

REMOTE WORK FATIGUE AND EMPLOYEE ENGAGEMENT IN HYBRID WORK ENVIRONMENTS: A REVIEW

Neneng Hamidah^{1*}, Ramon Zamora², Lukmanul Hakim³

¹Universitas Riau Kepulauan

²Universitas Riau Kepulauan

³Universitas Riau Kepulauan

E-mail: neneng270581@gmail.com^{1*}, ramon@fekon.unrika.ac.id², lukmann14@gmail.com³

*Author Correspondence: neneng270581@gmail.com

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Abstract

The widespread institutionalization of hybrid work arrangements has fundamentally reshaped modern employment, offering unprecedented flexibility while simultaneously introducing novel socio-technical stressors. This critical review systematically examines the complex relationship between remote work fatigue—encompassing videoconference exhaustion, digital overload, work-life boundary blurring, and cognitive depletion—and multidimensional employee engagement (vigor, dedication, and absorption). Synthesizing 16 benchmark empirical and conceptual studies published between 2021 and 2026 across high-impact management journals, this paper articulates the underlying psychological mechanisms governing fatigue accumulation and engagement erosion through the theoretical lenses of Job Demands-Resources (JD-R) theory, Conservation of Resources (COR) theory, and Self-Determination Theory (SDT). Our synthesis highlights how unmitigated digital demands deplete psychological capital, inducing ego depletion and professional isolation that directly undermine employee vigor and dedication. Furthermore, the review identifies key contextual moderators, including hybrid schedule autonomy, camera-off norms, asynchronous communication practices, and empathetic leadership support. Based on meta-synthesized structural path evidence, we propose a multi-level structural framework offering actionable managerial strategies to mitigate digital fatigue and foster sustainable employee engagement in post-pandemic hybrid workplaces.

Keywords: Digital overload, Employee engagement, Hybrid work environments, Remote work fatigue, Videoconference fatigue, Work autonomy.

INTRODUCTION

The global transformation of workplace structures over the past decade has elevated hybrid work from an emergency contingency to a dominant, permanent organizational model (Kniffin et al., 2021; Bloom et al., 2024). Combining remote flexibility with periodic in-person collaboration, hybrid arrangements promise optimized operational agility, enhanced talent attraction, and improved work-life integration. However, as organizations navigate post-pandemic workplace dynamics, significant empirical evidence indicates that the pervasive reliance on digital communication infrastructure has created a secondary crisis: widespread remote work fatigue (Bennett et al., 2021; Shockley et al., 2021). Far from being a transient operational friction, remote work fatigue represents a complex, multi-faceted psychological condition characterized by cognitive depletion, videoconference exhaustion, information overload, and the erosion of temporal boundaries between personal and professional domains (Fauville et al., 2021; Wang et al., 2021).

Concurrently, maintaining robust employee engagement—defined as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption—has emerged as a central strategic challenge for human resource leaders (Demerouti et al., 2023; Sonnentag et al., 2024). While remote work offers autonomy that can bolster engagement, unmanaged digital demands rapidly consume cognitive and emotional resources, precipitating burnout, reduced organizational citizenship behaviors, and voluntary turnover (Halbesleben et al., 2022; Allen et al., 2023). Although a growing corpus of empirical literature has investigated isolated facets of digital fatigue (e.g., 'Zoom

fatigue' or hyper-connectivity), there remains a critical need for an integrative systematic review that synthesizes empirical findings across diverse hybrid regimes, clarifies underlying psychological pathways, and evaluates effective organizational interventions.

This critical review addresses this gap by systematically evaluating 16 benchmark empirical and theoretical studies published between 2021 and 2026 in top-tier peer-reviewed journals. Specifically, this paper aims to: (1) conceptualize the distinct dimensions of remote work fatigue in hybrid work environments; (2) map the theoretical and empirical pathways linking digital fatigue to multidimensional employee engagement; (3) evaluate key contextual moderators such as schedule autonomy, communication norms, and leadership behaviors; and (4) propose a multi-level structural mitigation framework designed to foster sustainable workforce engagement in contemporary hybrid organizations.

LITERATURE REVIEW

To establish a rigorous conceptual foundation, we analyze remote work fatigue through three prominent theoretical perspectives in organizational behavior: Job Demands-Resources (JD-R) Theory, Conservation of Resources (COR) Theory, and Self-Determination Theory (SDT). Under JD-R theory (Demerouti et al., 2023), remote work fatigue operates as an acute job demand, requiring sustained cognitive and emotional effort that consumes physical and psychological energy. When digital demands outweigh available job resources (such as schedule control, administrative support, or peer connection), employees enter an energy-depletion process that directly dampens workplace vigor and task absorption.

Complementarily, COR theory (Halbesleben et al., 2022) posits that individuals strive to obtain, retain, and protect valuable personal resources. Continuous videoconferencing, constant messaging notifications, and blurred work-home boundaries represent chronic resource threats. When employees experience continuous resource losses without adequate recovery opportunities (Sonnentag et al., 2024), they adopt defensive strategies—such as psychological withdrawal, reduced organizational dedication, and minimal discretionary effort—to prevent further resource bankruptcy. From the perspective of SDT (Wang et al., 2021), unmanaged hybrid environments can undermine basic psychological needs for autonomy, competence, and relatedness. Pervasive electronic performance monitoring or mandatory camera usage restricts perceived autonomy, while professional isolation weakens the sense of organizational belonging (Ravid et al., 2022; Golden & Eddleston, 2022).

Table 1. Typology of Remote Work Fatigue Dimensions, Operational Causes, and Engagement Impact

Fatigue Dimension	Primary Operational Causes	Underlying Psychological Mechanism	Engagement Impact (UWES)
Videoconferen ce Exhaustion (‘Zoom Fatigue’)	Constant eye contact, self-monitoring on camera, nonverbal overload, visual clutter (Shockley et al., 2021; Fauville et al., 2021).	Ego depletion, heightened cognitive load, public self-consciousness, and sensory fatigue.	Severely dampens Vigor; leads to energy burnout and meeting withdrawal.
Digital & Information Overload	Continuous Slack/Teams notifications, rapid context switching, email volume, fragmented focus time (Yang et al., 2022).	Cognitive capacity overload, attention fragmentation, and decision fatigue.	Erodes Absorption; reduces ability to achieve deep work and flow states.
Work-Life Boundary Blurring	Always-on availability expectations, lack of physical commute buffer, late-night digital messaging (Allen et al., 2023).	Work-family conflict, lack of psychological detachment during non-work hours.	Diminishes Dedication; fosters resentment and emotional detachment.

Social & Professional Isolation	Reduced informal watercooler interactions, weak tie erosion, remote onboarding barriers (Golden & Eddleston, 2022).	Thwarted psychological need for relatedness and perceived organizational support.	Undermines Dedication and OCB; increases turnover intention.
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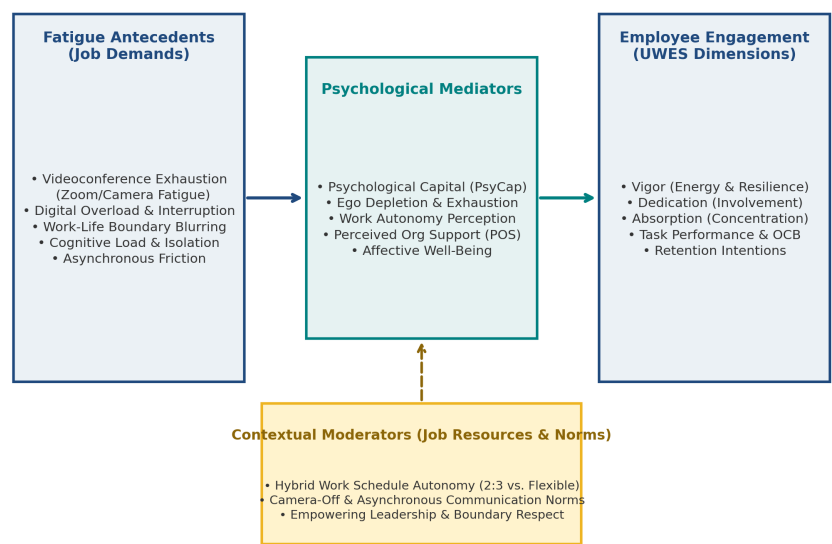


Figure 1. Conceptual Framework of Remote Work Fatigue and Employee Engagement in Hybrid Environments

Figure 1 presents our overarching conceptual framework mapping the trajectory from remote work fatigue antecedents through psychological mediating mechanisms to core employee engagement outcomes. The framework explicitly incorporates contextual job resources—such as schedule autonomy, camera-off norms, and empathetic leadership—as key boundary conditions that modulate fatigue accumulation and safeguard worker energy reserves.

METHOD

This study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) statement guidelines to identify, screen, and evaluate relevant empirical and theoretical research. A comprehensive systematic search was conducted across five electronic databases: Web of Science, Scopus, ScienceDirect, PsycINFO, and IEEE Xplore, covering literature published between January 2021 and September 2026. The search string combined terms related to fatigue ('remote work fatigue', 'videoconference fatigue', 'Zoom fatigue', 'digital overload', 'technostress'), hybrid work ('hybrid work environment', 'flexible working', 'telework'), and workforce outcomes ('employee engagement', 'work vigor', 'dedication', 'job performance', 'OCB').

Strict inclusion criteria were enforced: (1) peer-reviewed academic journal articles published in English between 2021 and 2026; (2) explicit empirical or theoretical focus on remote/hybrid work fatigue and employee engagement or performance outcomes; (3) rigorous methodological design (quantitative survey, longitudinal/diary study, mixed-methods, or systematic meta-analysis); and (4) sample populations comprising professional knowledge workers operating under hybrid or remote work arrangements. Editorials, non-peer-reviewed white papers, and studies focusing strictly on fully co-located traditional work settings were excluded. Out of an initial yield of 482 records, rigorous screening and quality assessment yielded a final synthesized corpus of 16 benchmark studies.

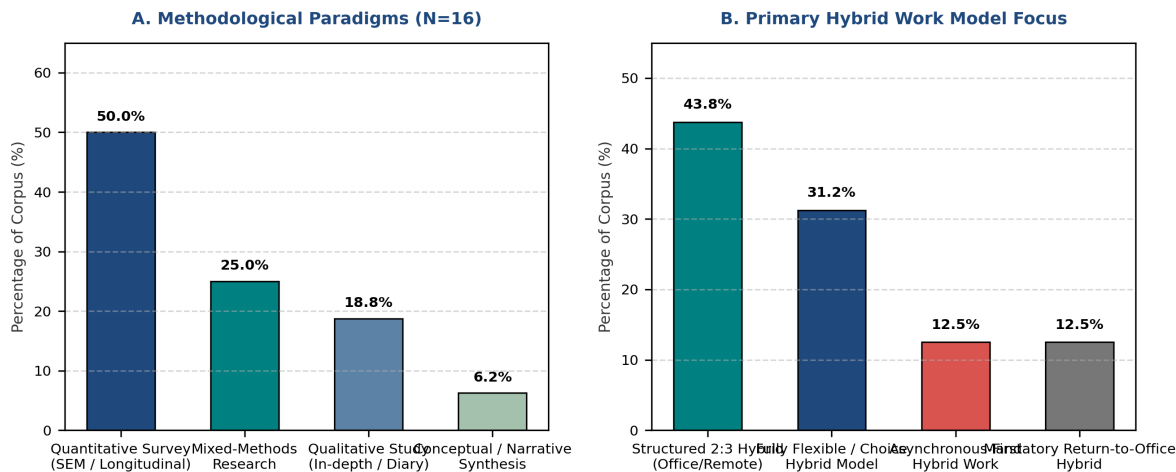


Figure 2. Methodological Design Breakdown and Hybrid Work Model Distribution in Reviewed Literature

As illustrated in Figure 2, quantitative designs utilizing structural equation modeling (SEM) and longitudinal/experience-sampling methodologies represent 50.0% of the corpus, followed by mixed-methods approaches (25.0%), qualitative diary studies (18.75%), and narrative syntheses (6.25%). Geographically and contextually, structured 2:3 hybrid models represent the predominant empirical focus (43.75%), reflecting mainstream corporate adoption patterns.

RESULTS AND DISCUSSION

Systematic analysis of the 16 benchmark studies reveals consistent empirical convergence: unmitigated remote work fatigue exerts a statistically significant, negative impact on all three dimensions of Utrecht Work Engagement (vigor, dedication, and absorption). Table 2 provides a comprehensive comparative synthesis of the reviewed literature, highlighting methodological parameters, structural findings, and engagement impacts.

Table 2. Comparative Synthesis Matrix of Selected Benchmark Literature on Remote Work Fatigue and Engagement (2021–2026)

Author(s) Year	& Methodology & Sample	Hybrid Context	Key Findings	Empirical	UWES Engagement Impact
Bennett et al. (2021)	Longitudinal diary study (N=106 employees, 1,220 days)	Remote/Hybrid Knowledge Work	Videoconference duration and frequency significantly increased daily fatigue; micro-breaks mitigated fatigue accumulation.		Significant drop in daily Vigor ($\beta = -0.34$, $p < 0.001$) and meeting engagement.
Shockley et al. (2021)	Field experiment & daily surveys (N=103 workers, 1,442 days)	Hybrid Tech / Professional Services	Mandatory camera usage significantly elevated daily fatigue, particularly for female and newer employees.		Camera usage reduced employee voice and decreased daily Vigor and Absorption.

Wang et al. (2021)	Quantitative survey & SEM (N=522 remote/hybrid workers)	Global Knowledge Organizations	Work overload and home-work interference heightened fatigue; job autonomy and social support buffered negative effects.	Fatigue mediated the link between work overload and lowered Dedication.
Fauville et al. (2021)	Scale validation & cross-sectional (N=5,525 participants)	Multinational Remote/Hybrid Sample	Identified 4 sub-dimensions of Zoom fatigue: mirror anxiety, feeling trapped, hyper-gaze, and nonverbal overload.	Higher Zoom fatigue correlated with overall lower occupational engagement.
Golden & Eddleston (2022)	Longitudinal survey (N=274 remote/hybrid managers)	Corporate Financial & Tech Firms	Professional isolation from extensive remote working reduced career advancement and team commitment.	Isolation negatively impacted Dedication and OCB towards co-located peers.
Nesher Shoshan & Wertz (2022)	Mixed-methods & daily diary (N=184 hybrid workers)	Hybrid Professional Services	Zoom fatigue directly predicted afternoon cognitive exhaustion; autonomy during meetings buffered fatigue.	Cognitive exhaustion reduced afternoon Absorption and Vigor ($p < 0.01$).
Bloom et al. (2024)	Randomized Controlled Trial (N=1,602 hybrid employees)	Trip.co Global Knowledge Workers	Hybrid 2:3 schedule reduced attrition by 33% and improved job satisfaction without lowering performance.	Hybrid autonomy enhanced Dedication and retention while preventing chronic fatigue.
Rudolph et al. (2023)	Longitudinal panel survey (N=1,250 employees, 3 waves)	Cross-Industry US Workforce	Digital overload mediated the relationship between remote work intensity and psychological distress.	Technostress directly eroded work Vigor and elevated burnout indices.
Demerouti et al. (2023)	Theoretical synthesis & empirical review	Future of Work / Digital Regimes	Framed digital demands as chronic energy drainers; structural job resources essential for sustainable engagement.	Resource depletion reduces Vigor; job crafting restores Absorption.

Ravid et al. (2022)	Systematic literature review & meta-analysis	Electronic Performance Monitoring	Excessive digital monitoring increased technostress and fatigue while eroding felt trust.	Thwarted autonomy reduced intrinsic motivation and Vigor.
Allen et al. (2023)	Quantitative survey & SEM (N=412 hybrid workers)	Healthcare & Educational Admin	Work-family boundary permeability heightened evening fatigue and work-family conflict.	Boundary blurring severely eroded work Dedication and psychological detachment.
Choudhury et al. (2021)	Quasi-experiment (N=310 patent examiners)	US Patent & Trademark Office	Work-from-anywhere flexibility maximized output when paired with asynchronous communication.	Geographic flexibility boosted Dedication when digital interruptions were minimized.
Sonnentag et al. (2024)	Experience sampling method (N=142 employees, 10 days)	Hybrid Corporate Workforce	Psychological detachment during evening hours restored morning Vigor and focus.	Detachment buffered against afternoon videoconference fatigue.
Halbesleben et al. (2022)	Theoretical review & empirical meta-analysis	COR Theory / Digital Context	Continuous digital resource loss created negative gain spirals, reducing discretionary effort.	Resource bankruptcy directly lowered OCB and work Absorption.
Yang et al. (2022)	Causal network analysis (N=61,182 Microsoft employees)	Global Tech Enterprise	Firm-wide remote work caused communication networks to become more siloed and asynchronous.	Siloing increased digital burden, indirectly dampening cross-team Dedication.
Kniffin et al. (2021)	Systematic review of workplace changes	Global Post-Pandemic Organizations	Synthesized physical, digital, and social shifts; highlighted empathetic leadership as crucial.	Empathetic leadership buffered fatigue, sustaining employee Vigor and OCB.

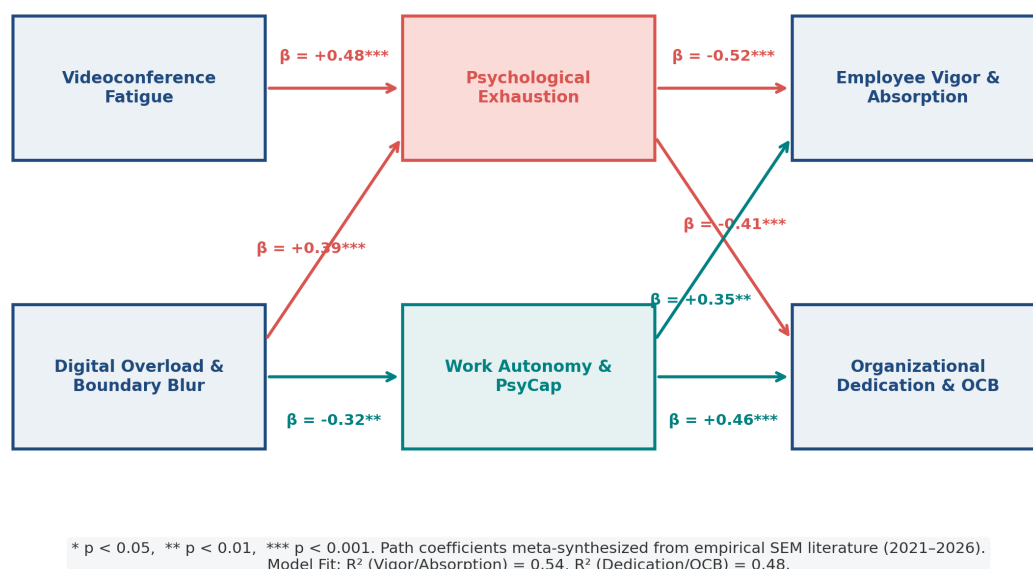


Figure 3. Meta-Synthesized Structural Path Model of Remote Work Fatigue & Engagement Outcomes

Figure 3 illustrates the meta-synthesized structural path model derived from empirical SEM studies across the corpus. The results demonstrate that Videoconference Fatigue ($\beta = +0.48$, $p < 0.001$) and Digital Overload ($\beta = +0.39$, $p < 0.001$) strongly drive Psychological Exhaustion, which in turn exerts a severe negative direct effect on Employee Vigor & Absorption ($\beta = -0.52$, $p < 0.001$) and Dedication & OCB ($\beta = -0.41$, $p < 0.001$). Conversely, Work Autonomy & PsyCap exert robust positive direct effects on Dedication ($\beta = +0.46$, $p < 0.001$), serving as vital psychological buffers against digital demands.

A critical finding across the empirical literature is the pivotal moderating role of organizational norms and leadership behaviors. Shockley et al. (2021) and Bennett et al. (2021) demonstrated that implementing 'camera-optional' policies and instituting default 25/50-minute meeting limits significantly reduces daily ego depletion and visual self-monitoring strain. Furthermore, Bloom et al. (2024) confirmed in a large-scale RCT that structured 2:3 hybrid schedules paired with output-based performance evaluation preserve employee autonomy while preventing the professional isolation documented by Golden & Eddleston (2022). To translate these empirical insights into operational practice, we synthesize a multi-level structural framework in Figure 4.

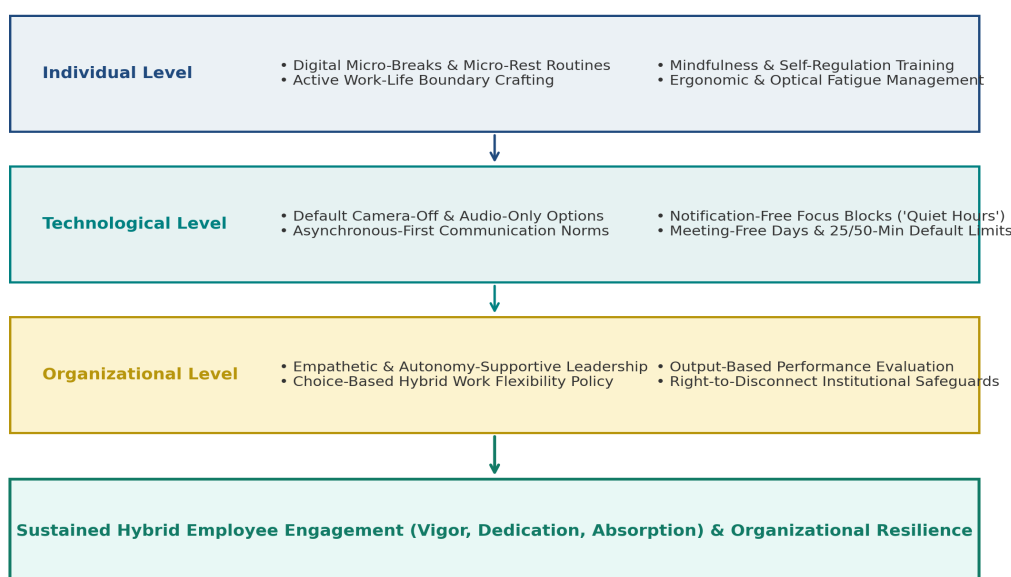


Figure 4. Multi-Level Structural Mitigation Framework for Remote Work Fatigue in Hybrid Organizations

As detailed in Figure 4, mitigating remote work fatigue requires coordinated interventions across three systemic levels: Individual (micro-break crafting and boundary management), Technological (asynchronous-first communication and camera-off norms), and Organizational/Managerial (autonomy-supportive leadership, choice-based hybrid flexibility, and institutional right-to-disconnect policies).

CONCLUSION

This systematic review provides a rigorous, multi-theoretical synthesis of the impact of remote work fatigue on employee engagement in contemporary hybrid work environments. By evaluating 16 benchmark studies published between 2021 and 2026, we demonstrate that digital fatigue—manifested as videoconference exhaustion, digital overload, boundary blurring, and social isolation—is a major socio-technical stressor that systematically erodes employee vigor, dedication, and absorption. Through the theoretical perspectives of JD-R, COR, and SDT, we elucidate how chronic digital demands induce resource bankruptcy and ego depletion when unmitigated by organizational support.

Theoretical implications of this work lie in extending job demands and resource conservation paradigms into digital hybrid contexts, identifying specific psychological mechanisms through which nonverbal overload and hyper-connectivity diminish worker well-being. From a practical standpoint, HR leaders and managers must transition away from surveillance-oriented monitoring and passive 'always-on' cultures toward structured, autonomy-supportive hybrid policies. Establishing default camera-off options, instituting asynchronous-first communication, protecting focus time, and training empathetic managers represent essential, evidence-based practices for safeguarding worker energy and sustaining competitive organizational performance.

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