

# A Comprehensive Review of Work Connectivity Behavior After-Hours and Its Impact on Employees

Wing-cheung TANG

MCGI, CMGR, FCMI, FIMA, DBA Candidate, Globalnxt University, Malaysia

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## ABSTRACT

Work Connectivity Behavior After-Hours (WCBA) has become a prominent feature of the modern digital work environment, substantially reshaping how employees engage with their job responsibilities beyond standard hours. This article offers an extensive overview of the academic literature on WCBA, integrating studies from 2014 to 2025 to elucidate its theoretical underpinnings, empirical findings, and practical consequences. The analysis highlights four principal theoretical approaches (Conservation of Resources Theory, the Job Demands-Resources Model, Boundary Theory, and the Effort-Recovery Model) each providing unique perspectives on the impacts of after-hours connectivity on employees. The evidence suggests that WCBA presents a paradox: it may improve perceived job control and flexibility but also risks exhausting self-regulatory capacities, hindering psychological detachment, and fostering emotional exhaustion, burnout, and intentions to leave. Important moderating factors include individual characteristics such as core self-evaluations, personality traits, and segmentation preferences, alongside contextual elements like job complexity, social support, and organizational norms. Interventions designed to restrict after-hours connectivity, such as right-to-disconnect policies, seem to achieve only modest success unless accompanied by modifications in organizational culture and management practices. The review ends by pointing out important gaps in the research, such as unanswered questions about causality, cross-cultural applicability, technological nuances, and the effectiveness of interventions. It also suggests areas for future research.

**Keywords:** job performance, psychological detachment, right to disconnect, work connectivity behaviour after-hours, work-life boundary

## INTRODUCTION

In the evenings, weekends, or even vacations. Organizations often promote this ongoing connectivity, valuing responsiveness and adaptability as assets in a fast-paced global economy (Chat-Uthai, Wanarat & Kanitpong, 2019). Nevertheless, the ramifications of a sustained connectivity culture on employee well-being and work-life balance are complex (Carreri, Dordoni & Poggio, 2022) and not yet thoroughly clarified. This article offers a systematic review of the academic literature on WCBA, consolidating studies published in the last decade. The review aims to tackle four fundamental inquiries: (a) What theoretical frameworks have been utilized to comprehend WCBA, and what insights do they yield? (b) What are the recorded effects of WCBA on employees' health, attitudes, and actions? (c) In what situations do these effects get stronger or weaker? (d) What proof is there that interventions meant to cut down on after-hours connectivity work? The review aims to provide scholars and practitioners with a comprehensive understanding of the current empirical landscape by examining these questions and identifying significant gaps for future research.

The review is set up like this: Section 2 describes how the relevant literature was found and put together. Section 3 talks about four main theoretical models (Conservation of Resources, Job Demands-Resources, Boundary Theory, and Effort-Recovery) that help us understand how WCBA works. Part 4 sorts of the results into groups based on well-being, attitudes, and behaviors. Section 5 investigates the moderate factors on both the individual and the contextual levels. Section 6 looks at interventions and points out that policy changes don't usually have much of an effect unless they are followed by changes in culture. Section 7 points out problems with the methods used and areas where more research is needed. Section 8 gives ideas for future studies, such as how to figure out

what causes something, how to make sure that results are valid across cultures, and how to test the effectiveness of interventions. Section 9 talks about how this affects people who are involved. Finally, Section 10 brings together important information about the ongoing problems with connecting after hours.

## METHODOLOGY

With an emphasis on publications from 2014 to 2025, this review incorporates peer-reviewed empirical and theoretical research on work connectivity behavior outside of regular working hours. Using combinations of keywords like work connectivity behavior after-hours, after-hours work communication, technology-assisted supplemental work, right to disconnect, ICT demands, and technostress, several academic databases (PsycINFO, Web of Science, Scopus, and PubMed) were queried as part of the search strategy. Key source citation tracking, both forward and backward, was added to this.

Articles that satisfied the following requirements were accepted: (a) they looked at work-related connectivity or communication that took place outside of regular business hours; (b) they offered empirical evidence or significant theoretical insights; (c) they were published in English; and (d) they appeared in peer-reviewed journals. To provide the necessary context, the review includes foundational works in addition to recent studies.

In total, 78 articles satisfying these criteria were identified and analyzed. Due to variations in research methodologies, underlying theories, and measured outcomes, a narrative synthesis was chosen over meta-analytic techniques. This approach facilitates the integration of findings across diverse methodological backgrounds while preserving the particularities of individual studies.

### Theoretical Foundations

To investigate how WCBA affects workers, researchers have used a variety of theoretical frameworks. The Job Demands-Resources Model, Boundary Theory, Effort-Recovery Model, and Conservation of Resources Theory are the four viewpoints that are most cited among these. Even though each framework offers a different perspective, taken as a whole, they help us understand the underlying mechanisms more thoroughly.

### Conservation of Resources Theory

Hobfoll's Conservation of Resources (COR) theory (Hobfoll, 2011) is a frequently used framework in studies on work connectivity beyond hours (WCBA). According to the theory, people actively work to obtain, preserve, and protect valuable resources, which could include material possessions, character attributes, circumstances, or energies. Stress arises when these resources are endangered, exhausted, or when significant investment in resource acquisition is unsuccessful.

COR theory has been applied to WCBA to explain how after-hours connectivity can result in what Hobfoll called "resource loss spirals." Employee participation in work-related activities outside of regular business hours interferes with the restoration of resources by taking up time that is normally set aside for rest and recuperation. According to Quan et al. (2025), daily exposure to WCBA initiates a sequential pattern of resource depletion: work alienation, a psychological detachment from work, occurs the next day after an initial state of ego depletion marked by a brief decline in self-regulatory capacity. In the end, this sequence leads to decreased organizational citizenship behaviors and task performance. The finding that resource losses typically have a bigger impact than comparable resource gains (a dynamic Hobfoll known as the loss spiral) is a key component of COR theory. Due to a reduced reservoir of resources available to meet ongoing challenges, initial resource losses, such as those resulting from after-hours demands, make people more vulnerable to subsequent losses. This viewpoint provides insightful information about how even small after-hours work commitments can add up overtime and result in noticeable drops in wellbeing and performance (Li, Shi, & Zheng, 2025).

### Job Demands-Resources Model

Research on WCBA has made extensive use of the dual-pathway framework provided by the Job Demands-Resources (JD-R) model (Demerouti & Bakker, 2011). According to this model, job characteristics fall into two

categories: resources, which help achieve goals, reduce demands, and foster personal growth, and demands, which call for constant physical or mental effort and are associated with specific physiological and psychological costs.

Within the JD-R framework, WCBA makes a particularly strong case because, depending on employee perceptions and experiences, it can function as both a resource and a demand at the same time. The study by Chen and Zhang (2025) directly tests this dual-pathway concept, showing that WCBA positively affects both in-role and extra-role behaviours by enhancing psychological job control, corresponding to the resource pathway, while also producing negative effects through increased ICT anxiety, representing the demand pathway. According to their findings, WCBA positively influenced in-role and extra-role behaviors through enhanced psychological job control while also exerting negative effects via increased ICT anxiety.

Rasulova and Tanova (2025) extend this viewpoint by applying the dual-pathway logic to turnover intentions. According to their findings, workers who see technology as a demand report higher levels of burnout and more plans to quit, while those who see it as a resource report lower levels of burnout and higher job engagement. These outcomes imply that employees' subjective interpretations of technology (seeing it either as a facilitator of flexibility or as a source of constant attention demands) may be as consequential as the objective requirements for connectivity.

### **Boundary Theory**

Boundary theory (Desrochers & Sargent, 2004) explores how individuals construct, uphold, and navigate boundaries between distinct life domains, especially work and family. It differentiates between boundary permeability, which refers to the extent elements from one domain enter another, and boundary flexibility, indicating how adaptable boundaries are across time and space. People hold varying preferences regarding the segregation or integration of their work and non-work lives.

Because digital technologies tend to increase both permeability and flexibility, work connectivity behavior after-hours (WCBA) presents a significant challenge to upholding these boundaries. Employees cross boundaries by psychologically and behaviorally transitioning from their non-work roles back to work when they respond to work communications outside of regular business hours. Boundary theory is used by Hu, Kuang and Lu (2024) to evaluate how preference for work-family segmentation affects the effects of WCBA. They discover that people who prefer a distinct division between work and family have more trouble psychologically disengaging from after-hours connectivity. To put it another way, people who prefer clear boundaries are more negatively impacted by forced connectivity's increased permeability than people who are more at ease integrating domains.

Similarly, Kao et al. (2024) use boundary theory in their research on Taiwanese border police. They observe that the nature of law enforcement work inherently complicates boundary control: unlike in more flexible occupations, police officers often cannot choose when to disconnect from work due to job demands, rendering them more susceptible to stress arising from blurred distinctions between professional and personal life.

### **Effort-Recovery Model**

The effort-recovery model (Bennett et al., 2025) addresses the psychophysiological mechanisms through which employees recover from work-related demands. According to this model, exerting effort at work generates load reactions, which are acute physiological and psychological responses that typically reverse during periods away from work. Recovery is facilitated when individuals are no longer confronted with work demands, permitting these load reactions to diminish. Work connectivity beyond allotted hours (WCBA) potentially undermines this recovery by prolonging exposure to work demands during times intended for rest (Wentz et al., 2020). Work-related issues continue to drain employees' resources when they are unable to attain psychological detachment during non-working hours. This prolonged depletion makes it difficult to reduce the stress and emotional strains brought on by job demands, which results in significant physical and mental tiredness as well as ongoing stress that can lead to emotional tiredness. According to this framework, a key element linking WCBA to its effects is psychological detachment, which is defined as the mental disengagement from work tasks (Zong, Han & Li,

2022) during non-work periods. When continuous connectivity obstructs this detachment, the recovery cycle is disrupted, causing load reactions to build up over multiple days and potentially resulting in chronic strain.

## Consequences of Work Connectivity Behaviour After-Hours

Existing literature reports various consequences linked to WCBA, affecting aspects such as well-being, attitudes, and behaviors. While many of these impacts tend to be adverse, some studies have begun to identify positive outcomes that emerge under certain circumstances.

### Well-Being Outcomes

(a) Emotional exhaustion (Thompson et al., 2020) is one of the most consistently observed outcomes of work connectivity beyond hours (WCBA). As the central aspect of job burnout, emotional exhaustion reflects a depletion of emotional and physical resources. WCBA and emotional exhaustion have been found to be positively correlated in numerous studies conducted in a variety of occupational settings. The reason for this relationship is that WCBA interferes with workers' recuperation. Employees in retail environments are unable to sufficiently recover their resources when they stay connected to work after regular business hours, which greatly contributes to emotional exhaustion. Psychological detachment plays a mediating role here: WCBA impairs detachment (Li et al., 2025), and the consequent inability to recover from work demands gradually leads to emotional exhaustion.

(b) Burnout and after-hours connectivity have been studied more broadly. For instance, Rasulova and Tanova (2025) found that workers who perceive technology as a job requirement that necessitates continuous attention and response typically have higher levels of burnout, which is associated with a higher intention to quit. Similarly, Kao et al. (2024) reported that after-hours requests from supervisors raise job stress among police officers, which subsequently contributes to burnout.

(c) Job stress (Wu et al., 2021) functions both because of WCBA and as a mechanism connecting it to further outcomes. Due to continuous connectivity enabled by communication technologies, employees find it difficult to fully disengage from work, hindering the recovery of resources expended during the workday and escalating negative emotions and stress. Kao et al. (2024) demonstrated that supervisors' after-hours work requests via communication software intensified job stress, which in turn adversely affected employees' quality of life and overall well-being.

(d) The broader concept of well-being is also adversely affected by WCBA. The gradual depletion of psychological resources and consequent declines in well-being are caused by the blurring of boundaries between work and personal life as well as the encroachment of work demands into time meant for family, rest, and leisure. After-hours messaging had a negative impact on well-being, according to research on Taiwan's border police (Chiang et al., 2025), but positive team interactions and social support seemed to mitigate these effects.

### Work Attitudes

(a) An important attitudinal outcome that has a big impact on organizations is turnover intention. The relationship between after-hours connectivity and turnover intentions among Azerbaijani government employees was examined by Rasulova and Tanova (2025). Their findings are consistent with a mediated model: when technology is viewed as a resource, it improves engagement, which lowers turnover intentions; when it is perceived as a demand, it increases burnout, which in turn raises turnover intentions. This bifurcated pathway emphasizes that attitudes are shaped by employees' perceptions of technology (Tenakwah et al., 2022), not just its use.

(b) Although job satisfaction has been less directly explored, several studies suggest its relevance through associated factors. The stress, exhaustion, and work-family conflict related to work connectivity (Giunchi, Peña-Jimenez & Petrilli, 2023) beyond hours are likely to lower job satisfaction. Nonetheless, further research focusing explicitly on this relationship would enhance understanding in this area.

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## Behavioral Outcomes

(a) Job performance has become a central focus in recent research on work connectivity beyond the workday (WCBA), with scholars extending their attention from well-being to concrete work behaviors. Quan et al. (2025) presents one of the most detailed studies available, examining how daily WCBA influences task performance and organizational citizenship behaviour (OCB) on the following day. By employing experience sampling with 94 full-time employees over ten consecutive workdays, they observed that daily WCBA increases ego depletion on the same day, which then contributes to work alienation the next day, ultimately diminishing both task performance and OCB. This result is notable because it reveals a cross-day spiral of resource loss: the impact of after-hours connectivity does not remain confined to the day it occurs but rather carries over to impair functioning the next day. As the authors highlight, daily WCBA triggers a resource depletion cycle that eventually compromises job performance on the subsequent day.

(b) Research adopting the Job Demands-Resources (JD-R) framework has simultaneously addressed in-role and extra-role behaviours. Chen and Zhang (2025) demonstrated that WCBA influences both types of behaviour through two opposing pathways: a positive effect via enhanced psychological job control and a negative effect through increased anxiety related to information and communication technology (ICT). The former captures the flexibility and autonomy offered by connectivity, which may help employees better manage their tasks. The latter reflects the pressures associated with constant connectivity and ICT demands.

(c) Although counterproductive work behaviours (Ulbeigi & Iplik, 2025) have been associated with WCBA in earlier studies, this area has received comparatively less focus in recent literature. For instance, Quan et al. (2025) identified links between WCBA and counterproductive behaviours. Similarly, Wang, Huang and Zhu (2025) connected WCBA to time theft, while Qu et al. (2025) reported effects on procrastination. These observations suggest that the resource depletion accompanying WCBA may lead not only to decreased positive behaviors but also to an increase in negative ones.

(d) There seems to be a complicated, possibly non-linear relationship between work engagement and WCBA. Although Quan et al. (2025) focused more on psychological states than performance outcomes, they discovered that WCBA predicts next-day work engagement in a non-linear fashion. This pattern probably illustrates the dual nature of WCBA: while excessive involvement may lower engagement due to resource exhaustion, moderate levels may increase engagement by preserving employees' connection and access to information.

## Boundary Conditions and Moderators

Employees do not uniformly encounter WCBA, and its impact varies across different settings. Recent studies have notably advanced understanding by pinpointing individual and contextual variables that influence how WCBA affects outcomes.

## Individual Differences

(a) Core self-evaluations (CSE) (Bipp, Kleingeld & Ebert, 2019), defined as individuals' fundamental beliefs regarding their competence, self-worth, and capacity to influence their environment, play a moderating role in the relationship between work connectivity behaviour after-hours (WCBA) and ego depletion. Quan et al. (2025) observed that employees with higher CSE tend to experience fewer adverse effects resulting from daily after-hours connectivity. This may be because such individuals perceive these demands as less threatening or possess greater confidence in their coping abilities.

(b) More broadly, personality traits significantly affect individuals' reactions to after-hours connectivity. Kao et al. (2024) reports that various personality characteristics can either amplify or mitigate the positive and negative impacts of supervisors' after-hours work requests via communication software (SWRUCS) on job stress. While the specific influences of distinct traits require further elucidation, this evidence highlights the role of dispositional factors in shaping susceptibility to connectivity demands.

(c) Within the framework of boundary theory, work-family segmentation preference emerges as a critical individual difference. Hu et al. found that employees exhibiting a strong preference for maintaining clear separation between work and family domains suffer more pronounced negative effects of WCBA on psychological detachment. When individuals with high segmentation preferences (Park, Fritz & Jex, 2011) are compelled to engage in after-hours connectivity, the disruption of their boundary expectations intensifies difficulties mentally disengaging from work.

(d) Information and communication technology (ICT) anxiety, representing discomfort or apprehension related to technology use, acts both as a mediator and a potential moderator in this context. Chen and Zhang (2025) demonstrate that WCBA elevates ICT anxiety, which subsequently detrimentally influences behavior. Consequently, individuals prone to technology-related anxiety may be especially vulnerable to the negative consequences associated with after-hours connectivity demands.

(e) Coping strategies (Ogueji et al., 2022) significantly shape how employees respond to the stress imposed by after-hours connectivity. Kao et al. (2024) report, based on research involving police officers, that approach-oriented coping strategies tend to alleviate such effects, whereas avoidance-oriented strategies may exacerbate them. These findings suggest the potential benefit of training programs aimed at fostering effective coping mechanisms to reduce the negative outcomes of WCBA.

### **Job and Organizational Factors**

(a) Job complexity influences the relationship between work connectivity behaviour after-hours (WCBA) and ego depletion. Higher job complexity tends to exacerbate the negative effects of daily after-hours work connectivity, according to Quan et al. (2025). Increased depletion may result from tasks requiring more cognitive effort because they use more self-regulatory resources. Furthermore, these intricate tasks frequently make it difficult to put them aside, which prolongs cognitive engagement with work demands and impedes recuperation.

(b) In this situation, social support has been shown in numerous studies to be a mitigating factor. According to Kao et al. (2024), social support and teamwork are essential components in reducing police officer job stress and its negative effects. Support received from supervisors, colleagues, and the organization seems to buffer the negative impact associated with after-hours connectivity requirements. Their cross-level analysis further indicates that organisational and supervisory support (Saadeh & Suifan, 2020) plays a significant role in reducing employee's job stress across hierarchical levels.

(c) The interpretation of WCBA and its ensuing consequences are greatly influenced by organizational norms and culture. Even with formal policies permitting detachment, employees frequently struggle to disengage in settings where after-hours connectivity is regarded as normative and expected. The systematic review by Nilsen et al. (2026) emphasizes that without concurrent organizational enforcement and changes in cultural attitudes, policy measures alone are unlikely to result in significant reductions in harmful connectivity behaviors. This emphasizes the idea that WCBA is not just an individual act but is integrated into larger organizational systems.

(d) In this area, supervisory practices have an impact. Supervisors' requests for after-hours work are specifically examined by Kao et al. (2024), who demonstrate that these can increase job stress levels. The timing, frequency, and content of such supervisory communications, as well as the implicit expectations they convey regarding employee availability outside of regular work hours, are likely to have an impact.

### **Technology Factors**

(a) Perceptions of technology (specifically whether employees regard technology as a demand or a resource) appear to moderate the relationship between connectivity and outcomes. The findings of Rasulova and Tanova (2025) indicate that these perceptions influence engagement, burnout, and turnover intentions, suggesting that addressing how technology is appraised could be as crucial as interventions focused on technology use itself.

(b) Although the communication medium used in work connectivity beyond the office (WCBA) may affect its outcomes, this aspect has received relatively little focused investigation. The studies reviewed mention a variety

of platforms (Wang & Zhao, 2022) (including email, messaging applications such as LINE, WhatsApp, and WeChat, as well as organizational tools like WeCom and DingTalk) but do not provide systematic comparisons of their distinct impacts. It is plausible that different media carry varying implicit expectations regarding response time, introduce differing levels of interruption, or offer unequal capacities for managing boundaries between work and personal life.

### **Interventions and Policy Responses**

Concerns regarding the impact of after-hours connectivity have led to calls for interventions at both organisational and national levels, including legislation that grants employees the right to disconnect. Nilsen et al. (2026) conducted the first systematic review assessing interventions and policies aimed at limiting expectations of availability and connectivity beyond working hours, thereby providing important evidence on their effectiveness.

The review included twelve studies (total N = 2306) that met the inclusion criteria, comprising one national policy, three organizational guidelines on disconnection, one program targeting supervisors, and seven employee-centered programs. Despite half of the quantitative studies being randomised controlled trials, the overall methodological quality was considered weak.

The results show that the effectiveness of policies is limited: many organisational and national-level initiatives showed little to no impact, and any advantages depended on how well they were implemented and how well individual and environmental factors worked together. A single study's analysis of national right-to-disconnect laws revealed no discernible benefits when they were put into practice without corresponding organisational adjustments.

Programs that concentrated on supervisors and multi-component interventions showed better results. Although effect sizes remained small, programs that provided flexibility and combined boundary management with other components produced modest but significant improvements in detachment, boundary control, and work-life balance. This implies that rather than relying solely on the implementation of policies, effective interventions require a multi-level strategy that addresses organisational, supervisory, and individual factors.

The review's conclusion emphasizes the crucial role of cultural transformation: without active organisational engagement and cultural changes, policies alone are unlikely to lessen the detrimental effects of after-hours connectivity. Multi-level interventions that consider individual boundary preferences, supervisory behaviours, and prevailing norms must be developed and rigorously evaluated.

These findings have significant ramifications even though the evidence base is still small. Disconnection policies alone won't solve the problem; supervisor expectations, availability norms, and a workplace culture that currently prioritises constant responsiveness must all be addressed concurrently. Moreover, modifying interventions to account for individual variations in boundary preferences may improve their efficacy beyond standard methods.

### **Limitations of the Existing Literature**

Despite significant advancements in the understanding of work connectivity beyond the workplace (WCBA), the strength of conclusions that can be drawn is tempered by a number of noteworthy limitations in the body of existing literature.

(a) Research design is a widespread problem. Most of the research uses cross-sectional methods, which make it difficult to determine causality. Longitudinal and experience sampling approaches are becoming more popular, but they are still not widely used. While objective measures capturing connectivity behavior or performance outcomes are rarely used, the widespread use of self-report instruments also raises questions about common method bias.

(b) Sample characteristics limit how broadly the results can be applied. Research frequently concentrates on industries like technology, retail, and law enforcement, as well as national contexts, particularly China and Taiwan. It's still unclear if these findings apply to other cultural contexts where work, communication, and

boundary management norms might be very different. Nilsen et al.'s (2026) systematic review emphasizes that the existing body of evidence is heterogeneous, limited, and methodologically constrained.

(c) Inconsistencies in measurement make it more difficult to integrate results from different studies. WCBA has been operationalized using several indicators, such as the frequency of communication after hours, the amount of time spent on work-related tasks outside of regular business hours, the perception of availability expectations, and attitudes regarding connectivity. These varied operational definitions probably represent similar but different constructions that are difficult to compare and synthesize.

(d) A more nuanced understanding may be obscured by literature's predominant focus on negative outcomes. Even though new dual-pathway models recognize possible benefits, the majority of empirical research is still focused on negative outcomes. There is still a lack of research on the circumstances in which WCBA could produce real benefits rather than just lessening harm. Research on interventions is another crucial gap.

(e) Despite widespread concern about after-hours connectivity and calls for organisational policy responses, only a small number of intervention studies (twelve in the systematic review) meet inclusion criteria, and these studies generally exhibit weak methodological rigor. Consequently, evidence-based recommendations for organisations attempting to manage WCBA are presently limited.

(f) The temporal dynamics surrounding WCBA are not yet fully understood. Longer-term processes (like the accumulation of effects, possible adaptation mechanisms, and the timing of recovery) have not received enough attention, despite Quan et al.'s (2025) demonstration of effects that developed over several days. Longitudinal studies that follow workers over long stretches of time, like months or years, are lacking in the field.

### **Future Research Directions**

Building on the current body of evidence and its recognized shortcomings, several directions for further investigation stand out as particularly significant.

(a) More rigorous methodological approaches are required for the clarification of causal mechanisms (Cornelissen & Werner, 2025). A promising approach is to use experience sampling techniques that capture within-person differences in connectivity, available resources, and outcomes. Although such designs face practical and ethical challenges, experimental designs that manipulate connectivity demands while controlling confounding factors could improve causal inference.

(b) A workable substitute is provided by quasi-experimental strategies that take advantage of inherent differences in connectivity regulations or advancements in technology. It is especially important to conduct research in various national and cultural contexts. Concerns have been raised regarding the applicability of findings to societies with different cultural norms regarding work, family, and communication because many recent studies concentrate on East Asia. It would be beneficial to conduct comparative studies to determine how cultural factors (such as individualism versus collectivism, long-term orientation, and uncertainty avoidance) affect the impacts of work connectivity outside of the typical workday. Understanding would also be enhanced by looking at how national policies and labor laws influence the importance and results of after-hours connectivity.

(c) It is necessary to pay attention to influences unique to technology. Different communication platforms may cause different psychological reactions. For instance, people may view email as less intrusive than instant messaging, and they may have different expectations about organization-specific tools than they do about personal messaging apps. Both theoretical frameworks and real-world applications could benefit from examining whether the medium used for after-hours connectivity alters its effects. Continuous research in this field is still crucial given the quick advancement of communication technologies, including artificial intelligence tools that could automate or improve after-hours communication.

(d) A more methodical approach is needed to investigate constructive ways that work connectivity outside of the schedule might improve functioning. The job demand-resources framework's dual-pathway models provide a conceptual basis, but there is still a dearth of empirical data defining the circumstances in which resource gains

exceed demands. Studies focusing on individual characteristics, job features, and organisational factors that promote positive outcomes could guide efforts to optimize benefits while minimizing adverse effects. From a practical standpoint, research on the effectiveness of interventions is particularly critical.

(e) The current evidence for interventions remains limited and methodologically weak, leaving organisations without robust, evidence-based strategies to manage after-hours connectivity. There is an urgent need for rigorous evaluations of multi-level interventions that address individual competencies, supervisory behavior, organisational culture, and potentially national policy frameworks. Such studies should not only assess overall efficacy but also examine whom and under which circumstances these interventions prove effective, considering person-environment fit.

(f) To comprehend the dynamic nature of work connectivity beyond the schedule over extended periods, longitudinal research is required. There are still concerns about whether workers adjust to this kind of connectivity or whether extended exposure causes resource depletion to worsen. Timing of targeted interventions would be informed by determining critical periods or thresholds at which negative effects become persistent. Long-term research tracking workers over several months or years would yield important information to shed light on these trends.

(g) The evidence would be more robust if objective outcome measures other than self-reports were included. Subjective reports could be supplemented by organizational data such as performance records, absenteeism statistics, and turnover rates, as well as physiological markers of stress and recuperation and behavioral measures of technology use. A more thorough understanding of the effects of after-hours work connectivity would result from this multi-method approach.

(h) Future research would benefit from employing longitudinal designs to capture changes over time, while also exploring differences across cultural contexts. Additionally, the development of rigorously validated measurement tools remains essential. Organizations are advised to implement explicit policies governing after-hours communication, offer training programs for managers, and encourage the use of strategies that facilitate effective boundary management.

## **Practical Implications**

While more research is needed, the current evidence base supports several practical effects for businesses, managers, and workers.

(a) Despite the potential benefits of greater flexibility and control, research shows that after-hours connectivity costs organizations a lot in terms of employee performance and well-being. Businesses must determine what their actual connectivity requirements are. They must distinguish between connectivity that truly permits flexibility and connectivity that merely satisfies cultural norms regarding constant availability. Organizational regulations or right-to-disconnect clauses that limit connectivity after hours are unlikely to be effective unless there is a cultural shift. It is necessary to teach supervisors how to set an example of good connectivity behavior and how to communicate their expectations. Interventions with multiple parts that deal with norms, how supervisors do their jobs, and how people manage their own boundaries show the most promise. The moderating role of job complexity (Saleh, Hasan & Jawad, 2023) indicates that organizations should be especially mindful of connectivity requirements in cognitively demanding positions. When employees must do complicated work after hours, the costs in terms of resources may be very high, and the chance that it will affect their performance the next day may be even higher.

(b) Supervisors can see that communications that happen after hours have more meaning than just what they say. How supervisors send messages sets standards and makes it clear what they expect in terms of availability. Supervisors should think about when, how often, and what they say in after-hours communications, keeping in mind the unspoken demands they make. They should also make it clear that employees do not have to respond to messages after hours right away, unless there is a real emergency that requires it. The protective function of social support indicates that supervisors who help and cultivate supportive team atmospheres can mitigate certain adverse effects of essential after-hours connectivity.

(c) For employees, the evidence highlights the significance of boundary management. Different people have different preferences for how to segment their work, so employees should be helped to set boundaries in ways that work for them. People who really want to be alone may need more active ways to manage connectivity, like turning off notifications, setting clear response expectations, and making sure there are times when technology is not allowed. Fostering employees' confidence and sense of agency may provide protective benefits, as evidenced by the finding that core self-evaluations mitigate negative effects. However, more research is required to determine whether these beliefs can be strengthened through training or support.

The dual-pathway results show that employees' assessments of technology are important. By emphasizing how adaptable and controllable technology is rather than how much attention it appears to require, interventions that assist staff in viewing technology as helpful rather than demanding may tip the scales in favor of favorable outcomes. This is not to argue that objective connectivity requirements are insignificant, but rather that subjective assessment offers a potential point of leverage for intervention.

## CONCLUSION

After-hours work connectivity behavior represents a fundamental change in the employee-work relationship. This change is driven by organisational demands for responsiveness and adaptability, made possible by technological advancements, and viewed by employees in complex and often contradictory ways. According to the reviewed academic literature, WCBA is a two-edged sword: it can increase psychological job control and flexibility, which promotes engagement and performance, but it can also deplete self-regulatory resources, prevent psychological detachment, and result in emotional exhaustion, burnout, and plans to quit.

Additional viewpoints for understanding these effects are provided by theoretical frameworks from organisational psychology and occupational health (Conservation of Resources Theory, the Job Demands-Resources Model, Boundary Theory, and the Effort-Recovery Model). When taken as a whole, they demonstrate how connectivity outside of work hours causes spirals of resource loss, operates through two distinct pathways for demand and resources, complicates boundary maintenance, and halts recovery processes. These effects are influenced by individual differences in core self-evaluations, personality traits, segmentation preferences, and coping mechanisms, as well as job characteristics like complexity and contextual factors like social support and organisational norms.

But there are still big gaps. The evidence base is methodologically constrained, culturally restricted, and unexpectedly deficient regarding intervention efficacy. Policies at the national and organizational levels that aim to limit after-hours connectivity have little effect when they are put into place without changes to culture and supervision. The circumstances in which WCBA could be genuinely advantageous remain inadequately defined. Long-term dynamics have not been studied much.

The constant ping of after-hours connectivity is not likely to go away. Digital technologies will keep changing, work will keep taking over personal time, and the line between work and personal life will keep getting thinner. Researchers must produce robust evidence to inform organizational practices and policies, while practitioners need to establish environments where connectivity fosters rather than drain energy, and support rather than diminishes resources. To meet these challenges, we need to keep paying attention to the complicated, multi-level, and constantly changing phenomenon of work connectivity behavior after hours.

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