Remote Work, Stress, and Productivity: An Empirical Psychology Study in IT Professionals Working From Home

Dr. Yasmine Jahan
ZAI College, Siwan JPU
Department of Psychology

Abstract

The COVID-19 pandemic accelerated a global shift toward remote work, fundamentally altering the dynamics of organizational life and employee well-being. This study investigates the relationship between remote work, stress, and productivity among IT professionals working from home in Siwan, Bihar. Employing a mixed-methods research design, both quantitative measures (structured questionnaires, Perceived Stress Scale, productivity indicators) and qualitative insights (semi-structured interviews) were integrated. A sample of 23 randomly selected IT professionals provided data on work environment, stress levels, sleep quality, work–life balance, and coping strategies.

The findings reveal that infrastructural quality—particularly reliable internet connectivity, ergonomic workspaces, and device adequacy—emerges as the most significant determinant of productivity and stress. High-stress individuals were characterized by frequent technical disruptions, poor sleep, digital fatigue, and declining productivity. Conversely, professionals with stable infrastructure and family support reported better work–life balance, lower perceived stress, and enhanced productivity. Qualitative analysis further highlighted coping strategies such as mindfulness, timeboxing, and Pomodoro techniques, alongside a strong preference for hybrid work models.

The study concludes that while remote work democratizes IT employment opportunities in smaller towns, sustainability depends on infrastructural support, effective boundary management, and organizational sensitivity to psychosocial needs.

Introduction

The concept of work has undergone a fundamental transformation in recent years, particularly in the aftermath of the COVID-19 pandemic. While remote work existed prior to the global health crisis, it was the sudden imposition of lockdowns and social distancing norms that normalized working from home as a primary mode of professional engagement. In the information technology (IT) sector, this transition was especially pronounced, as tasks such as software development, testing, analytics, and digital project management were inherently compatible with digital platforms.

The shift, however, was not without consequences. Remote work blurred the boundaries between professional and personal life, introduced new sources of stress, and raised concerns about sustained productivity. Scholars in organizational psychology have long argued that productivity is not merely a function of work hours but is shaped by psychological well-being, resource availability, and contextual factors such as infrastructure and family dynamics. Within this framework, remote work represents both an opportunity and a challenge.

While studies on remote work in metropolitan hubs like Bengaluru, Hyderabad, or Delhi have gained attention, there is limited research on smaller towns and non-metro regions in India, where infrastructural disparities and socio-cultural dynamics may influence remote work differently. Siwan, a district town in Bihar, presents an illustrative context for such inquiry. Although not traditionally recognized as an IT hub, a growing number of professionals engage in remote IT work from this region, facilitated by digital connectivity and freelance platforms.

This research, therefore, sets out to empirically examine the interplay between remote work, stress, and productivity among IT professionals in Siwan. The objectives are threefold: (a) to identify the demographic and infrastructural factors shaping the experience of remote work, (b) to analyze the relationship between perceived stress, well-being, and productivity, and (c) to explore coping strategies and preferred models of future work. By combining quantitative analysis of structured scales with qualitative narratives of lived experiences, the study provides a holistic understanding of remote work's psychological and organizational implications in a non-metropolitan Indian context.

Methodology

Research Design

The present study adopts an **empirical, mixed-methods research design** that integrates both quantitative and qualitative approaches to examine the relationship between remote work, stress, and productivity among IT professionals working from home in Siwan, Bihar. The empirical framework was chosen because the study aims to not only generate numerical estimates of stress and productivity levels but also to capture lived experiences, coping strategies, and psychosocial dimensions of remote work. A mixed-methods design ensures triangulation of data, thereby enhancing both validity and reliability.

The decision to rely on a cross-sectional approach, with data collected at a single point in time, was guided by the research objective of assessing the immediate impact of remote work conditions. Since the COVID-19 pandemic and subsequent digital transformations have led to profound shifts in work arrangements, a snapshot approach is most suitable to capture the psychological states of IT professionals in this transitional context. At the same time, qualitative insights enrich the findings by allowing participants to articulate their personal experiences of remote work challenges and advantages.

Research Setting

The research was carried out in the town of Siwan, Bihar, where a number of IT professionals, although not working in large corporate hubs, are engaged in software development, IT support, data analytics, and digital marketing while operating from their homes. This makes Siwan a particularly relevant site for understanding how professionals in non-metropolitan areas adapt to remote work dynamics.

To enrich the understanding of stress dimensions, the study also considered comparative psychological stress frameworks derived from three major hospitals located in Patna City. These hospitals provided contextual guidance in the form of secondary literature and stress assessment frameworks typically applied to working professionals, though their names remain undisclosed for ethical reasons. The hospitals' psychological and occupational health departments offered expert insights that shaped the semi-structured interview schedule used during data collection.

Sampling Strategy

A **random sampling technique** was employed to ensure that participants were selected without bias and that every IT professional working remotely in Siwan

had an equal chance of inclusion in the study. The researcher compiled a preliminary list of potential respondents through professional networking forums, local IT hubs, and freelance platforms operating in Siwan. From this list, 23 individuals were selected randomly using a lottery method.

The final sample of 23 respondents represents a diverse pool of IT professionals engaged in varied roles such as software engineers, system administrators, UI/UX designers, project coordinators, and digital content managers. The randomization process ensured heterogeneity in terms of age, gender, work experience, and employment type (freelance vs. full-time remote contracts). This diversity strengthens the generalizability of the findings within the specific context of remote IT work in smaller towns of India.

Data Collection Methods

The data for this study were collected using both **in-person and online interviews**, supplemented by a short structured questionnaire to obtain quantifiable measures of stress and productivity.

In-Person Interviews

In-person interviews were conducted with participants who were accessible within Siwan town and willing to meet under safe conditions. These interviews were carried out at neutral public venues such as libraries, co-working spaces, and, in some cases, participants' home offices. Each interview lasted between 45 and 60 minutes, focusing on personal experiences of remote work, perceived stressors, coping mechanisms, and perceived changes in productivity.

Online Interviews

Given the digital nature of IT work and the convenience of remote communication, online interviews formed a significant part of data collection. Platforms such as Zoom, Google Meet, and Microsoft Teams were used. Online interviews allowed participants to speak candidly from their home environments, thereby adding authenticity to their accounts. Each online session was scheduled in advance, lasted between 30 and 45 minutes, and was recorded (with consent) for later transcription.

Structured Questionnaire

Alongside interviews, a structured questionnaire containing both closed-ended and Likert-scale items was administered. The questionnaire measured three major domains: (a) perceived stress levels, (b) productivity indicators, and (c) psychosocial adjustments. Instruments were adapted from established scales such as the Perceived Stress Scale (PSS-10) and Workplace Productivity Index, but items were modified to suit the remote work context in Siwan.

Data Analysis

The analysis followed a **two-stage process**, consistent with the mixed-methods design.

Quantitative Analysis

Responses from the structured questionnaires were coded and subjected to descriptive and inferential statistical analysis. Basic descriptive measures such as mean, median, mode, and standard deviation were computed for stress and productivity variables. Correlational analysis was used to examine the association between stress levels and productivity. Inferential tests such as t-tests were considered to explore whether demographic variables like age or gender influenced stress–productivity dynamics.

Qualitative Analysis

Qualitative data from the interviews were transcribed verbatim and analyzed using thematic analysis. This process involved open coding of transcripts, identification of recurring themes, and categorization into broader domains such as work–life balance, digital fatigue, family interference, time management, and coping strategies. NVivo software was considered for organization of themes, though manual coding was also relied upon to ensure interpretive depth.

The integration of both analyses was carried out through triangulation, where quantitative results were interpreted alongside qualitative narratives. For example, a statistically significant relationship between high stress and low productivity was further explained by qualitative accounts of digital fatigue and home-related distractions.

Ethical Considerations

Ethical integrity was maintained at every stage of the study. Prior to data collection, informed consent was obtained from all participants, with clear information about the purpose, procedure, and voluntary nature of participation. Confidentiality was assured by anonymizing the identities of participants in transcripts and statistical records. For contextual inputs from hospitals in Patna, the identities of institutions remain undisclosed to avoid unintended disclosure of organizational strategies.

Furthermore, ethical clearance was sought from an academic review board, ensuring that the study

complied with accepted standards of psychological research. Participants were informed that they could withdraw at any stage without consequence, and no monetary inducements were offered to ensure unbiased participation.

Limitations of the Methodology

Although the empirical design ensures reliability and validity, certain limitations are acknowledged. The small sample size of 23 restricts the statistical power of inferential tests, limiting generalizability to larger populations of IT professionals. Additionally, reliance on self-report measures introduces potential biases such as social desirability or selective memory. Another limitation arises from the cross-sectional nature of the study, which captures stress and productivity at a single point rather than across time. Despite these limitations, the methodological rigor of combining qualitative and quantitative approaches strengthens the overall credibility of findings.

Results and Discussion

The results of this study are presented in tabular form, followed by a detailed discussion and interpretation of each dataset. The analysis integrates both quantitative and qualitative findings to provide a comprehensive understanding of remote work, stress, and productivity among IT professionals working from home in Siwan, Bihar.

Table 1: Demographic & Job Profile

Table 1. Demographic & Job Profile (N = 23)

PID	Gender	Age	Education	Role	Years of Exp.	Employment Type	Org Type	Monthly Income (₹)	Interview Mode
P01	M	28	B.Tech	Frontend Dev	4	Full-time Remote	Startup	55,000	Online
P02	F	31	MCA	QA Engineer	7	Full-time Remote	MNC	68,000	In-person
P03	M	26	BCA	IT Support	3	Contract Remote	MSME	32,000	Online
…	…	…	…	…	…	…	…	…	…

PID	Gender	Age	Education	Role	Years of Exp.	Employment Type	Org Type	Monthly Income (₹)	Interview Mode
P23	M	38	B.Tech	Tech Lead	13	Full-time Remote	MNC	135,000	In-person

Result & Discussion:
The demographic profile highlights diversity in terms of age, gender, roles, and organizational affiliation. The participants ranged from **22 to 41 years**, with both early-career and senior professionals represented. Male professionals slightly outnumbered female participants (14 vs 9), but the female participation is significant, indicating remote work as a facilitator of women's entry into IT even in smaller towns.

Income levels varied sharply—from **₹25,000 for contract support roles** to **₹1,40,000 for senior architects**—showing that organizational type (MNC vs MSME vs startup) plays a defining role in pay scales. Full-time employees in **MNCs were the best compensated**, while startup and MSME workers earned modest salaries.

The findings indicate that **remote IT work is no longer restricted to urban hubs**; professionals in Siwan are meaningfully engaged across roles from QA engineers to data scientists. This demographic diversity strengthens the validity of the study by capturing experiences across multiple strata of the IT workforce.

Table 2: Remote-Work Setup & Connectivity

Table 2. Remote-Work Setup & Connectivity

PID	Workspace	Internet Type	Downtime (mins/week)	Backup Internet	Device	Ergonomic Score (1–5)
P01	Separate room	Fiber 100 Mbps	35	Hotspot	Laptop (i5)	4
P03	Shared space	4G	120	None	Laptop (i3)	2
P05	Separate room	Fiber 200 Mbps	15	5G Dongle	Desktop Ryzen 7	5

PID	Workspace	Internet Type	Downtime (mins/week)	Backup Internet	Device	Ergonomic Score (1–5)
P09	Shared space	4G	160	None	Laptop (i3)	2
P13	Separate room	Fiber 300 Mbps	12	5G Dongle	Desktop i9	5
…	…	…	…	…	…	…
P23	Separate room	Fiber 300 Mbps	10	5G Dongle	Desktop i9	5

Result & Discussion:
Professionals with **dedicated rooms and fiber connections** (e.g., P05, P13, P17, P23) experienced minimal downtime (8–22 minutes weekly) and had high ergonomic scores (4–5). In contrast, those working in **shared spaces with 4G internet** (e.g., P03, P06, P09, P15, P19) reported frequent disruptions, with downtime of 120–160 minutes weekly and low ergonomic scores (2).

This strongly suggests that **infrastructural inequality is a key determinant of stress and productivity**. Those with reliable internet and ergonomic setups maintained workflow continuity and reported higher job satisfaction. Meanwhile, professionals relying on outdated devices and poor connectivity suffered not only interruptions but also increased stress due to constant technical failures.

Table 3: Work Patterns & Productivity Metrics

Table 3. Work Patterns & Productivity Metrics

PID	Work Hrs/Day	Breaks	Weekly Tasks	Self-Prod. (1–10)	Manager Feedback
P01	8.0	3	24	7	Improved
P03	8.5	4	16	6	Same
P05	9.0	2	28	8	Improved
P09	8.5	4	13	5	Declined
P11	9.5	2	30	9	Improved
P13	8.5	2	29	9	Improved
…	…	…	…	…	…
P23	9.0	2	28	8	Improved

Result & Discussion:
Most participants worked **7–9 hours daily**, but productivity varied widely. High performers such as P11 and P17 managed over 30 weekly tasks, self-rated their productivity as 9/10, and received "Improved" feedback. In contrast, professionals like P09 and P19, who struggled with poor setups and distractions, completed fewer tasks and received "Declined" ratings.

This table confirms that **work environment and coping capacity directly influence productivity**. Even when working similar hours, employees with stable setups and effective routines outperformed those facing infrastructural and psychological barriers.

Table 4: Perceived Stress & Well-Being

Table 4. Perceived Stress & Well-Being (PSS-10, Burnout, Sleep, Fatigue)

PID	PSS-10	Burnout	Avg Sleep (hrs)	Sleep Quality (1–5)	Digital Fatigue (1–10)
P03	24	6	6.0	3	7
P05	14	4	7.0	4	5
P09	27	7	5.8	2	8
P11	12	3	7.5	5	4
P13	11	3	7.3	5	4
P19	25	7	5.9	2	8
…	…	…	…	…	…

Result & Discussion:
Stress levels (PSS-10) varied between **10 and 27**. High-stress individuals (P09, P19) scored above 25, reported burnout scores of 7, poor sleep quality (2/5), and high digital fatigue (8/10). Low-stress professionals like P11, P13, and P17 maintained better sleep patterns and low burnout, reflecting effective coping and infrastructural support.

Thus, stress clearly mediated **well-being and productivity outcomes**. Those with chronic fatigue and sleep issues not only underperformed but also showed higher susceptibility to burnout.

Table 5: Work–Life Balance & Family Context

Table 5. Work–Life Balance & Family Context

PID	Marital Status	Dependents	Family Interference (1–5)	WLB Index (1–5)	Domestic Distraction (min/day)	Boundary Setting (1–5)
P03	Single	0	4	3	55	3

PID	Marital Status	Dependents	Family Interference (1–5)	WLB Index (1–5)	Domestic Distraction (min/day)	Boundary Setting (1–5)
P05	Married	2	2	4	20	5
P09	Single	0	5	2	70	2
P11	Married	2	2	5	15	5
P13	Married	1	2	5	15	5
P19	Single	0	5	2	75	2
…	…	…	…	…	…	…

Result & Discussion:
Contrary to assumptions, **married participants with dependents (e.g., P05, P11, P13, P17)** reported **better work–life balance (WLB index 4–5)** and fewer distractions than single participants living in shared spaces (e.g., P03, P09, P19). Supportive families and stronger boundary-setting skills helped the married professionals maintain productivity. Singles, lacking structured routines, faced more interruptions and weaker boundary enforcement.

This demonstrates that **family support systems can act as buffers against stress**, provided there is mutual understanding and role clarity.

Table 6: Qualitative Themes, Stressors & Coping

Table 6. Stressors & Coping Strategies (Qualitative Themes)

PID	Top Stressor	Trigger Example	Coping Strategy	Preferred Model	Continue Remote?
P01	Family noise	Kids in corridor	Pomodoro + headphones	Hybrid	Yes
P03	Connectivity	4G drops	Late-night focus blocks	Hybrid	Mixed
P05	Long hours	Release deadlines	Timeboxing	Hybrid	Yes
P09	Family demands	Errands	Morning deep work	Office	No

PID	Top Stressor	Trigger Example	Coping Strategy	Preferred Model	Continue Remote?
P13	Perfectionism	Model performance	Mindfulness	Hybrid	Yes
P19	Noise	Street work	Night shift	Office	No
…	…	…	…	…	…

Result & Discussion:
Interview narratives enriched the quantitative data. Thematic analysis revealed **connectivity problems, family interference, and workload intensity** as top stressors. Coping mechanisms varied—timeboxing, mindfulness, Pomodoro breaks, peer mentoring, and strict "do-not-disturb" rules were widely used.

A majority of participants preferred **hybrid work models**, valuing both the flexibility of home and stability of office. Notably, only high-stress individuals (P09, P19) rejected remote work altogether.

Conclusion

The present study examined the interrelationship between remote work, stress, and productivity among IT professionals working from home in Siwan, Bihar. By employing a mixed-methods design, the research was able to highlight not only the quantitative dimensions of stress, sleep, productivity, and work–life balance but also the qualitative experiences of professionals negotiating domestic, infrastructural, and organizational challenges.

The findings reveal that infrastructure and work environment are the most decisive factors in shaping both stress and productivity. Professionals with stable internet, ergonomic setups, and separate workspaces consistently reported lower stress levels, higher productivity, and better sleep quality. Conversely, those working in shared spaces with poor connectivity faced frequent disruptions, heightened fatigue, and declining productivity.

Work–life balance emerged as another crucial determinant. Interestingly, married participants with supportive families often fared better than single participants, suggesting that family cooperation can mitigate stress. Coping strategies such as timeboxing, mindfulness, and structured routines were widely adopted, reflecting adaptability among professionals.

Overall, the results suggest that while remote work has created new opportunities for professionals in smaller

towns, it also amplifies stress in contexts where infrastructural or familial support is weak. The strong preference for hybrid work models underscores the need for organizations to design flexible arrangements that balance autonomy with the stability of office environments.

Thus, the study demonstrates that remote work is sustainable only when supported by robust infrastructure, family cooperation, and organizational sensitivity to employee well-being.

****