

Reaching balance under work-related extended availability: A three-way interaction of social support

Abstract

Prior research indicates that work-related extended availability leads to work-nonwork imbalance, with social resources mitigating this positive relationship. However, the combined effects of multiple resources on the relationship between WREA and work-nonwork imbalance are under-studied. This study proposes that a lack of psychological detachment mediates the relationship between WREA and work-nonwork imbalance. Additionally, we posit that supervisor support during nonwork hours strengthens the indirect effect by enhancing the positive relationship between lack of psychological detachment and work-nonwork imbalance, while family support during nonwork hours weakens this mediation. Data collected from 332 employees over six months support both the proposed two-way and three-way interaction effects. Thus, while WREA leads to work-nonwork imbalance, such a relationship is strongest in higher supervisor and lower family support conditions. This study clarifies the role of different types of social support during nonwork hours, providing practical guidance for organisations in WREA management.

Keywords: Psychological detachment; social support; three-way interaction; work-nonwork imbalance; work-related extended availability (WREA).

Key points:

1. Lack of psychological detachment mediate relation between WREA and work-nonwork imbalance
2. Supervisor support strengthen the positive indirect effect of WREA-lack of psychological detachment-work-nonwork imbalance
3. Family support weaken the positive indirect effect of WREA-lack of psychological

detachment-work-nonwork imbalance

4. The strongest positive indirect effect happens in the conjunction of higher supervisor support/lower family support

Introduction

Today's digitalisation and flexible work approaches have reshaped the global work landscape, establishing working anytime and anywhere as the new norm (Wang, Liu and Parker 2020). Once confined to set working hours, availability now spans a broader timeframe, referred to as work-related extended availability (WREA; Thörel, Pauls and Göritz 2022), emerging as an inevitable global working reality (Park, Liu and Headrick 2020). While this shift offers benefits in terms of temporal and spatial flexibility for employees (Demerouti et al. 2014), meta-analytical research demonstrates that it causes a wide range of work-nonwork interface issues, such as work-family conflict and the need for recovery (Thörel, Pauls and Göritz 2022). Drawing on the conservation of resources (COR) theory (Hobfoll 1989), we incorporate psychological detachment as a mediating mechanism to illustrate the resource loss process caused by WREA, hindering recovery and impacting work-nonwork imbalance after 12 months. To respond to the ongoing trend of WREA in the post-pandemic era (Ferhat and Samet 2023), this study seeks to enhance the understanding of its lasting effect on the individual recovery state and perceived imbalance by extending the research focus beyond short-term effects through a daily-diary research design (e.g. Müller et al. 2020).

While WREA has been viewed as unavoidable owing to the ubiquity of information and communication technologies, the idea of increasing support to alleviate its potential negative effects has garnered increasing attention. Although social support is generally viewed as a resource that directly decreases the impact of stressors, its buffering effect seems controversial (Jolly, Kong and Kim 2021). Specifically, some researchers have found that supervisor support, the most salient social support for employees (Stefanidis, Strogilos and Kyriakidou 2022), can mitigate the negative relationship between work intensity and commitment (Tian, Zhang and Zou 2014), as well as unethical work behaviour (Sguera et al. 2018), while others have reported that

supervisor support strengthens the relationship between work demands and emotional exhaustion (Tucker, Jimmieson and Bordia 2018). More importantly, research investigating the role of supervisor support has primarily been conducted in the context of the traditional workplace, with only a few exceptions addressing the effect of supervisor support during nonwork hours (e.g., McCartney et al. 2023). Drawing on social exchange theory (SET; Blau 1981), we expect that employees intend to reciprocate supervisor support by investing more effort in meeting work requirements, thereby augmenting the positive relationship between lack of psychological detachment due to WREA and work-nonwork imbalance.

Another vital form of social support for individuals is family support, which is often overlooked in organisational studies, with scant attention paid to its influence on employees (McClellan et al. 2021). This oversight may stem from the predominant conduct of work-related tasks in office settings. However, the literature on the work-family interface has highlighted the enriching role of family support by illustrating its positive impact on mood at work (McClellan et al. 2021), while meta-analytical research on the work-family interface suggests that family support enhances work engagement (Thörel, Pauls and Göritz 2022). Additionally, given the prevalence of WREA and the common occurrence of responding to work-related matters during leisure time at home, the supportive resources from family members deserve recognition. Therefore, in this study, we applied the COR theory to examine the buffering role of family support in weakening the positive relationship between the lack of psychological detachment because of WREA and work-nonwork imbalance.

Moreover, as social support does not exist in isolation (Feeney and Collins 2015), individuals typically receive multiple resources from different sources simultaneously, which may interact to shape individual experiences. In the WREA context, which implies that individuals are available to work during nonwork hours, they receive support, such as care or

work-related information, from supervisors and family members simultaneously. However, little attention has been paid to the joint moderating effect of social support from different sources on the relationship between work stressors and personal outcomes. Therefore, to improve the understanding of the role of multiple resources in the context of WREA, we draw on SET and COR theory, anticipating that the interplay between supervisor support and family support jointly moderates the relationship between WREA and work-nonwork imbalance via lack of detachment. Specifically, the mediation effect is expected to be the strongest with higher supervisor support and lower family support.

Our study contributes to the literature on work-related extended availability in several ways. First, we employ a two-wave data collection with a 12-month interval, acknowledging that within-person and between-person research designs examine the same concept from different perspectives (Ostrof and Harrison 1999). We unravel the less-understood enduring effects of WREA, addressing the current literature constraint that views it primarily as a daily episode, through a daily-diary research design.

Second, we provide insights from the growing empirical evidence by highlighting the diverse effects of social support. Drawing on the SET and the COR theory, we elucidate the moderating role of social support received from different sources (supervisors and family members). This effort to integrate diverse support offers much-needed insights into distinguishing between beneficial and detrimental support in the context of extended work availability.

Lastly, we investigate the three-way interaction effect of WREA, supervisor support, and family support on the work-nonwork imbalance, demonstrating that the positive moderating effect of supervisor support during nonwork hours is alleviated by family support. Thus, we contribute to theoretical research expansion while simultaneously providing practical methods

for promoting individual well-being in the WREA context. The proposed research framework is illustrated in Figure 1.

To summarise, we address concerns regarding the role of multiple resources to provide a more comprehensive understanding of the mechanisms through which the enduring effects of WREA on work-nonwork imbalance, via the lack of detachment, are either exacerbated or alleviated.

Work-related extended availability (WREA)

WREA refers to the employees' accessibility to work matters beyond the confines of the workplace, propelled by the widespread use of information and communication technologies (Thörel, Pauls and Göritz 2022). It entails employees formally having off-job time while remaining flexibly accessible to meet work-related demands, explicitly or implicitly expected to respond to such work requests (Thörel, Pauls and Göritz 2022). This emerging topic encompasses new forms of work in the digital economy and has gained increasing research attention. The effects of WREA manifest in three key areas. First, the mere ability to be accessible and responsive to work demands can create pressure to respond to them (Derks and Bakker 2014). Reinke and Gerlach (2022) found that the expectation to address work requirements during leisure time constitutes a source of pressure, leading to work-family conflicts. Their results demonstrated that coworkers' expectations for responses to work requirements impeded employees' life balance, reduced life satisfaction, and increased exhaustion.

Second, continuous attention to work-related demands during off-job time deprives employees of recovery opportunities. Researchers have consistently confirmed a negative association between extended work availability and detachment, a core element of the recovery experience (Dettmers 2017). The latest meta-analytical results provide evidence that insufficient

‘switching-off’ time during nonwork hours hampers the restoration of valuable resources, increasing workers’ exhaustion levels (Headrick et al. 2022). Finally, WREA, inherently an inter-domain transitional behaviour, obstructs individuals from fulfilling nonwork domain obligations (Dettmers 2017). Exposure to extended work duties transcends work-nonwork boundaries, reflecting the inability to effectively manage boundary-crossing problems, leading to work-family and role conflicts (Demerouti et al. 2014).

Overall, WREA erodes work-nonwork demarcation, pressuring individuals to navigate their cognitive and behavioural resources from other domains to respond to work requirements during nonwork hours; thus, failing to replenish the resources they need to withstand the demands over the long term. To corroborate the nature of WREA, we incorporate psychological detachment to explain the ongoing resource loss process caused by extended work availability and its impact on future work-nonwork imbalance.

WREA and resource loss through the lack of psychological detachment

Psychological detachment, the act of physically and psychologically distancing oneself from work-related demands during time off (Sonnetag and Fritz 2015), involves eliminating work-related thoughts and replenishing resources from personal domains to enhance the recovery experience (Dettmers 2017). Furthermore, detachment is identified as the most pivotal element for feeling recovered and supports personal well-being and organisational effectiveness (Steed et al. 2021). In a diary research design spanning four successive workdays, Derks and Bakker (2014) found that post-work smartphone usage worsened burnout feelings because of the lack of detachment. Allowing work requirements to persistently permeate nonwork hours deprives employees of opportunities to recharge personal resources, engage in other roles, and fulfil nonwork obligations; thus exacerbating role and work-family conflicts (Dettmers 2017).

The COR theory maintains that individuals have limited resources, such as energy, to

address various life demands. A threat or actual loss of resources, along with an imbalance between resource investment and expected gains, induces stress (Hobfoll et al. 2018). By extending this argument, we suggest that in the context of WREA, the stress linked to continuous exposure to work-related requests during nonwork hours necessitates employees to supplement their limited time and energy from other domains to address work-related requirements.

Continuous engagement in work-related thoughts impedes full presence in nonwork domains, causing tension across life domains (Ashforth, Kreiner and Fugate 2000). This hinders the release of work roles during off-job time, impacting recreation and limiting the fulfilment of other role obligations, thus intensifying work and nonwork imbalance (Dettmers 2017). In this context, detachment serves as a vital mechanism, channelling the long-term effects of extended availability on work-nonwork time imbalance. Therefore, we hypothesise the following,

H1. WREA is positively related to the lack of detachment and increases work-nonwork imbalance.

Moderating role of social support in the resource loss process

Supervisors and family support are conceptualised as resources in the literature, potentially enhancing employees' resource reservoirs and alleviating the impact of negative job demands (Bakker and Demerouti 2007). However, previous research has yielded inconsistent results regarding the moderating effects of supervisor and family support (Beehr, Bowling and Bennett 2010). Hobfoll et al. (2018) emphasised the context-dependent nature of resources, suggesting that their effectiveness varies based on stressor types and outcomes. Thus, the qualification of social support as a resource is contingent on circumstances (Hobfoll et al. 2018). In response to this notion, we draw on SET and the COR theory to understand the moderating mechanisms of social support from different domains and their interaction in shaping individual experiences in

the context of WREA.

Moderating effect of supervisor support within the WREA context

Most theories, such as the job demand-control-support model and the job demand-resource model, in the occupational stress literature identify supervisor support as a resource to cope with stress and mitigate stressors. However, meta-analytical results suggest that supervisor support in organisational settings may exacerbate as often as attenuate the negative relationship between work stressors and strain outcomes (Mathieu, Eschleman and Cheng 2019). Moreover, a recent review study pointed out that research on the effect of supervisor support, either direct or moderate, on health/occupational outcomes was predominantly conducted in the context of traditional official work hours (e.g. Jolly, Kong and Kim 2021), and the effect of supervisor support on nonwork hours was unclear. In other words, supervisor support, which is presumably supportive, may not necessarily be an effective buffer for decreasing work stressors during off-job hours.

Corroborating the above argument, we believe that the effectiveness of supervisor support depends on the context. Thus, we applied SET (Blau 1981) to explain how supervisor support exacerbates the positive relationship between lack of psychological detachment because of WREA on work-nonwork imbalance. Social exchange relationships are described as ongoing reciprocal exchanges of resources (e.g., care and help) between two parties, with exchanges being interdependent and generative of future obligations (Blau 1981). The norm of reciprocity is generally accepted in organisational literature (Cropanzano and Mitchell 2005). Consequently, the obligation to reciprocate tends to be higher among employees who receive supervisor support. In the WREA context, receiving support from supervisors during nonwork hours increases individuals' intention to repay good deeds to supervisors by directing attention and effort to work-related requirements; thus hindering rest and recovery. McIlroy, Parker and

McKimmie (2021) also highlighted the unfavourable role of supervisor support by suggesting that offering support during nonwork hours, such as providing work-related instructions, may lead to poorer employee well-being, including adverse effects and lower self-esteem.

In the WREA context in our study, supervisor support activates exhausted cognitive and affective systems, propels employees to direct attention to work-related demands (Ursin and Eriksen 2010), and deprives them of the energy needed to fulfil family obligations.

Consequently, the relationship between lack of psychological detachment and work-nonwork imbalance is heightened. Therefore, we hypothesise the following,

H2a. Supervisor support moderates the positive relationship between WREA and work-nonwork imbalance via the lack of psychological detachment. The higher the supervisor support, the stronger the positive mediation relationship.

Moderating effect of family support within the WREA context

Insufficient recovery because of extended work availability suggests a potential intrusion of work into the family domain (Demsky, Ellis and Fritz 2014). Unlike supervisor support, family support, serves as an unrelated source, reducing the sense of contradiction. Scholars find that, in situations of work-related stressors, family support not only decreases the level of work-family conflict but also efficiently facilitates resource transfer from the family to the work domain (Michel et al. 2011; Moen and DePasquale 2017).

Recent research in the context of the coronavirus disease 2019 pandemic indicates that family support can mitigate the negative impact of job insecurity on mental health and self-efficacy (Abbas, Malik and Sarwat 2021). Emotional support from family members, involving empathetic listening and guidance, helps employees manage responsibilities and cope with conflicts across domains (Ford, Heinen and Langkamer 2007). The paradoxical gain principle in

the COR theory states that gains can be more significant when resource loss is high (Hobfoll et al. 2018). In our research context, sustained engagement with work-related demands during off-job time leads to resource loss, rendering family support a valuable resource for alleviating these negative effects. Receiving support from family members, such as help with household chores or comforting individuals' negative emotions, may reduce stress and guilt and lessen responsibility for family duties (Straub, Beham and Islam 2019). Accordingly, employees can concentrate on work issues without worrying about their family duties. Moreover, Hobfoll et al. (2018) emphasised that resources in one domain can crossover to another. For instance, support from family members, such as empathy and care, can rejuvenate individuals when they are exhausted because of a lack of recovery, thereby replenishing their energy. Thus, we contend that family support mitigates the negative relationship between lack of detachment and the work and nonwork balance. Accordingly, we hypothesise the following:

H2b. Family support moderates the positive relationship between WREA and work-nonwork imbalance via the lack of psychological detachment. The higher the family support, the weaker the positive mediation relationship.

Joint moderating role of supervisor and family support

In line with previous research (e.g. Thörel, Pauls and Göritz 2022), we purported that WREA amplifies the lack of psychological detachment and exacerbates the work-nonwork imbalance. Additionally, applying SET and the COR theory, we proposed that receiving supervisor support during nonwork hours strengthens the positive mediation relationship, whereas receiving family support alleviates the effect of WREA on work-nonwork imbalance through lack of detachment. We now further examine the interplay between supervisor and family support to emphasise that, in the WREA context, employees receive multiple forms of social support emanating from different agents.

Consequently, the interaction of supervisor and family support influences the impact of WREA on work-nonwork imbalance. We expect family support to alleviate the positive moderating effect of supervisor support on the proposed mediating relationships.

Following this notion, we argue that high levels of family support mitigate the detrimental effects of obtaining high supervisory support in the WREA context. This is because individuals who acquire information and emotional support from their supervisors feel compelled to reciprocate the support by devoting extra time and energy to handle work-related demands at home, thus neglecting their family duties. This can lead to increased resource loss, as individuals may anticipate needing more effort to fulfil their family obligations after work and may experience guilt for failing to meet their family responsibilities. Supervisor support accelerates this personal resource loss by increasing anticipated physical effort and negative emotions because of unmet family obligations. However, receiving family support, such as empathy and helpful behaviours, can alleviate resource loss in such situations. This is because empathy from family members indicates that they understand individuals' need to respond to work, rather than condemning them, and are willing to assist with their family duties; thereby reducing the sense of guilt and physical workload. In summary, having higher family support mitigates the exacerbated work-nonwork imbalance resulting from higher supervisor support.

Conversely, while personal resource loss is heightened because of increased engagement with work to reciprocate supervisor support during nonwork hours, the lack of help and understanding from family members aggravates this resource loss. Family members may blame individuals for not fulfilling their family duties, leading to further resource loss owing to lower emotional and instrumental support from their families. Accordingly, we hypothesise the following,

H3a. A three-way interaction effect exists between lack of psychological detachment, supervisor support, and family support, such that the relationship between lack of

psychological detachment and work-nonwork imbalance is strongest when supervisor support is higher and family support is lower.

H3b. A three-way interaction influences the mediation effect of lack of detachment on the relationship between WREA and work-nonwork imbalance such that the mediation effect is strongest when supervisor support is higher and family support is lower.

Methods

Procedure

We used a panel study design to measure the study variables at two-time points: at the outset and after one year. The sample involved a snowball approach via Line, a free instant communication application that is widely used in Taiwan. First, we invited MBA students from two large universities in Taiwan, who, in turn, invited colleagues from their Line social network chats. Eligible participants were full-time employees.

MBA students received a recruitment advertisement outlining the study's purpose and a QR code. The advertisement informed them that their participation would involve a monetary incentive of NT \$150 (approximately US \$5) upon completion of the second wave questionnaire. Interested participants scanned the QR code and received an informed consent form ensuring confidentiality and voluntary participation.

Before the second wave, at Time 2 (T2), the participants received follow-up reminders. The fieldwork spanned from January 2020 to February 2021. Finally, we used participants' Line IDs to match responses across waves and applied an attention check item (i.e. 'Please select number 7 and then move on to the next page') to identify and exclude inappropriate respondents. To assess potential selection bias, we compared demographic and study variable scores between the final sample and dropouts. No significant differences were found, indicating no significant

selection bias due to panel loss.

Participants

At Time 1 (T1), the survey was completed by 422 individuals, of whom 355 completed the survey again at Time 2 (T2). After removing mismatched samples from the two-wave survey, we obtained a final sample of 332 participants, resulting in an overall response rate of 78.52%.

The 332 participants worked across industries, with 30% working in finance, 18.8% in healthcare, 16.7% in the consumer discretionary sector, and the others in communication services (10.5%), real estate (9.4%), information technology (4.7%), consumer staples (4.5%), industrial (4.3%), and utilities (3.1%). Additionally, female participants accounted for nearly two-thirds of all participants (64.1%). Participants were 37.88 years old on average ($SD= 6.18$), with an average job tenure of 6.33 years ($SD= 5.31$), and 82.61% holding a bachelor's degree. Among all participants, 32.76% held managerial positions and more than half of the sample (58.29%) were married, with two-thirds of married couples having more than one child (mean = 2.31, $SD= 2.11$).

Measures

WREA (Time 1)

To assess extended availability, we used four items from the availability requirements scale developed by Dettmers et al. (2017). A sample item was, 'My work tasks require me to be available for work outside of regular working hours'. Participants indicated their degree of agreement with the statements on a 5-point scale ranging from 1 (I do not agree at all) to 5 (I totally agree). The Cronbach's alpha (α) for the scale was .88 in this study, demonstrating high internal consistency.

Psychological detachment (T1)

To assess psychological detachment, we used the 4-item scale developed by Sonnentag and Fritz (2007). An example item was, ‘During after-work hours, I do not think about work at all’. Participants assessed the items on a 5-point Likert scale (1= *completely disagree* to 5= *completely agree*). We reverse-scored the original scale to express the lack of detachment, with higher scores representing higher levels of lack of detachment ($\alpha = .92$).

Supervisor support during nonwork hours (T1)

We employed a 4-item general measure of perceived social support from supervisors developed by Cousins et al. (2004). To align with the research context, items were prefaced by the phrase ‘during nonwork hours’. An example item was, ‘During nonwork hours, I can rely on my supervisor to help me out with a work problem’. Answers were based on a 7-point Likert scale (1= *strongly disagree* to 7= *strongly agree*). The scale demonstrated high internal consistency ($\alpha = .91$).

Family support during nonwork hours (T1)

We used a 4-item family support subscale (O’Driscoll, Brough and Kalliath 2004) to assess family support during nonwork hours. To align with the research context, items were prefaced with ‘How often do you receive the following support from your family during nonwork hours?’ Sample items referred to helpful information or advice, sympathetic understanding, and concern received from family members. Items were measured on a 6-point frequency response scale (ranging from 1= *never* to 6= *all the time*). The scale demonstrated high internal consistency ($\alpha = .90$).

Work-nonwork balance (T2)

We applied 3-items from Greenhaus, Ziegert and Allen's (2012) work-family balance measure. A sample item was, 'All in all, I feel my work and personal/family life is balanced'. We reverse-scored the original scale to reflect the work-nonwork imbalance variable, with higher scores representing higher levels of imbalance. Participants rated items on a 5-point Likert scale (ranging from 1= *strongly agree* to 5= *strongly disagree*). The scale demonstrated high internal consistency ($\alpha = .92$).

Control variables (T1)

We controlled for demographic variables linked to the focal variable, including gender, age, and marital status, which are related to the work-nonwork time imbalance (Casper et al. 2018). We also included seniority as it is associated with supervisor support (Lee et al. 2022).

Results

Preliminary analyses

To evaluate our measurement model's validity, we conducted a series of confirmatory factor analyses (CFA) before testing our research hypotheses. Our results indicate that the hypothesised 5-factor measurement model (i.e., WREA, lack of detachment, supervisor support, family support, work-nonwork imbalance) demonstrated good data fit ($\chi^2 = 3026.73$, $df = 611$, $p < .001$, $CFI = 0.92$, $RMSEA = 0.05$, and $SRMR = 0.06$), with all scale items loading significantly on their intended factors ($p < .001$). Comparisons with the alternative 4-factor models by combining any two of the five factors confirmed the superiority of our 5-factor model, with $\Delta\chi^2$ ranging from 158.64 to 1269.98 ($p < .001$), suggesting distinct constructs.

Descriptive analysis

Table 1 summarises the means, standard deviations, and zero-order correlations for all studied variables, indicating that WREA was positively related to lack of psychological detachment ($r = .34, p < .001$) and work-nonwork imbalance ($r = .31, p < .001$). Furthermore, lack of psychological detachment was positively related to work-nonwork imbalance ($r = .32, p < .001$). The correlation coefficients between the variables were consistent with our expectations.

Hypotheses testing

Mediating effects of lack of detachment

We used Model 4 of Process Macro in SPSS (Hayes 2013) to test Hypothesis 1, which posited the indirect effect of lack of psychological detachment between WREA and work-nonwork imbalance outcome at T2. Confidence intervals were obtained to estimate the mediation effect using bootstrapping with 2,000 iterations. As evident from Table 2, the indirect impact of WREA on work-nonwork imbalance via lack of psychological detachment was significant ($B = .0595, Boot SE = 0.0318, 95\% \text{ bias-corrected CI } [0.0046, 0.1299]$, excluding zero), thus supporting Hypothesis 1.

Moderating effect of supervisor support on the mediation relationship

To reduce the potential problem of multicollinearity, independent variables and moderators were mean-centred before creating the interaction term (Aiken and West 1991). Hypothesis 2a anticipated the moderating role of supervisor support in the second path of the mediation model (between lack of psychological detachment and work-nonwork imbalance). Our findings support the moderating role of supervisor support on the relationship between WREA and work-nonwork imbalance through the lack of psychological detachment. As illustrated in Model 3 of Table 2, the interaction term (lack of psychological detachment x supervisor support) significantly

predicted the work-nonwork imbalance ($\beta = 0.17, p < .05$). Further, evident from Table 3, presenting the bootstrapping (2,000 replications) analysis, the indirect effect of WREA on work-nonwork imbalance via lack of psychological detachment was positive and significant in high supervisor support conditions ($B = 0.9872, SE = 0.2474, 95\% CI [0.4995, 0.8749]$, excluding zero), but non-significant in low supervisor support settings ($B = 0.1789, SE = 0.2665, 95\% CI [-0.0844, 0.2665]$, including zero). The difference between the indirect effects was significant ($B_{diff} = 0.0217, SE = 0.0104, 95\% CI [0.0045, 0.0443]$, excluding zero). To illustrate the moderation pattern, we followed Aiken and West's (1991) suggestion by plotting the moderating pattern with one standard deviation above and below the mean of the predictor variables. Figure 2 reveals that the relationship between lack of psychological detachment and work-nonwork imbalance was positive when the level of supervisor support was higher (simple slope $\beta = 0.21, p < .01$), but not significant when the level of supervisor support was lower (simple slope $\beta = 0.07, ns.$). Thus, Hypothesis 2a is supported.

Moderating effect of family support on the mediation relationship

Hypothesis 2b explored the moderating role of family in the second path of the mediation model (between lack of psychological detachment and work-nonwork imbalance). As illustrated in Model 4 of Table 2, the interaction term (lack of psychological detachment x family support) significantly predicted the work-nonwork imbalance ($\beta = -0.10, p < .05$). As evident from Table 3, the bootstrapping (2,000 replications) analysis demonstrated that the indirect effect of WREA on work-nonwork imbalance via lack of psychological detachment was positive in low family support conditions ($B = 0.9518, SE = 0.2595, 95\%CI [0.4402, 0.7633]$, excluding zero), but non-significant in high family support settings ($B = 0.0280, SE = 0.2401, 95\% CI [-0.4072, 0.4432]$, including zero). The difference between the indirect effects was significant ($B_{diff} = -0.0123, SE =$

0.0061, 95%CI [-0.0259, -0.0016], excluding zero). To illustrate the moderation pattern, we followed Aiken and West's (1991) suggestion by plotting the moderating pattern with one standard deviation above and below the mean of the predictor variables. Figure 3 reveals that the relationship between lack of psychological detachment and work-nonwork imbalance was positive and significant when the level of family support was lower (simple slope $\beta= 0.24$, $p < .01$), but not significant when the level of family support was higher (simple slope $\beta= 0.05$, ns.). Thus, Hypothesis 2b is supported.

Joint moderated effect of supervisor support and family support

To test Hypotheses 3a and 3b, we ran PROCESS Model 18 (Hayes 2013), in which one moderator (supervisor support) was moderated by the other (family support), and this effect moderated the relationship between the mediator and the dependent variable. Model 5 in Table 3 illustrates that the three-way interaction of lack of psychological detachment, supervisor support, and family support significantly predicted work-nonwork imbalance ($\beta= -0.04$, $p < .01$). As evident from Table 3, the bootstrapping (2,000 replications) analysis demonstrated that the positive indirect effect was most significant in the combination of higher supervisor support/lower family support ($B= 0.1553$, $SE= 0.0589$, 95% CI [0.0028, 0.2889], excluding zero). Moreover, the indirect effect was significant when both types of support were lower ($B= 0.1364$, $SE= 0.0368$, 95% CI [0.1064, 0.1947], excluding zero). However, the positive indirect effect of WREA on work-nonwork imbalance via lack of psychological detachment was not significant in both the higher supervisor–higher family support ($B= 0.0221$, $SE= 0.0571$, 95% CI [-0.0127, 0.2479], including zero) and lower supervisor–higher family support ($B= 0.0194$, $SE= 0.0644$, 95% CI [-0.1017, 0.2013], including zero) combinations. To illustrate the three-way interaction pattern, we followed Aiken and West's (1991) suggestion of plotting the moderating

pattern with one standard deviation above and below the mean of the predictor variables. As evident from Figure 4, the strongest positive slope between lack of psychological detachment and work-nonwork imbalance was in the higher supervisor–lower family support (simple slope $\beta= 0.24$, $p< .01$) and lower supervisor–lower family support (simple slope $\beta= 0.21$, $p< .01$) conditions. However, the slope between lack of psychological detachment and work-nonwork imbalance was not significant in lower supervisor–higher family support (simple slope $\beta= 0.03$, ns.) and higher supervisor–higher family support (simple slope $\beta= 0.04$, ns.) conditions.

As recommended by Dawson and Richter (2006), we conducted a simple slope comparison of the following four combinations of the two moderators: (1) higher supervisor–higher family support, (2) higher supervisor–lower family support, (3) lower supervisor–higher family support, and (4) lower supervisor–lower family support. The results presented at the bottom of Table 3 reveal that the slope of higher supervisor–lower family support was the strongest among the four combinations. Specifically, the slope differences between (1) and (2) ($B_{diff} = -0.7101$, $t= -11.2582$, 95% CI $[-0.8343, -0.5861]$, excluding zero), between (2) and (3) ($B_{diff} = 0.7237$, $t= 11.9848$, 95% CI $[0.0732, 0.6801]$, excluding zero), and between (2) and (4) ($B_{diff} = 0.3003$, $t= 2.1960$, 95% CI $[0.0621, 0.1688]$, excluding zero) were all significant. Furthermore, the slope difference between (3) and (4) was also significant ($B_{diff} = -0.5517$, $t= -3.8701$, 95% CI $[-0.8318, -0.2724]$, excluding zero). Overall, the results revealed that family support played a critical role in mitigating the positive indirect effect of lack of psychological detachment between WREA and work-nonwork imbalance, especially when supervisor support was higher. Thus, Hypotheses 3a and 3b are supported.

Discussion

Our study contributes to understanding the mechanisms underlying the varying impacts of

diverse types of support (supervisor and family support). Our findings support the notion that expectations of extended work availability are linked to difficulties in detaching from work during nonwork hours. Consequently, this non-detachment challenge may lead to decreased work engagement and increased imbalance between work and nonwork hours (Dettmers 2017). Additionally, supervisor and family support interact with the indirect relationship between WREA, lack of detachment, and work-nonwork imbalance. The results reveal distinct patterns depending on the type of support considered: supervisor support augments the positive relationship between lack of detachment and– work-nonwork imbalance, whereas support from family members alleviates this negative relationship. Specifically, the combination of high supervisor support and low family support contributes to the strongest positive indirect effect of WREA on work-nonwork imbalance through lack of psychological detachment.

Theoretical implications

This study enhances the understanding of the effect of social support emanating from different sources in the WREA context and highlights that supervisor support accelerates resource loss, whereas family support can effectively buffer against the negative effects of the inability to detach from work-related demands during leisure time at home. Grounded in the COR theory's resource loss process, our results resonate with recent meta-analytical findings and support the exhaustion pathway model (Headrick et al. 2022), revealing that WREA prevents employees from disconnecting during nonwork hours, depleting future cognitive and motivational resources and hindering recovery, ultimately leading to lower work engagement and challenging work-life balance.

Additionally, our study advances knowledge by clarifying the buffering role of social support in response to the research call to examine the effectiveness of social support within

specific contexts (Serban et al. 2022). While most studies on buffering hypotheses regarding supervisor support have focused on regular work hours in the office (Jolly, Kong and Kim 2021), our study extends this understanding to nonwork hours at home, particularly relevant in the post-pandemic era. Our argument that supervisor support during nonwork hours is an infringement of the nonwork domain corresponds to the findings of McCartney et al. (2023). To deepen the knowledge of how supportive resources become ineffective, we applied SET to highlight that during the off-job time, employees receiving informational or emotional support to facilitate work may feel obligated to reciprocate. Consequently, employees devote more effort to work-related tasks to repay good deeds to their supervisors, thereby increasing the extent of the work-nonwork imbalance. This result is also in line with the notion emphasised by Hobfoll et al. (2018) that support may not always be helpful and that the need to embed support within its context and parameters for effectiveness is critical.

Our results also underscore the role of family support, which has been overlooked in the organisational literature. Our findings indicate that support from family members forms an effective buffer against stress caused by work during nonwork hours, especially when supervisors keep intruding on nonwork hours. This study corroborates the family-work-enrichment literature (McClellan et al. 2021) by highlighting that family support improves psychological well-being when work requirements encroach on the family domain. The interplay between supervisor and family support further highlights the significance of clearly demarcating work and nonwork domains (Kerman, Korunka and Tement 2022). During nonwork hours at home, high supervisor support propels individuals to reconnect to work, exacerbating the challenge of fulfilling their family obligations, whereas understanding and proactive assistance from family members can effectively buffer against feelings of guilt and physical effort associated with unfulfilled family roles. Our results echo the research call from the latest review

on social support (Jolly, Kong and Kim 2021) to highlight that social support does not exist in isolation but interacts with others to shape individual experiences. This context-focused approach differentiates between various sources of support, determining whether they are helpful or harmful.

Practical implications

Our findings offer practical implications for managers and organisations. Our process-based model details the adverse effects of extended work availability. The coronavirus disease 2019 pandemic has accelerated the shift to teleworking, establishing it as the new norm (Park, Liu and Headrick 2020). We found that post-work ICT use requires employees to consume personal resources, attention, and energy to focus on work-related issues, without a recovery period, impacting the work-life balance over the long term. We recommend that organisations enact policies and practices to promote a healthy work culture by limiting off-job ICT use, encouraging management practices that promote detachment, and establishing open communication. Prioritising employee well-being, which is critical for sustained positive work attitudes (Clinton, Conway and Sturges 2017), is paramount.

Additionally, the pressure to respond to work demands outside regular hours can transform previous supportive actions from supervisors into stress-inducing rather than stress-alleviating factors. This is partly exacerbated by the need for employees to redirect their attention to work, reactivating neuro-psychological systems exhausted during regular working hours and hindering the release of work-related thoughts during their leisure time (Ursin and Eriksen 2010).

Organisations should be mindful of the unintended consequences of supervisor support, recognising that well-intentioned assistance may prove detrimental in certain circumstances. Providing employees with decision latitude, such as allowing dedicated ‘me-time’ after work,

empowers employees to regain control over their work and nonwork domains, preventing feelings of inadequacy (Mathieu, Eschleman and Cheng 2019).

Limitations and future research

Despite our promising findings, this study has certain limitations. First, the differentiation between emotional and instrumental support, as suggested by Deelstra et al. (2003), could enhance our understanding. However, recent meta-analytical results reveal a high correlation ($\rho = .79$) between these forms of support (Mathieu, Eschleman and Cheng 2019). This suggests the importance of tailoring supportive behaviours based on specific situations and recipients rather than adopting a broad approach, applicable to supervisors or workplace support providers. Future studies should incorporate both roles into the same model.

Second, our reliance on self-reported measures introduces the possibility of common method variance and coefficient inflation (Podsakoff et al. 2003). Nevertheless, the results of our CFAs indicate minimal inflation and the inclusion of nonlinear effects that capture buffering effects is less susceptible to method bias (Aiken and West 1991). Future research could employ a supervisor-employee dyadic design to cross-validate our findings, and also replicate the study across diverse cultural and national contexts in that the supervisor-subordinate reciprocate relations might differ in diverse cultural norm (Miao et al. 2020).

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