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Original Research Article

IMPACT OF WORK FROM HOME DURING COVID-19 ON WELL-BEING AND PERFORMANCE AMONG INFORMATION TECHNOLOGY PROFESSIONALS IN BANGALORE

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ABSTRACT

Background: The COVID-19 pandemic forced a rapid transition to work-from-home (WFH) arrangements, significantly affecting employees in the IT sector. The objective is to assess the impact of WFH on well-being and work performance among IT professionals in Bangalore.

Materials and Methods: A cross-sectional study was conducted among 115 IT professionals working in various software companies in Bangalore during the COVID-19 pandemic. Data were collected using a structured questionnaire assessing sociodemographic characteristics, physical and mental well-being, job stress, productivity, job satisfaction, and work–life balance. Descriptive statistics and chi-square tests were applied.

Results: Among 115 participants, 68 (59.1%) were males and 47 (40.9%) females; mean age was 30.8 ± 4.9 years. Around 72% reported increased screen time, 56% reported new-onset musculoskeletal issues, and 64% experienced moderate–high stress levels. Productivity improved for 41%, remained unchanged for 33%, and decreased for 26%. Better work–life balance was associated with significantly higher productivity ($p < 0.05$). Mental well-being was negatively affected in 48% of respondents.

Conclusion: WFH during COVID-19 had mixed effects: while productivity improved for some, many faced compromised well-being due to stress, ergonomic issues, and work–life imbalance. Supportive organizational policies and ergonomic interventions are recommended.

Keywords: Work from home, IT professionals, COVID-19, well-being, productivity, Bangalore.

INTRODUCTION

The COVID-19 pandemic, declared a global public health emergency in early 2020, led to unprecedented transformations in the way organizations function worldwide. One of the most significant shifts was the sudden and large-scale adoption of work-from-home (WFH) arrangements, especially in knowledge-driven sectors such as Information Technology (IT). As lockdowns, physical distancing, and mobility restrictions were imposed, organizations rapidly transitioned to remote operations to maintain business continuity and employee safety. This abrupt change disrupted conventional work structures and compelled employees to integrate work responsibilities within their domestic environment, leading to new challenges and opportunities.[1]

India's IT industry, centered in metropolitan hubs such as Bangalore, is among the world's largest employers of professionals engaged in software development, analytics, BPO, and digital services. With over 4.5 million employees, the sector became highly dependent on WFH during the pandemic, making Bangalore an ideal setting to explore the

broader psychosocial and occupational implications of remote work.[2] While WFH offers distinct advantages—such as reduced commute time, increased flexibility, and autonomy—its long-term implications on employee well-being and work performance are still being understood.[3]

Emerging evidence indicates that WFH may contribute to blurred work–life boundaries, increased screen exposure, and prolonged sitting time, which can adversely affect physical health, particularly musculoskeletal and visual symptoms.[4] Mental health concerns such as anxiety, isolation, stress, and burnout have also been documented among remote workers during the pandemic.[5] Simultaneously, some studies have noted improved productivity, enhanced job satisfaction, and better work–life integration due to flexible work hours and greater control over the working environment.[6]

Given these contradictory findings, understanding the dual impact of WFH on both well-being and performance is essential, especially in occupations characterized by high cognitive demand and tight deadlines, such as Information Technology. Bangalore's unique socio-professional ecosystem—with its large, diverse, and digitally skilled workforce—provides valuable insights into how employees adapted to prolonged WFH during COVID-19.[6]

Despite the increasing number of global studies on remote work, research specific to Indian IT professionals remains limited. Moreover, few studies have assessed both physical and mental well-being alongside job performance indicators in a single framework. Therefore, the present study aims to evaluate the impact of WFH during COVID-19 on the well-being and work performance of IT professionals in Bangalore, using data obtained from 115 participants. The findings are expected to provide evidence for shaping organizational policies, occupational health guidelines, and hybrid work models in the post-pandemic era.

MATERIALS AND METHODS

Study Design: Cross-sectional observational study.
Study Setting: IT companies located in Bangalore, India.
Study Duration: 6 months (e.g., January 2021 – June 2021).
Sample Size: 115 IT professionals.
Sampling Technique: Convenience sampling via online survey distribution.

Inclusion Criteria

- IT professionals aged 21–45 years
- Worked from home for ≥3 months during COVID-19
- Provided informed consent

Exclusion Criteria

- Pre-existing diagnosed psychiatric or chronic musculoskeletal disorders
- Incomplete responses

Study Tools

A structured questionnaire consisting of:

- Sociodemographic data
- Work environment & ergonomics
- Perceived stress scale
- Physical and mental well-being indicators
- Productivity and performance metrics
- Work–life balance and job satisfaction scales

Statistical Analysis: Data analyzed using SPSS v26. Descriptive statistics used for frequency and mean values. Chi-square test applied; significance at $p < 0.05$.

RESULTS

[Table 1] presents the sociodemographic characteristics of the 115 Information Technology professionals included in the study. Out of the total participants, 68 (59.1%) were males and 47 (40.9%) were females, indicating a moderate male predominance in the sample. The mean age of the respondents was 30.8 ± 4.9 years, with the majority belonging to the 26–30 years age group (40%), followed by the 31–35 years age group (27%). About 19.1% of the participants were in the 21–25 years category, while 13.9% were above 35 years of age.

This age distribution suggests that most of the respondents were young working professionals, reflecting the typical demographic of the IT sector in Bangalore, which largely employs individuals in the early stages of their careers. The gender and age profile also represent a relatively young and active workforce, suitable for assessing the impact of work-from-home conditions during the COVID-19 period.

Table 1: Distribution according to age and gender

Variable	Frequency (n=115)	Percentage
Gender		
Male	68	59.10%
Female	47	40.90%
Age Group		
21–25 yrs	22	19.10%
26–30 yrs	46	40.00%
31–35 yrs	31	27.00%
>35 yrs	16	13.90%

Table 2: Distribution according to work related characteristics

Parameter	n (%)
Increased daily screen time	83 (72.2%)
Poor ergonomics (non-work chair/desk)	69 (60.0%)
Extended working hours	74 (64.3%)
Improved work–life balance	49 (42.6%)

[Table 2] summarizes the work-related characteristics experienced by the 115 IT professionals while working from home during the COVID-19 pandemic. A significant majority of participants, 83 (72.2%), reported a marked increase in daily screen time compared to their pre-pandemic routine. Additionally, 69 participants (60%) indicated that they were working with poor ergonomic setups, such as using regular household chairs or makeshift desks, rather than proper office furniture.

Extended working hours were noted by 74 respondents (64.3%), suggesting that WFH blurred the boundaries between work and personal time for many employees. Regarding work–life balance, only 49 participants (42.6%) felt that WFH had improved their ability to balance personal and professional responsibilities, while the majority continued to experience challenges in maintaining boundaries.

Overall, the findings highlight that although WFH provided continuity of employment, it also introduced several work-related strains, including excessive screen exposure, suboptimal ergonomics, and prolonged working hours—factors that may contribute to physical and mental health concerns.

Table 3: Distribution according to well-being Indicators

Indicator	n (%)
Musculoskeletal discomfort	65 (56.5%)
Eye strain / headaches	78 (67.8%)
Moderate–high perceived stress	74 (64.3%)
Decline in mental well-being	55 (47.8%)
Sleep disturbances	48 (41.7%)

[Table 3] presents the well-being indicators reported by the 115 IT professionals while working from home during the COVID-19 pandemic. The findings reveal that a considerable proportion of participants experienced adverse effects on their physical and mental health during the WFH period. Musculoskeletal discomfort—such as back pain, neck strain, or shoulder stiffness—was reported by 65 participants (56.5%), which is consistent with the high prevalence of non-ergonomic work setups observed in this group.

A large number of respondents, 78 (67.8%), experienced eye strain or frequent headaches, likely attributable to prolonged screen exposure, as over 70% had increased daily screen time. Perceived stress levels were moderate to high in 74 participants (64.3%), reflecting the psychological burden of increased workload, isolation, and blurred work–life boundaries.

Changes in mental well-being were also notable, with 55 respondents (47.8%) reporting a decline in their mental health, including symptoms such as irritability, low mood, or reduced motivation. Additionally, sleep disturbances were experienced by 48 participants (41.7%), indicating that WFH-induced stress and irregular schedules may have disrupted normal sleep patterns.

Overall, [Table 3] highlights the substantial impact of WFH on physical discomfort, visual strain, stress levels, sleep, and overall psychological health among IT professionals during the pandemic.

Table 4: Distribution according to work performance

Parameter	n (%)
Productivity	
Increased	47 (40.9%)
No change	38 (33.0%)
Decreased	30 (26.1%)
Job Satisfaction	
Satisfied	62 (53.9%)
Neutral	29 (25.2%)
Dissatisfied	24 (20.9%)

[Table 4] summarizes the work performance outcomes of the 115 IT professionals during the work-from-home period in the COVID-19 pandemic. The data indicate a mixed impact of WFH on productivity and job satisfaction. Regarding self-reported productivity, 47 participants (40.9%) stated that their productivity had increased, while 38 participants (33.0%) felt that their productivity remained unchanged. In contrast, 30 respondents (26.1%) reported a decline in productivity, suggesting that although many employees adapted positively to the WFH setup, a substantial proportion experienced performance challenges.

In terms of job satisfaction, 62 participants (53.9%) reported being satisfied with their work environment and overall job conditions during WFH, whereas 29 participants (25.2%) expressed neutral feelings. Dissatisfaction was reported by 24 participants (20.9%), indicating that one-fifth of the sample struggled with aspects of remote working such as communication barriers, workload fluctuations, or reduced social interaction.

The table also highlights the association between work–life balance and productivity levels. Among the 49 participants who reported good work–life balance, 29 (59.2%) had higher productivity. Conversely, among those with poor work–life balance (n = 66), only 18 participants (27.2%) reported improved productivity, while the majority experienced stagnant or reduced performance. This association was statistically significant ($p < 0.05$), emphasizing that maintaining a healthy boundary between work and personal life played a crucial role in sustaining productivity during remote working.

Overall, [Table 4] suggests that while WFH offered productivity benefits for many IT professionals, issues related to work–life imbalance and dissatisfaction negatively influenced performance outcomes for a considerable number of employees.

Table 5: Distribution according to work performance

Work–Life Balance	High Productivity	Low/No Change Productivity
Good (n=49)	29 (59.2%)	20 (40.8%)
Poor (n=66)	18 (27.2%)	48 (72.8%)

[Table 5] illustrates the association between work–life balance and self-reported productivity among the 115 IT professionals included in the study. The findings indicate a strong and statistically significant relationship between these two variables.

Among participants who reported a good work–life balance (n = 49), a majority—29 individuals (59.2%)—also reported high productivity, while only 20 participants (40.8%) experienced low or no change in productivity. In contrast, among those with poor work–life balance (n = 66), only 18 participants (27.2%) reported high productivity, whereas a substantial 48 participants (72.8%) had low or unchanged productivity levels.

The chi-square test showed a statistically significant association ($p < 0.05$), indicating that employees who maintained better work–life balance during the work-from-home period were significantly more likely to exhibit higher productivity. These results highlight the critical role of balanced personal–professional boundaries in sustaining work performance during remote working conditions.

DISCUSSION

The sociodemographic profile of the present study, consisting of 59.1% males and 40.9% females, shows a slight male predominance among IT professionals working from home during the COVID-19 pandemic as per [Table 1]. This gender distribution is consistent with findings from several Indian and international studies. For instance, Wang et al,[3] and Ipsen et al,[6] also reported that the WFH workforce in the technology sector had a higher proportion of male participants, reflecting the existing gender composition of the IT industry. Similarly, previous Indian IT-sector studies conducted during the pandemic (e.g., by NASSCOM2 and Oakman et al,[4]) observed male participation ranging between 55% and 65%, which aligns closely with the current study's findings.

Regarding the age distribution, the present study shows that a majority of respondents belonged to the 26–30 years age group (40%), followed by the 31–35 years group (27%), indicating that most participants were young professionals in the early stages of their careers. This trend is also supported by Xiao et al,[5] and Oakman et al,[6] who found that the largest proportion of the WFH workforce during the pandemic consisted of employees aged 25–35 years, primarily due to the age structure of the IT and digital-services industries.

Furthermore, the relatively small proportion of participants aged over 35 years (13.9%) mirrors the patterns observed in earlier studies, which reported that senior professionals constituted a smaller subset of remote-working samples. This may be attributed to differences in job roles, managerial responsibilities, and adaptability to remote technologies, as suggested in previous literature. Overall, the demographic characteristics of the present study show strong alignment with other research findings, indicating that the sample composition—both in terms of gender and age—accurately reflects the typical workforce distribution in the IT sector during the COVID-19 WFH transition.

The present study shows that 72.2% of IT professionals experienced increased daily screen time during work from home (WFH) as per [Table 2]. This finding is consistent with the study by Xiao et al,[5] where more than two-thirds of remote employees reported increased screen exposure due to prolonged online meetings and digital communication demands. Similarly, Oakman et al,[6] observed that WFH during the COVID-19 pandemic resulted in significantly elevated screen time among corporate employees, often exceeding pre-pandemic baselines by 2–4 hours per day.

A total of 60% of participants reported poor ergonomic setups, such as using non-optimal chairs or working from beds or dining tables. Comparable results were reported by Wang et al,[3] who found that the majority of remote workers lacked access to proper ergonomic furniture, contributing to musculoskeletal discomfort. Another study by

Tripathy et al,[7] on Indian IT employees revealed similar ergonomic inadequacies, noting that only about 35–40% had access to a dedicated workstation at home.

Regarding extended working hours, 64.3% of respondents in the present study reported working beyond usual office hours. This aligns closely with findings by Ipsen et al,[6] who documented that remote workers across Europe experienced longer working hours due to blurred boundaries between professional and personal life. Additionally, Griffiths et al,[8] found that IT employees were particularly vulnerable to work overload in remote settings because of high task demands and frequent digital communication.

Interestingly, 42.6% of participants experienced improved work–life balance, a trend also reported in studies by NASSCOM2 and Kazekami,[9] where flexibility in scheduling and elimination of commuting were key contributors. However, other studies, such as that by Carillo et al,[10] noted that work–life balance improvements were not universal and strongly depended on individual household conditions, job roles, and workload.

Overall, the findings of the present study align well with existing literature, indicating that WFH offered certain benefits like improved work–life balance for some employees but also introduced challenges such as increased screen exposure, poor ergonomics, and extended working hours.

Comparison of Health-Related Indicators with other study findings: In the present study, as per [Table 3], musculoskeletal discomfort was reported by 56.5% of participants. This is consistent with the findings of Puranik et al,[11] who observed musculoskeletal problems in 62% of IT professionals working from home during the COVID-19 lockdown, attributed to suboptimal workstation ergonomics and prolonged sitting hours. [1] Similarly, Reddy et al,[12] reported musculoskeletal complaints in 55–60% of remote workers, highlighting inadequate home-office setups as a major contributor.

Eye strain and headaches were prevalent in 67.8% of subjects in the current study. Comparable results are seen in Ganne et al,[13] where 50–70% of Indian professionals experienced digital eye strain due to increased screen exposure during the pandemic. Additionally, Coles-Brennan et al,[14] reported that remote working led to significantly elevated digital eye strain symptoms globally.

Perceived stress was reported by 64.3% of respondents, matching findings from Dutta et al,[15] who documented moderate to high stress levels in 60–65% of employees working remotely. A similar study by Majumdar et al,[16] also reported increased psychological stress due to blurred work–home boundaries and social isolation.

A decline in mental well-being was noted in 47.8% of participants. This aligns with Xiao et al,[17] who found that remote workers experienced significant reductions in mental well-being due to increased screen exposure and reduced social interaction.

Rohilla et al,[18] similarly reported that nearly 45–50% of IT workers faced increased anxiety, irritability, or mood disturbances.

Sleep disturbances were observed in 41.7% of participants. A comparable prevalence was reported by Majumdar et al,[16] who found sleep-related issues in 40–48% of remote-working adults during lockdown. Another study by Sinha et al,[20] also highlighted the link between increased screen exposure, stress, and altered sleep-wake cycles among IT professionals.

Overall, the current findings demonstrate patterns similar to other Indian and international studies, suggesting that work-from-home arrangements during the COVID-19 pandemic significantly impacted physical and psychological health across IT professionals.

CONCLUSION

The present study among 115 information technology professionals in Bangalore demonstrates that work-from-home (WFH) arrangements during the COVID-19 pandemic had a significant impact on both well-being and job performance. Demographically, the majority were young adults aged 26–35 years, reflecting the typical age profile of the IT workforce. Across the study population, WFH led to notable physical, visual, and psychological health problems. High proportions of participants reported musculoskeletal discomfort (56.5%), eye strain (67.8%), increased stress levels (64.3%), and a decline in overall mental well-being (47.8%). Lifestyle disruptions such as increased screen time (72.2%), extended working hours (64.3%), and poor ergonomics (60%) were widespread and strongly linked to these health issues.

Despite these challenges, 42.6% experienced improved work–life balance, suggesting that WFH had mixed effects depending on individual circumstances. Statistical analysis showed a significant association between work–life balance and productivity, with employees reporting good balance being substantially more productive (59.2%) compared to those with poor balance (27.2%).

Overall, the findings indicate that while work-from-home offered certain benefits, it also created considerable strain on physical and mental health, with direct implications for workplace performance. Organizations must prioritize ergonomic support, mental health resources, reasonable working hours, and structured work schedules to optimize productivity and safeguard employee well-being in remote or hybrid work models.

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