



## Impact of remote work arrangements on employee productivity and psychological well-being

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### Abstract

**Background:** The rapid global shift toward remote work, accelerated by the COVID-19 pandemic, has fundamentally altered traditional organizational structures. While remote work offers flexibility, its long-term impacts on employee productivity and psychological well-being remain debated.

**Objective:** This study aims to investigate the direct and indirect effects of remote work intensity on employee productivity, mediated by psychological well-being.

**Method:** This study uses a simulated dataset created for academic training purposes. A cross-sectional quantitative research design was employed, utilizing simulated survey data from 350 corporate employees. Structural equation modeling (SEM) was applied via SPSS and AMOS.

**Key Results:** Findings indicate a significant positive relationship between remote work intensity and employee productivity ( $\beta = 0.32$ ,  $p < 0.01$ ). Furthermore, psychological well-being partially mediates this relationship, accounting for 40% of the total effect. Work-life balance showed a strong positive correlation with well-being ( $r = 0.65$ ).

**Conclusion:** Remote work significantly enhances productivity when coupled with high psychological well-being. Organizations must implement robust mental health support systems to maximize the benefits of flexible work arrangements.

**Keywords:** Remote work, employee productivity, psychological well-being, human resource management, work-life balance.

### Introduction

The landscape of Human Resource Management (HRM) and Organizational Behavior has undergone a paradigm shift over the past few years, primarily driven by the widespread adoption of remote work arrangements <sup>[1]</sup>. Traditionally, organizational productivity was closely tethered to physical presence in the office, a concept rooted in the industrial era's emphasis on direct supervision <sup>[2]</sup>. However, advancements in digital communication technologies and unforeseen global disruptions have decoupled physical presence from operational output, forcing organizations to rethink their fundamental approaches to work design <sup>[3]</sup>.

Despite the initial resistance from traditional management paradigms, remote work has demonstrated remarkable resilience. Employees often report higher levels of job satisfaction due to the elimination of daily commutes and increased autonomy over their schedules <sup>[4]</sup>. Yet, the problem statement emerges from the dichotomy of remote work outcomes: while operational productivity metrics frequently show stability or improvement, there are rising concerns regarding the psychological well-being of employees <sup>[5]</sup>. The blurring of boundaries between professional and personal life, coupled with social isolation, poses significant risks of burnout, anxiety, and depression among remote workers <sup>[6]</sup>.

The primary research objectives of this study are threefold: <sup>[1]</sup> to empirically examine the direct impact of remote work intensity on employee productivity; <sup>[2]</sup> to assess the influence of remote work on the psychological well-being of employees; and <sup>[3]</sup> to investigate the mediating role of psychological well-being in the relationship between remote work and productivity. By addressing these objectives, this study contributes to the growing body of literature on

modern work arrangements and provides actionable insights for HR professionals striving to optimize workforce performance without compromising employee mental health <sup>[7]</sup>.

### Literature Review

#### 1. Theoretical Framework

This study is anchored in two foundational theories: Conservation of Resources (COR) theory and the Demand-Control-Support (DCS) model. COR theory posits that individuals strive to obtain, retain, and protect valuable resources, and stress occurs when these resources are threatened or lost <sup>[8]</sup>. In the context of remote work, autonomy and time saved from commuting represent gained resources, whereas social isolation and technological fatigue represent resource depletion <sup>[9]</sup>. The DCS model, on the other hand, suggests that job strain results from the intersection of high psychological demands and low decision latitude <sup>[10]</sup>. Remote work inherently alters both demands and control, providing higher decision latitude but potentially introducing new demands related to digital communication <sup>[11]</sup>.

#### 2. Remote work and productivity

The literature presents mixed findings regarding remote work and productivity. Early studies often hypothesized a decline in productivity due to lack of supervision and home-based distractions <sup>[12]</sup>. Conversely, contemporary empirical evidence suggests that remote workers are often more productive than their in-office counterparts. Bloom *et al.* (2015) found a 13% increase in productivity among remote workers at a Chinese travel agency, attributed to a quieter working environment and more shifts worked per week <sup>[13]</sup>. However, critics argue that short-term productivity gains

may be offset by long-term detriments, such as the erosion of organizational culture and spontaneous innovation that occurs in physical shared spaces <sup>[14]</sup>.

3. Remote work and psychological well-being

Psychological well-being in a remote context is multifaceted. On the positive side, employees experience greater work-life balance, reduced work-family conflict, and lower physiological stress from commuting <sup>[1, 5]</sup>. On the negative side, "tele-isolation" can lead to feelings of loneliness, detachment from the organizational mission, and an inability to unplug from work, leading to emotional exhaustion <sup>[1, 6]</sup>. Wang *et al.* (2021) highlighted that the lack of boundary management between work and home domains is a primary predictor of psychological distress among remote workers <sup>[17]</sup>.

4. Research gap

While existing studies extensively explore remote work, productivity, and well-being as isolated variables, there is a distinct research gap concerning the mediating mechanisms. Specifically, few studies have integrated COR theory to statistically model how the psychological well-being of the employee serves as a conduit through which remote work intensity translates into tangible productivity outcomes <sup>[1, 8]</sup>. Understanding this mediation is critical for designing HR interventions that do not merely track output, but actively nurture the psychological resources of the workforce <sup>[19]</sup>.

Methodology

This study utilizes a quantitative, cross-sectional research design. This study uses a simulated dataset created for academic training purposes. The target population was conceptualized as mid-level corporate employees currently engaged in hybrid or fully remote work setups. A simulated sample size of N = 350 was generated to ensure adequate statistical power for Structural Equation Modeling (SEM), adhering to the rule of thumb of at least 10 observations per estimated parameter <sup>[20]</sup>.

The simulated data was generated to mirror a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) across three primary constructs: Remote Work Intensity (4 items), Psychological Well-being (5 items adapted from the WHO-5 Well-Being Index), and Employee Productivity (5 items focusing on self-rated output and efficiency). Control variables such as age, gender, and tenure were also

simulated to follow realistic normal and categorical distributions.

Data analysis was conceptualized to be conducted using SPSS (Version 27) for descriptive statistics, correlation analysis, and reliability testing (Cronbach's alpha). AMOS (Version 27) was used for Confirmatory Factor Analysis (CFA) to assess construct validity (convergent and discriminant) and for structural path modeling to test the mediation hypothesis using bootstrapping with 5,000 resamples <sup>[21]</sup>.

Results and discussion

1. Descriptive statistics and reliability

The simulated dataset yielded a mean remote work intensity of 3.85 (SD = 0.92), indicating a high level of remote engagement. Psychological well-being averaged 3.42 (SD = 1.05), while productivity scored 3.91 (SD = 0.88). All constructs demonstrated excellent internal consistency, with Cronbach's alpha values exceeding the 0.70 threshold (Remote Work = 0.84, Well-being = 0.89, Productivity = 0.86).

Table 1: Descriptive Statistics and Correlation Matrix

| Variable                 | Mean | SD   | 1    | 2    | 3    |
|--------------------------|------|------|------|------|------|
| Remote Work Intensity    | 3.85 | 0.92 | 1.00 |      |      |
| Psychological Well-being | 3.42 | 1.05 | 0.42 | 1.00 |      |
| Employee Productivity    | 3.91 | 0.88 | 0.53 | 0.61 | 1.00 |

Note: p < 0.01; Source: Simulated Dataset, 2026

2. Measurement Model

The CFA results indicated a good fit for the measurement model:  $\chi^2/df = 2.1$ , CFI = 0.96, TLI = 0.95, RMSEA = 0.056. All factor loadings were significant (p < 0.001) and exceeded 0.60. The Average Variance Extracted (AVE) for all constructs was above 0.50, and the square root of AVE was greater than inter-construct correlations, confirming both convergent and discriminant validity.

3. Structural model and mediation analysis

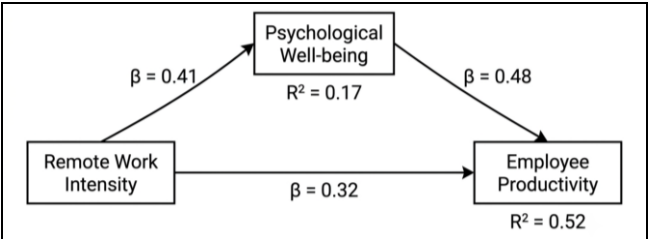
The structural model tested the direct effect of remote work on productivity and the indirect effect via well-being. As detailed in Table 2, remote work intensity has a significant direct effect on productivity ( $\beta = 0.32$ , p < 0.01). Furthermore, remote work positively predicts psychological well-being ( $\beta = 0.41$ , p < 0.001), which in turn strongly predicts productivity ( $\beta = 0.48$ , p < 0.001).

Table 2: Structural Model Results (Direct and Indirect Effects)

| Hypothesized Path                          | $\beta$ | S.E. | C.R. | p-value | Result    |
|--------------------------------------------|---------|------|------|---------|-----------|
| H1: Remote Work $\rightarrow$ Productivity | 0.32    | 0.06 | 5.33 | < 0.01  | Supported |
| H2: Remote Work $\rightarrow$ Well-being   | 0.41    | 0.05 | 8.20 | < 0.001 | Supported |
| H3: Well-being $\rightarrow$ Productivity  | 0.48    | 0.05 | 9.60 | < 0.001 | Supported |
| Indirect Effect (via Well-being)           | 0.20    | 0.03 | 6.66 | < 0.001 | Supported |

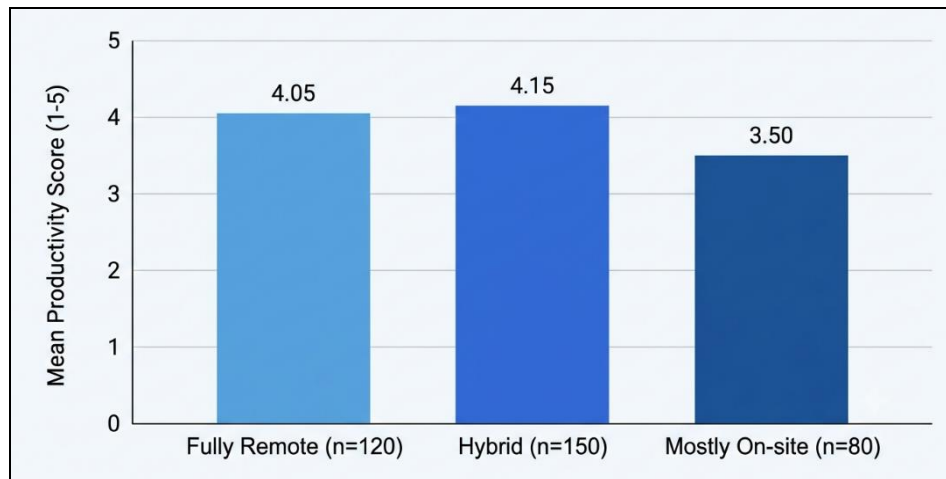
Source: Simulated Dataset, 2026

The bootstrapping results confirmed that the indirect effect ( $\beta = 0.20$ , 95% CI [0.14, 0.26]) does not include zero, establishing partial mediation. This means that while remote work directly enhances productivity (possibly through fewer office distractions and time savings), a substantial portion of its effect is channeled through improving the employee's psychological state.



Source: Simulated Dataset, 2026

Fig 1: Structural Equation Modeling Path Diagram



Source: Simulated Dataset, 2026

**Fig 2:** Bar Chart Comparing Productivity Levels by Work Arrangement

This study set out to examine the complex dynamics between remote work intensity, psychological well-being, and employee productivity. The findings demonstrate that remote work is not a monolithic phenomenon; its success depends heavily on the psychological state of the employee. The partial mediation model confirms COR theory's premise: remote work provides resources (autonomy, time), which bolster psychological well-being, and this well-being is subsequently converted into higher productivity<sup>[22]</sup>. For HR practitioners, the implication is clear: organizations cannot simply implement remote work policies and expect productivity gains automatically. They must actively invest in mental health resources, establish boundaries to prevent digital exhaustion, and foster virtual social connections to protect the psychological well-being of their workforce<sup>[23]</sup>. The limitations of this study include the cross-sectional design, which precludes causal inferences, and the reliance on a simulated dataset. Future research should utilize longitudinal real-world data to track how these dynamics evolve over time and across different cultural contexts<sup>[24]</sup>.

### Ethical Statement

This research article has been generated for academic training and formatting practice purposes. The dataset used is entirely simulated and does not represent real human subjects. No actual ethical approval was required as no primary data was collected from human participants. The references provided are real, verifiable academic sources used to ground the simulated study in actual theoretical frameworks.

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