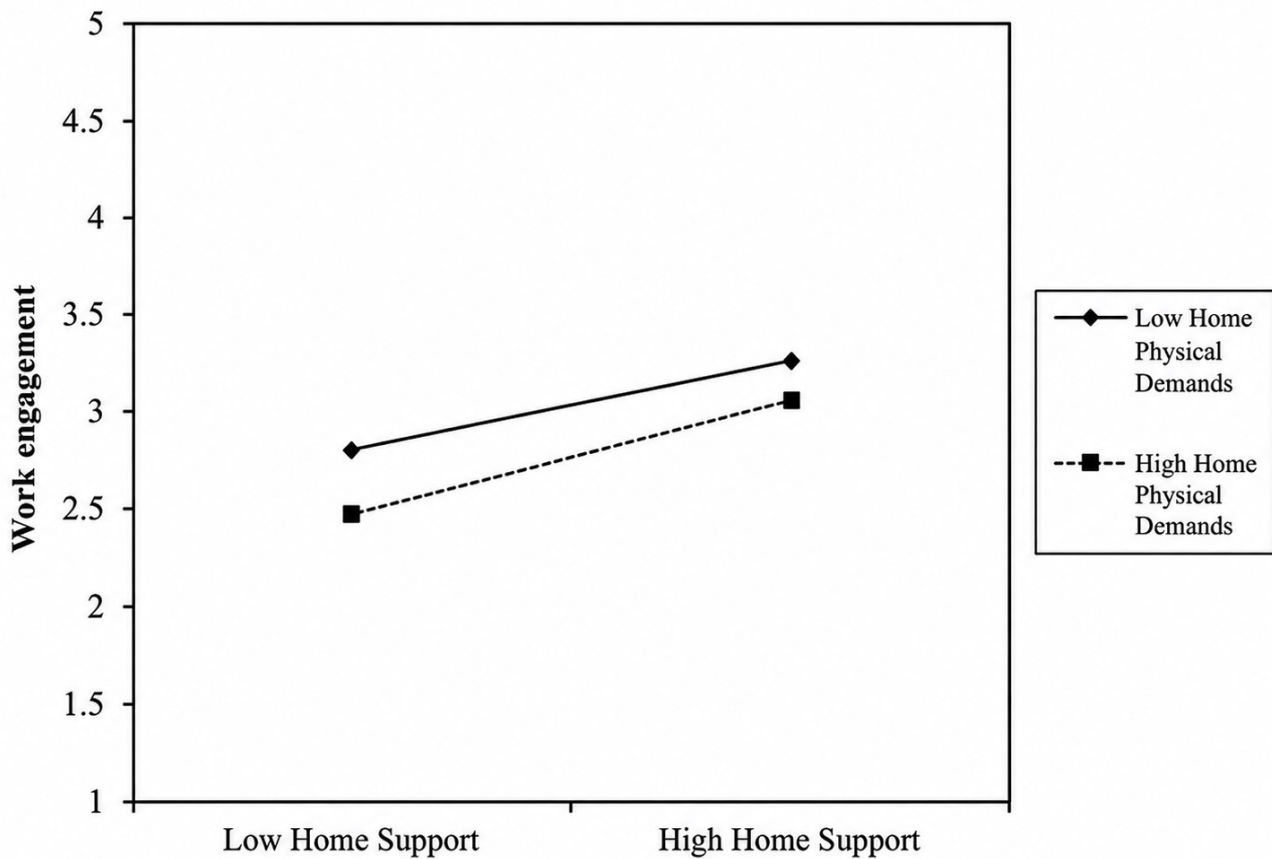


Fig. 3. The effect of home physical demands on the positive relationship between home support and work engagement.

key resources in both the WH-R and JD-R models (Demerouti et al., 2001; ten Brummelhuis and Bakker, 2012). These personal resources may shape how individuals perceive, mobilise, and benefit from home resources when facing home demands. Future research could therefore examine how personal resources interact with contextual home demands and resources to influence work engagement, thereby offering a more complete account of individual differences in cross-domain resource management.

5.3 Implications for Management

The findings of this study have important implications for managers seeking to sustain work engagement under working-from-home and hybrid work arrangements. Consistent with the WH-R model and COR theory, the results indicate that employees' work engagement is shaped not only by workplace conditions but also by demands and resources embedded in the home environment. As a result, managerial interventions that focus exclusively on job design or supervisory practices may be insufficient when work is performed from home, where managers have limited visibility into employees' daily engagement states.

First, the buffering role of home resources suggests that organisations should support employees in developing and maintaining resource-rich home environments. Rather than attempting to directly manage employees' home lives, managers can provide indirect support by equipping employees with tools, knowledge, and flexibility to manage home demands more effectively. For example, organisations may offer digital employee assistance programmes (EAPs), online counselling services, or self-paced microlearning modules focused on boundary management, stress regulation, and recovery practices. Such initiatives align with prior research showing that recovery opportunities and contextual support are critical for sustaining engagement under flexible work arrangements (Sonnentag and Fritz, 2015; Wang et al., 2021).

Second, the finding that home resources become particularly consequential under high home-demand conditions shows the importance of targeted rather than uniform support. Managers should recognise that employees facing greater home demands such as caregiving responsibilities or frequent domestic interruptions may benefit disproportionately from additional flexibility and autonomy. Flexible scheduling, discretion over work hours, and realistic

workload expectations can help employees align job demands with home realities, thereby preventing excessive resource depletion and disengagement (Allen et al., 2015; Carnevale and Hatak, 2020). Periodic check-ins that focus on workload alignment and well-being rather than performance monitoring may further help managers identify employees at risk of resource strain.

Third, the results reveal the value of fostering an organisational climate that legitimises the challenges of working from home. When employees perceive that their organisation acknowledges home-related constraints and values well-being alongside performance, they may be more willing to proactively mobilise available resources and remain engaged at work. Managers can reinforce such norms by modelling boundary-respecting behaviours, encouraging recovery and detachment outside work hours, and communicating that short-term fluctuations in engagement are expected in remote work contexts (Ipsen et al., 2021; Sonnentag, 2018).

Beyond universities, these implications apply broadly to organisations across sectors where remote or hybrid work has become a sustained mode of operation. Managers in corporate, healthcare, and service organisations may similarly benefit from shifting their focus from monitoring work intensity to enabling resource replenishment across domains. We claim that integrating well-being resources into digital collaboration platforms, offering peer-support communities, and embedding flexibility into work design can help employees sustain work engagement without encroaching on personal boundaries (Carnevale and Hatak, 2020; Wang et al., 2021).

In sum, organisations may incorporate these practices into longer-term remote-work strategies by routinely assessing employees' resource needs, tailoring support to changing home circumstances, and using digital tools to promote sustainable engagement rather than constant availability. From a conservation of resources perspective, such practices help employees protect and replenish personal resources, thereby supporting stable work engagement in increasingly boundaryless work environments (Hobfoll et al., 2018).

6. Conclusion

Drawing on the WH-R model and COR theory, this study demonstrates that home environments play a critical role in shaping employees' daily work engagement under working-from-home conditions. The findings show that home demands are negatively related to work engagement, whereas home resources are positively related, and that these effects are contingent rather than additive: home resources buffer the detrimental effects of home demands, while high home demands amplify the positive influence of home resources. By adopting a within-person daily perspective, the study highlights the dynamic, cross-domain resource processes through which home-based demands

and resources influence engagement over short time intervals. These findings advance understanding of work engagement as a life-embedded state and suggest that organisations can sustain engagement in remote work settings by implementing targeted interventions that help employees manage home demands and strengthen supportive home resources.

Availability of Data and Materials

The data are not shared because consent for data sharing was not obtained from the participants.

Author Contributions

ISC confirms sole responsibility for the conception and design of the study, data collection, analysis and interpretation drafting and revising the manuscript, and approval of the final version. The author has read and approved the final manuscript and agrees to be accountable for all aspects of the work.

Ethics Approval and Consent to Participate

Informed consent was received from the respondents.

Acknowledgment

Not applicable.

Funding

This research received no external funding.

Conflicts of Interest

The author declares no conflicts of interest.

Declaration of AI and AI-Assisted Technologies in the Writing Process

The author used ChatGPT to assist with language polishing and improving the readability of the manuscript. The tool did not generate data, analyses, or theoretical content. All content was reviewed, monitored, and approved by the author, who takes full responsibility for the accuracy, interpretation, and conclusions presented in this article.

References

- Aiken LS, West SG, Reno RR. Multiple regression: Testing and interpreting interactions. Sage: Newbury Park. 1991.
- Allen TD, Golden TD, Shockley KM. How Effective Is Telecommuting? Assessing the Status of Our Scientific Findings. *Psychological Science in the Public Interest: a Journal of the American Psychological Society*. 2015; 16: 40–68. <https://doi.org/10.1177/1529100615593273>
- Bakker AB, Demerouti E. The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*. 2007; 22: 309–328. <https://doi.org/10.1108/02683940710733115>
- Bernerth JB, Aguinis H. A Critical Review and Best-Practice

- Recommendations for Control Variable Usage. *Personnel Psychology*. 2016; 69: 229–283. <https://doi.org/10.1111/peps.12103>
- Blaziejewski S, Walker EM. Digitalization in Retail Work: Coping With Stress Through Job Crafting. *Management Revu*. 2018; 29: 79–100. <https://doi.org/10.5771/0935-9915-2018-1-79>
- Breevaart K, Bakker AB, Demerouti E, Hetland J. The Measurement of State Work Engagement: A Multilevel Factor Analytic Study. *European Journal of Psychological Assessment*. 2012; 28: 305–312. <https://doi.org/10.1027/1015-5759/a000111>
- Brislin RW. Translation and content analysis of oral and written materials. In Triandis HC, Berry JW (eds.) *Handbook of cross-cultural psychology: Methodology* (pp. 389–444). Allyn and Bacon: Boston. 1980.
- Butler AB, Bass BL, Grzywacz JG. Job demands, spousal support, and work-family balance: A daily analysis of the work-family interface. In *Handbook of families and work: Interdisciplinary perspectives* (pp. 9–30). University Press of America: Lanham. 2009.
- Butler EA, Lee TL, Gross JJ. Emotion regulation and culture: are the social consequences of emotion suppression culture-specific? *Emotion (Washington, D.C.)*. 2007; 7: 30–48. <https://doi.org/10.1037/1528-3542.7.1.30>
- Carnevale JB, Hatak I. Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. *Journal of Business Research*. 2020; 116: 183–187. <https://doi.org/10.1016/j.jbusres.2020.05.037>
- Chen IS. The Relationship Between Personal Resources and Work Engagement and the Mediating Role of Home Resources/Demands. *Management Revue*. 2024; 35: 407–441. <https://doi.org/10.5771/0935-9915-2024-4-407>
- Chiang WT. The suppression of emotional expression in interpersonal context. *Bulletin of Educational Psychology*. 2012; 43: 657–680.
- Crawford ER, Lepine JA, Rich BL. Linking job demands and resources to employee engagement and burnout: a theoretical extension and meta-analytic test. *The Journal of Applied Psychology*. 2010; 95: 834–848. <https://doi.org/10.1037/a0019364>
- De Clercq D, Rahman Z, Haq IU. Explaining Helping Behavior in the Workplace: The Interactive Effect of Family-to-Work Conflict and Islamic Work Ethic. *Journal of Business Ethics*. 2019; 155: 1167–1177. <https://doi.org/10.1007/s10551-017-3541-3>
- Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. The job demands-resources model of burnout. *The Journal of Applied Psychology*. 2001; 86: 499–512.
- Dewe PJ, O’Driscoll MP, Cary Cooper CB. *Coping with work stress: A review and critique*. Wiley-Blackwell: Chichester. 2010.
- Du D, Derks D, Bakker AB, Lu C. Does homesickness undermine the potential of job resources? A perspective from the work-home resources model. *Journal of Organizational Behavior*. 2018; 39: 96–112. <https://doi.org/10.1002/job.2212>
- Edwards JR, Rothbard NP. Mechanisms Linking Work and Family: Clarifying the Relationship between Work and Family Constructs. *The Academy of Management Review*. 2000; 25: 178–199. <https://doi.org/10.2307/259269>
- Farndale E, Metto Z, Nakhle S. Human Resource Management Systems and Work Engagement: Exploring the Impact of Employee Paternalistic Values. *Management Revue*. 2020; 31: 489–509. <https://doi.org/10.5771/0935-9915-2020-4-489>
- Frazier PA, Tix AP, Barron KE. Testing Moderator and Mediator Effects in Counseling Psychology Research. *Journal of Counseling Psychology*. 2004; 51: 115–134. <https://doi.org/10.1037/0022-0167.51.1.115>
- Friedman SD, Greenhaus JH. Work and family—allies or enemies? what happens when business professionals confront life choices. Oxford University Press: Oxford. 2000.
- González-Romá V, Schaufeli WB, Bakker AB, Lloret S. Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*. 2006; 68: 165–174. <https://doi.org/10.1016/j.jvb.2005.01.003>
- Goštautaitė B, Bučiūnienė I. Age, work engagement and individual work performance: the influence of work design [Doctoral dissertation]. *ISM Vadybos ir ekonomikos universitetas*. 2015.
- Grzywacz JG, Almeida DM, McDonald DA. Work-Family Spillover and Daily Reports of Work and Family Stress in the Adult Labor Force. *Family Relations*. 2002; 51: 28–36. <https://doi.org/10.1111/j.1741-3729.2002.00028.x>
- Gutek BA, Searle S, Klepa L. Rational versus gender role explanations for work-family conflict. *Journal of Applied Psychology*. 1991; 76: 560–568. <https://doi.org/10.1037/0021-9010.76.4.560>
- Halbesleben JRB, Neveu JP, Paustian-Underdahl SC, Westman M. Getting to the “COR”: Understanding the Role of Resources in Conservation of Resources Theory. *Journal of Management*. 2014; 40: 1334–1364. <https://doi.org/10.1177/0149206314527130>
- Hobfoll SE. Conservation of resources. A new attempt at conceptualizing stress. *The American Psychologist*. 1989; 44: 513–524. <https://doi.org/10.1037//0003-066x.44.3.513>
- Hobfoll SE, Halbesleben J, Neveu JP, Westman M. Conservation of Resources in the Organizational Context: The Reality of Resources and Their Consequences. *Annual Review of Organizational Psychology and Organizational Behavior*. 2018; 5: 103–128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- Hofstede G. *Culture’s consequences: Comparing values, behaviors, institutions and organizations across nations*. 2nd edn. Sage: Thousand Oaks. 2001.
- Ipsen C, van Veldhoven M, Kirchner K, Hansen JP. Six Key Advantages and Disadvantages of Working from Home in Europe during COVID-19. *International Journal of Environmental Research and Public Health*. 2021; 18: 1826. <https://doi.org/10.3390/ijerph18041826>

- Iverson RD, Maguire C. The Relationship between Job and Life Satisfaction: Evidence from a Remote Mining Community. *Human Relations*. 2000; 53: 807–839. <https://doi.org/10.1177/0018726700536003>
- Joseph SJ, Gonçalves AP, Paul A, Bhandari SS. Theoretical orientation of a range of psychological approaches to address mental health concerns during the COVID-19 pandemic. *Asian Journal of Psychiatry*. 2020; 53: 102221. <https://doi.org/10.1016/j.ajp.2020.102221>
- Kahn RL, Byosiere P. Stress in organizations. In Dunnette MD, Hough LM (eds.) *Handbook of industrial and organizational psychology* (Vol. 3). Consulting Psychologists Press: Palo Alto. 1992.
- Karatepe OM, Bektishi L. Antecedents and outcomes of work–family facilitation and family–work facilitation among front-line hotel employees. *International Journal of Hospitality Management*. 2008; 27: 517–528. <https://doi.org/10.1016/j.ijhm.2007.09.004>
- Koekemoer FE, Mostert K. Job characteristics, burnout and negative work-home interference in a nursing environment. *SA Journal of Industrial Psychology*. 2006; 32: 87–97. <https://doi.org/10.4102/sajip.v32i3.441>
- Kravina L, Falco A, De Carlo NA, Andreassen CS, Pallesen S. Workaholism and work engagement in the family: The relationship between parents and children as a risk factor. *European Journal of Work and Organizational Psychology*. 2014; 23: 875–883. <https://doi.org/10.1080/1359432x.2013.832208>
- Lapierre LM, Li Y, Kwan HK, Greenhaus JH, DiRenzo MS, Shao P. A meta-analysis of the antecedents of work–family enrichment. *Journal of Organizational Behavior*. 2018; 39: 385–401. <https://doi.org/10.1002/job.2234>
- Lawson KM, Davis KD, Crouter AC, O’Neill JW. Understanding work-family spillover in hotel managers. *International Journal of Hospitality Management*. 2013; 33: 273–281. <https://doi.org/10.1016/j.ijhm.2012.09.003>
- Li JC, Cheung JC, Sun IY. The impact of job and family factors on work stress and engagement among Hong Kong police officers. *Policing: an International Journal*. 2019; 42: 284–300. <https://doi.org/10.1108/pijpsm-01-2018-0015>
- Markus HR, Kitayama S. Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*. 1991; 98: 224–253. <https://doi.org/10.1037//0033-295x.98.2.224>
- Mesa Vieira C, Franco OH, Gómez Restrepo C, Abel T. COVID-19: The forgotten priorities of the pandemic. *Maturitas*. 2020; 136: 38–41. <https://doi.org/10.1016/j.maturitas.2020.04.004>
- Nasurdin AM, O’Driscoll MP. Work overload, parental demand, perceived organizational support, family support, and work-family conflict among New Zealand and Malaysian academics. *New Zealand Journal of Psychology*. 2012; 41: 38–48.
- Peeters MCW, Buunk BP, Schaufeli WB. Social interactions, stressful events and negative affect at work: A micro-analytic approach. *European Journal of Social Psychology*. 1995; 25: 391–401. <https://doi.org/10.1002/ejsp.2420250404>
- Piasna A. Standards of Good Work in the Organisation of Working Time: Fragmentation and the Intensification of Work Across Sectors and Occupations. *Management Revue*. 2020; 31: 259–284. <https://doi.org/10.5771/0935-9915-2020-2-259>
- Raudenbush SW, Bryk AS, Cheong YF, Congdon R, Du Toit M. Hierarchical linear and nonlinear modeling (HLM7). *Scientific Software International*: Skokie. 2011.
- Rodríguez-Muñoz A, Sanz-Vergel AI, Demerouti E, Bakker AB. Engaged at Work and Happy at Home: A Spillover–Crossover Model. *Journal of Happiness Studies*. 2014; 15: 271–283. <https://doi.org/10.1007/s10902-013-9421-3>
- Schaufeli WB. Applying the Job Demands-Resources model: A ‘how to’ guide to measuring and tackling work engagement and burnout. *Organizational Dynamics*. 2017; 46: 120–132. <https://doi.org/10.1016/j.orgdyn.2017.04.008>
- Schaufeli WB, Bakker AB. Werk en welbevinden: Naar een positieve benadering in de Arbeids- en Gezondheidspsychologie. *Gedrag en Organisatie*. 2001; 5: 229–253. (In Dutch)
- Schaufeli WB, Salanova M, González-romá V, Bakker AB. The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies*. 2002; 3: 71–92. <https://doi.org/10.1023/a:1015630930326>
- Schuster TL, Kessler RC, Aseltine RH, Jr. Supportive interactions, negative interactions, and depressed mood. *American Journal of Community Psychology*. 1990; 18: 423–438. <https://doi.org/10.1007/BF00938116>
- Siemsen E, Roth A, Oliveira P. Common Method Bias in Regression Models With Linear, Quadratic, and Interaction Effects. *Organizational Research Methods*. 2010; 13: 456–476. <https://doi.org/10.1177/1094428109351241>
- Sonnetag S, Fritz C. Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*. 2015; 36: S72–S103. <https://doi.org/10.1002/job.1924>
- Sonnetag S. The recovery paradox: Portraying the complex interplay between job stressors, lack of recovery, and poor well-being. *Research in Organizational Behavior*. 2018; 38: 169–185. <https://doi.org/10.1016/j.riob.2018.11.002>
- Spybrook J, Raudenbush SW, Liu XF, Congdon R, Martínez A. Optimal design for longitudinal and multilevel research: Documentation for the “Optimal Design” software. University of Michigan. 2008.
- ten Brummelhuis LL, Bakker AB. A resource perspective on the work-home interface: the work-home resources model. *The American Psychologist*. 2012; 67: 545–556. <https://doi.org/10.1037/a0027974>
- Ten Brummelhuis LL, Haar JM, Roche M. Does Family Life Help to be a Better Leader? A Closer Look at Crossover Processes From Leaders to Followers. *Personnel Psychology*. 2014; 67: 917–949. <https://doi.org/10.1111/peps.12057>
- Tims M, Bakker AB, Xanthopoulou D. Do transformational

- leaders enhance their followers' daily work engagement? *The Leadership Quarterly*. 2011; 22: 121–131. <https://doi.org/10.1016/j.leaqua.2010.12.011>
- Van Ruyseveldt J, Proost K, Verboon P. The Role of Work-home Interference and Workplace Learning in the Energy-depletion Process. *Management Revu*. 2011; 22: 151–168. <https://doi.org/10.5771/0935-9915-2011-2-151>
- Venkatesh V, Sykes TA, Chan FKY, Thong JYL, Hu PJH. Children's Internet Addiction, Family-to-Work Conflict, and Job Outcomes: A Study of Parent–Child Dyads. *MIS Quarterly*. 2019; 43: 903–927. <https://doi.org/10.25300/misq/2019/12338>
- Wang B, Liu Y, Qian J, Parker SK. Achieving Effective Remote Working During the COVID-19 Pandemic: A Work Design Perspective. *Applied Psychology = Psychologie Appliquee*. 2021; 70: 16–59. <https://doi.org/10.1111/apps.12290>
- Wayne JH, Randel AE, Stevens J. The role of identity and work–family support in work–family enrichment and its work-related consequences. *Journal of Vocational Behavior*. 2006; 69: 445–461. <https://doi.org/10.1016/j.jvb.2006.07.002>
- Xanthopoulou D, Bakker AB, Heuven E, Demerouti E, Schaufeli WB. Working in the sky: a diary study on work engagement among flight attendants. *Journal of Occupational Health Psychology*. 2008; 13: 345–356. <https://doi.org/10.1037/1076-8998.13.4.345>
- Zafari S, Hartner-Tiefenthaler M, Koeszegi ST. Flexible Work and Work-related Outcomes: The Role of Perceived Organizational Alignment. *Management Revue*. 2019; 30: 63–92. <https://doi.org/10.5771/0935-9915-2019-1-63>
- Zhang Y, Ma ZF. Impact of the COVID-19 Pandemic on Mental Health and Quality of Life among Local Residents in Liaoning Province, China: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*. 2020; 17: 2381. <https://doi.org/10.3390/ijerph17072381>