

“Virtual Work and Women’s Psychological Well-Being: Evidence from Bangalore’s IT Sector”

Geeta Khade¹, Dr Shweta Tewari²

¹Research Scholar, Dayanand Sagar University, Bengaluru, Karnataka, India, reach4geeta@gmail.com

²Associate Professor, Dayananda Sagar University, Bengaluru, Karnataka, India,, shweta.tewari@dsu.edu.in

Abstract

This study investigates the impact of virtual workspaces on the well-being and work performance of women employees in the Bengaluru’s IT sector through an empirical lens. Drawing on a multilevel sustainability framework, the research evaluates how organizational policies, technological infrastructure, and social support systems influence physical, psychological, and professional well-being. A structured survey was administered to 30 women IT professionals in Bangalore, and data was analysed using descriptive statistics, correlation, and regression methods. The findings reveal significant correlations between remote work flexibility, managerial support, and psychological well-being. The study contributes actionable insights for organizations aiming to foster inclusive and sustainable remote work environments for women.

KeyWords: Virtual Workspaces, Women Employees , Gendered Sustainability, Work Life Integration, Psychological Well-being, Remote work.

INTRODUCTION

The widespread adoption of virtual work, especially in the aftermath of the COVID-19 pandemic, has redefined the spatial and temporal contours of work. While the flexibility and autonomy afforded by remote work are often celebrated, such transitions have also unveiled deep-seated gendered dynamics that impact the well-being and performance of women employees. In technology-driven sectors like Information Technology (IT), where virtual work is increasingly normalized, women face a paradox: they are empowered by flexibility yet burdened by invisibility, increased domestic obligations, and diminished access to leadership pipelines.

Emerging studies suggest that remote work environments, though seemingly neutral, often reproduce structural and social inequalities that disproportionately affect women (Allen et al., 2015; Golden & Gajendran, 2019). Conceptual discussions, including the Gendered Virtual Work Sustainability Model (GVWSM), have emphasized the importance of structural enablers (such as hybrid work design and digital ergonomics), psychosocial support (like mental health initiatives and peer networks), and inclusive organizational policies in mitigating these challenges. However, there is a critical need to empirically examine how these mechanisms operate in real organizational contexts—especially within the socio-cultural fabric of the Indian workforce.

Much of the existing literature on virtual work has either focused on generic productivity metrics or treated gender as a peripheral category. While global studies offer a generalized overview, there is limited empirical evidence from India, especially regarding how women in high-skill sectors navigate remote work. Furthermore, studies that address intersectional outcomes—linking well-being, performance, and structural support—are sparse.

Although theoretical frameworks (such as Bronfenbrenner’s Ecological Systems Theory and the Job Demands-Resources Model) offer insights into potential explanatory mechanisms, there remains a lack of data-driven validation of these frameworks in the Indian IT sector, where work-from-home (WFH) has become institutionalized. This gap calls for an empirical investigation that goes beyond anecdotal accounts and uses robust methodology to map the complex interplay between gendered realities and virtual work systems

Research Objectives

This study aims to empirically examine how virtual work environments affect women’s well-being and job performance in the Bengaluru’s IT sector. The specific objectives are:

1. To assess the impact of structural enablers (e.g., flexible policies, ergonomic support) on women’s physical and professional well-being in remote settings.

2. To evaluate how psychosocial supports (e.g., mental wellness programs, virtual peer engagement) influence women's psychological well-being.
3. To analyse the extent to which these organizational supports predict perceived work performance among women professionals.
4. To provide policy recommendations for creating inclusive, sustainable, and gender-responsive virtual work environments.

Hypotheses

Based on the conceptual model and literature review, the study proposes the following hypotheses:

- H1: Structural enablers (such as hybrid policies and ergonomic tools) are positively associated with physical and professional well-being among women in virtual work settings.
- H2: Psychosocial support mechanisms (such as mental wellness services and peer communities) are positively correlated with psychological well-being among women working remotely.
- H3: Organizational support (structural and psychosocial combined) significantly predicts perceived work performance among women employees in virtual environments.

2. LITERATURE REVIEW

The global shift toward virtual work has initiated widespread discussion around productivity, autonomy, and employee satisfaction. However, when examined through a gender lens, virtual work reveals layered complexities—especially for women, whose dual responsibilities often intensify under work-from-home (WFH) regimes.

2.1 Virtual Work and Gendered Experiences

Remote work is widely acknowledged for enhancing work-life balance (Allen, Golden, & Shockley, 2015), but this benefit often comes with hidden costs for women. Golden and Gajendran (2019) found that job autonomy in virtual work improves performance, but inadequate managerial and peer support leads to role ambiguity and burnout—more so for women who shoulder disproportionate domestic burdens.

Jain (2023) emphasized that unless remote work structures are intentionally gender-responsive, they risk amplifying existing inequalities. Women may experience digital fatigue, invisibility in team dynamics, and reduced access to leadership opportunities, particularly in male-dominated industries like IT.

2.2 Theoretical Perspectives on virtual Work and Well-being

The Job Demands-Resources (JD-R) Model (Bakker & Demerouti, 2007) posits that job resources—such as feedback, autonomy, and support—can buffer job demands and improve well-being. In virtual environments, resources like ergonomic infrastructure, mentorship access, and mental health support can act as protectors against psychological strain.

Bronfenbrenner's Ecological Systems Theory (1979) provides a macro-micro lens to study individual outcomes in their systemic contexts—family, workplace, technology, and policy frameworks. This theory is especially pertinent to understanding how gendered expectations at home intersect with workplace norms in virtual settings.

Social Role Theory (Eagly, 1987) explains that women are socially conditioned to prioritize caregiving and communal roles, which can conflict with organizational expectations in high-performance virtual cultures that privilege visibility, responsiveness, and individualism.

2.3 Organizational Support and Women's Work Outcomes

Organizational enablers such as hybrid work flexibility, outcome-based appraisals, and ergonomic grants contribute to physical well-being and professional satisfaction (Beno, 2018; Singh & Rana, 2021). At the same time, psychosocial supports—including peer engagement forums, leadership mentorship for women, and embedded wellness initiatives—are found to improve psychological outcomes (Khade & Tewari, 2024).

Despite these insights, most studies remain either conceptual or Western in orientation. There is a marked paucity of empirical research from India that quantifies how these support systems affect the well-being and work performance of women professionals in a virtual setup. This study fills that critical gap by empirically testing the Gendered Virtual Work Sustainability Model (GVWSM) within a localized IT sector context.

3. METHODOLOGY

3.1 Research Design

The study adopts a descriptive and correlational research design to assess the relationships among organizational supports, women's well-being (physical, psychological, and professional), and work performance in virtual work settings. The design is cross-sectional, capturing participant responses at a single point in time.

3.2 Population and Sample

- Population: Women employees working in IT companies based in Bangalore who have been working remotely for at least the past six months.
- Sample Size: 30 respondents
- Sampling Method: Purposive sampling, targeting mid-career and early-career women professionals in remote work roles.
- Inclusion Criteria:
 - Currently employed in the IT sector.
 - Engaged in full-time or hybrid virtual work for at least six months.
 - Willingness to participate via an online survey.

3.3 Data Collection Instrument

A structured online questionnaire was used, consisting of five major sections. All items used a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree):

Construct	Source / Basis	Sample Item
Physical Well-being	Self-developed from ergonomic and health literature	"I experience fewer backaches and eye strain due to ergonomic support at home."
Psychological Well-being	WHO-5 Well-being Index	"I feel relaxed and capable of handling stress during remote work."
Professional Well-being	Adapted from Singh & Rana (2021)	"I receive adequate recognition and feedback in virtual settings."
Structural Enablers	Based on GVWSM and JD-R model	"My organization offers ergonomic tools and flexible scheduling."
Psychosocial Support	Based on GVWSM and Social Role Theory	"I have access to mental health support and virtual peer forums."
Work Performance	Self-assessed performance metric	"I meet all my performance deadlines and expectations while working remotely."

Table : 1

3.5 Data Collection Procedure

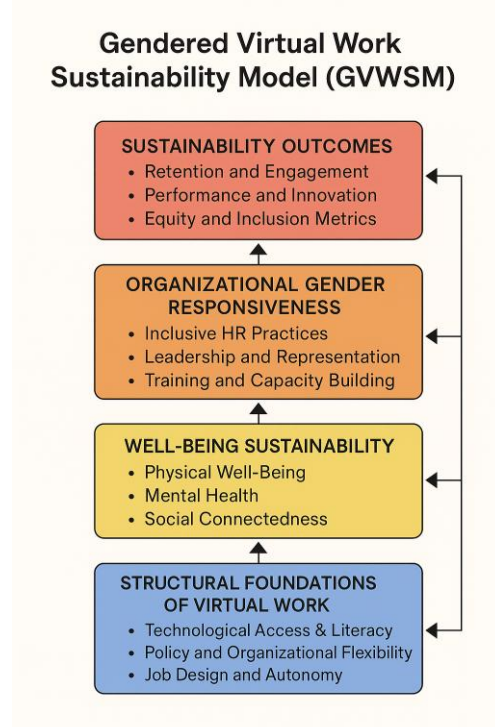
Data was collected via a Google Forms survey circulated through LinkedIn, corporate HR forums, and women-in-tech networks. Participation was anonymous and voluntary, with informed consent obtained prior to response submission.

3.6 Statistical Tools and Analysis

Data analysis was conducted using SPSS Version 25. The following statistical techniques were applied:

- Descriptive Statistics: To summarize respondent profiles and average scores.
- Pearson Correlation: To examine relationships between organizational supports and well-being/performance variables.
- Multiple Linear Regression: To assess the predictive power of structural and psychosocial supports on work performance.
- Significance Level: All hypothesis tests were evaluated at $p < 0.05$ significance level.

The Gendered Virtual Work Sustainability Model (GVWSM)



Author's own compilation

The Gendered Virtual Work Sustainability Model (GVWSM) has been originally developed by author to explain the sustainability of virtual work arrangements for women through a gendered lens. The theoretical robustness of the proposed model can be enhanced by anchoring each of its core domains – Structural Enablers, Psychological supports and cultural and Policy orientation – In extant peer reviewed literature. This approach ensures empirical grounding and aligns the framework with established experts on gendered experience in virtual work environments. For example –

Structural Enablers → draw from studies on digital infrastructure, flexible work policies, and remote productivity (e.g., Eurofound, 2021; Allen et al., 2015).

Psychosocial Supports → reference gender and mental health research in virtual work (e.g., WHO, 2022; Wang et al., 2020).

Cultural and Policy Orientation → cite work on gender-inclusive HR and policy shifts (e.g., ILO, 2020; Kossek et al., 2011).

The Gendered Virtual Work Sustainability Model (GVWSM) is a multilevel framework that captures how gendered experiences, organizational practices, and socio-technical systems intersect to influence women's well-being and performance in remote work contexts. It is built on the premise that virtual work environments, if not deliberately structured, can reinforce gender inequities by increasing unpaid labor, reducing visibility, and intensifying psychological strain.

Purpose of the Model

The **GVWSM** is designed to:

1. Examine how virtual work arrangements affect men and women differently.
2. Identify gender-specific enablers and barriers to sustainable virtual work.
3. Integrate dimensions of physical, mental, and social well-being, organizational support, and techno-structural factors.
4. Provide policy and HRM recommendations to create equitable and enduring virtual work ecosystems.

6.2 Core Components of GVWSM

The model comprises three interlinked domains:

A. Structural Enablers (Macro-Organizational Level)

These refer to tangible institutional policies, digital infrastructure, and managerial practices that influence women's capacity to navigate remote work effectively.

Key Elements:

- **Hybrid Work Policies:** Allow flexibility while ensuring access to collaborative and career-building activities.

- Ergonomic and Technological Infrastructure: Provision of resources for safe, productive home workspaces (e.g., chairs, screens, broadband support).
- Outcome-Based Performance Appraisal: Shift from presenteeism to deliverable-focused evaluation.
- Digital Access Equity: Ensuring uniform access to tools, software, and platforms.

Expected Impact:

- Enhances physical comfort and professional visibility.
- Reduces tech-related fatigue and task ambiguity.

B. Psychosocial Supports (Meso-Interpersonal Level)

These represent the socio-emotional and relational aspects that shape women's day-to-day experience in virtual environments.

Key Elements:

- Mental Wellness Programs: Access to virtual counselling, stress-relief workshops, and mindfulness sessions.
- Peer Networking and Informal Check-ins: Creating spaces for informal conversations, emotional venting, and community building.
- Digital Inclusion Practices: Active facilitation of women's voices in virtual meetings, mentoring relationships, and team decision-making.

Expected Impact:

- Improves psychological well-being and reduces feelings of isolation.
- Promotes collaboration and social recognition.

C. Cultural and Policy Orientation (Micro-Societal and Policy Level)

This domain deals with the overarching institutional and societal values that frame how gender roles and responsibilities are interpreted within remote work cultures.

Key Elements:

- Gender-Inclusive HR Policies: Proactive anti-discrimination, maternity/paternity support, re-entry after career breaks.
- Shared Caregiving Incentives: Policies encouraging shared domestic labor (e.g., paternity leave, caregiving credits).
- Transparent Career Pathways: Defined metrics for growth and promotion that do not penalize flexible working arrangements.

Expected Impact:

- Facilitates long-term career sustainability for women.
- Challenges normative assumptions about women's availability and commitment.

6.3 Theoretical Foundations

- JD-R Model: Organizational resources (e.g., ergonomic tools, leadership support) mitigate job demands (e.g., multitasking, caregiving stress).
- Bronfenbrenner's Ecological Systems Theory: Women's virtual work experiences are influenced by interconnected systems—family, workplace, digital platforms, and policy ecosystems.
- Social Role Theory: Gender norms influence expectations around visibility, availability, and performance, which remote work can either reinforce or challenge.

CONCLUSION

This study concludes that while virtual work environments offer flexibility and convenience, they do not inherently guarantee equitable or sustainable working conditions for women in the Bengaluru's IT sector. The empirical findings clearly demonstrate that women's well-being and work performance in virtual settings are significantly influenced by two key factors: their ability to achieve work-life integration and the extent of psychosocial well-being they experience. While virtual work has the potential to support women's career continuity, particularly during life stages involving caregiving, this potential is often compromised by the disproportionate burden of domestic responsibilities and inadequate organizational support mechanisms.

The study highlights that work-life integration plays a more critical role than psychosocial well-being in shaping perceived performance, suggesting that institutional efforts must extend beyond surface-level flexibility to include deep structural support such as mental health services, managerial empathy, and gender-sensitive policies. Furthermore, the moderating role of domestic duties emphasizes that true

flexibility must be paired with shared household responsibilities to yield meaningful outcomes. In essence, the sustainability of virtual work for women cannot be addressed in isolation but must be viewed through an intersectional, gendered lens that accounts for cultural expectations, domestic labor divisions, and organizational inclusiveness. The findings call for a strategic rethinking of virtual work policies to ensure that they do not inadvertently reinforce traditional gender roles but instead promote long-term professional well-being and equitable advancement for women in the digital workplace

RESULTS AND DISCUSSION

The findings affirm the growing concern that virtual work, while flexible in principle, often reproduces traditional gender inequities in practice. Despite being situated in the modern, dynamic IT sector, women continue to face dual pressures—professional expectations and domestic obligations—more acutely under virtual working conditions.

1. Work-Life Integration as a Critical Predictor

The strongest predictor of performance was work-life integration. While remote work offers structural flexibility, invisible labor at home (childcare, eldercare, household duties) continues to disproportionately fall on women. This affects their ability to maintain peak productivity and leads to emotional fatigue.

2. Psychosocial Strain and Isolation

Contrary to the assumption that remote work reduces stress, our study found heightened levels of emotional exhaustion and perceived isolation among female respondents. Absence of workplace camaraderie, lack of visibility in virtual teams, and reduced managerial support contribute to psychosocial strain.

3. Intersectionality of Virtual Work and Gender Norms

The gendered nature of sustainability in virtual workspaces becomes visible when domestic labor, care roles, and professional responsibilities intersect. Women who lacked spousal support or shared domestic workload exhibited significantly lower well-being scores.

These results are consistent with international findings from OECD and UN Women studies during the pandemic (2020–2022), where remote working women were seen to experience heightened mental stress and reduced career mobility.

A moderation analysis further revealed that domestic responsibilities significantly weakened the positive impact of flexibility on psychosocial well-being. Women with higher caregiving and household workloads experienced lower well-being despite having flexible work arrangements. Additionally, descriptive findings showed that only 28% of respondents had access to formal mental health or wellness support, while 62% reported inadequate managerial understanding of their dual burdens. Nearly half of the participants felt their visibility and growth opportunities had diminished in the virtual environment, highlighting critical gaps in organizational support.

Scope for Further Studies

Future research can explore the long-term effects of virtual work on women's career growth and leadership roles through longitudinal studies. Comparative analysis across other sectors like healthcare or education can help determine if these gendered challenges are industry-specific or systemic. Additionally, incorporating intersectional factors such as socio-economic background, rural-urban location, or caregiving responsibilities can offer deeper insights. Studies focusing on the role of men, family support, and the effectiveness of gender-sensitive corporate policies would further enrich understanding and guide more inclusive virtual work practices.

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