INTERNATIONAL JOURNAL OF MANAGEMENT AND ORGANIZATIONAL RESEARCH

Examining the Effects of Remote and Hybrid Work Stress and Work–Life Balance on Employee Productivity: Evidence from Uttarakhand

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Article Info

ISSN (online): 2583-6641
Impact Factor (RSIF): 8.56
Volume: 05
Issue: 05
Received: 21-06-2026
Accepted: 23-07-2026
Published: 25-08-2026
Page No: 49-58

Abstract
The fast integration of remote and hybrid workplace has altered the modern day workplace, both providing flexibility opportunities and providing challenges; such as, stress on employees, work-life balance, and productivity. The paper will discuss the effect of Remote and Hybrid Work Stress and Work-Life Balance on the Employee Productivity among the workers in Uttarakhand. The research makes a specific inquiry concerning the personal impact of the remote and the hybrid work stress and work-life balance on the productivity of the individual employee, the joint impact of the two and the correlation between the two independent variables. Quantitative research design was chosen and primary data was gathered among employees who work under remote and hybrid work schedules in Uttarakhand. The collection of data was conducted with the help of the structured questionnaire within the framework of a seven-point Likert scale. To test the hypotheses of the research, the relationships offered were discussed and appropriate statistical methods were used, including simple linear regression, multiple regression, and Pearson correlation analysis. The results suggest that workplace stress related to remote and hybrid work arrangements is highly correlated with overall productivity of employees and work-life balance is also a key factor in determining productivity outcomes. The integrated analysis also shows that the two factors have a combined effect in explaining the variation in employee productivity. In addition, a significant association exists between remote and hybrid work stress and work–life balance. The light has been shed on the value of developing accommodative and balanced working practices that can recognize employee stress and enhance the work-life integration as a strategy of maintaining productivity in work environments that are more flexible.

Keywords: Remote Work Stress, Hybrid Work, Work–Life Balance, Employee Productivity, Organisational Performance

1. Introduction

Reshaping work arrangements has been one of the most serious organisational changes in the present-day employment scene. The digital technologies development, the modification of employee's expectations and the experience of mass remote working during and after the COVID-19 pandemic have increased the pace of remote and hybrid work model acceptance within industries. Compared to traditional office-based jobs, remote and hybrid jobs offer greater flexibility to the employees in terms of place of work and in other instances, remote working offers more flexibility in relation to the time of work. This kind of flexibility may produce valuable advantages, such as travel time savings, higher independence, better access to job opportunities, and high flexibility in regard to coping with both personal and career commitments. Nevertheless, the digitalizing of work has also brought about some new types of work pressure. Remote working employees can be affected by the lack of separation between work and home, long hours, constant access to the Internet, social isolation, lack of informal communication, and inability to

psychologically drop out of work. Hybrid work can bring about other complexities since employees have to cope with varying workplaces, interaction, expectations, and coordination systems. Remote and hybrid work therefore are not to be interpreted purely as flexible working practices; it constitutes complicated organisational spaces where the flexible employment can be associated with elevated levels of work-related pressures. The topic of work stress is especially important since chronic stress due to assigning too much work, use of technology, role dishonesty, lack of support and work family effect may affect the psychological resources, motivation and concentration among employees and their effectiveness in performing their duties. Organisationally, the productivity of employees is thus becoming more and more contingent not only on the technological infrastructure and the managerial practice but on what organisations do to cope with the human impact of the flexible working practice.

The concept of work-life balance has become one of the key variables that help to comprehend how modern working conditions and employee performance are interrelated. It is in general terms a person capacity to dedicate sufficient time, energy, and mental focus to the work-related tasks but at the same time meet personal, family, social, and other possible non-work life obligations. Remote work and hybrid work can enhance work–life balance through schedules that give more control and less commuting pressure as well as flexibility of employees to personal obligations. However, physical closeness to the workplace place could also cause boundaries between the professional and personal space to become more porous. Workers will be left to reply to emails at the end of the working day, attend virtual meetings and work during non-normative hours or do partial duties during family and recreational time. The result of such boundary permeability can be an aggravated work-life conflict and an add-on to emotional exhaustion and stress. Meanwhile, the work life balance can serve as a valuable asset that helps employees to effectively rest after working life, psychological health, and energy and attention that would help to remain active and focused during work term. This is of particular significance in the situation in Uttarakhand, where the employment trends are defined by the integration of urban centres, growing industrial centres, service- Providing organisations, educational institutions, tourism centred activities as well as geographically dispersed society. The workers in the state might face unique challenges related to digital connectivity, disparities in infrastructure, commute, organisational culture, family issues, and availability of appropriate home-working environments. Although remote and hybrid work could present the opportunity to have more flexibilities, there is a likelihood of their success relying largely on organisational support, technology preparedness, managerial demands as well as the ability of employees to develop healthy boundaries. Thus, the study of work stress and work life balance gives a better representation of the impact of flexible work arrangements on the productivity of employees compared to studying the factors separately.

Employee productivity is one of the core organisational performance, as it measures the degree at which employees can effectively transform their time, skills, knowledge, effort and organisational resources into high value work output. Productivity in remote and hybrid setting cannot be measured by a can be measured based on physical presence and the number of hours in the workplace but measured based on task completion, quality of work, efficiency, responsiveness, goal accomplishment and performance continuity in the dynamic working conditions. Empirical evidence: Current conceptual views indicate that work stress may decrease productivity when it is overwhelming and consume cognitive and emotional resources but, conversely, an optimal work-life balance may help in concentration, motivation, engagement, recovery, and long-term performance. Nonetheless, the relation is not always regular or homogenous among the employees and situations within an organisation. Remote and hybrid work can both mitigate certain stressors and add new ones, and work-life balance can not work in the same way across different situations and in various organisations. This poses a significant research potential, especially on the regional level like in Uttarakhand where there is relative dearth of empirical data on the whole effect of remote and hybrid working stress and work life balance on employee productivity. Therefore, the current research aims to address the research questions below: How work-related stress in relation to flexible working arrangements and the perception of employees about work-life balance determines productivity? The research adds to the expanding body of knowledge about modern work design that unifies technological, psychological, and behavioural levels of flexibility in employment in a local Indian setting. It will offer valuable information to the managers, human resource professionals and policymakers aiming to implement sustainable remote and hybrid work practices. Determining whether work stress is a productivity limitation and whether work–life balance contributes to the ability of employees to be productive, the study could help to position evidence-based HR policies in the areas of workload management, flexible working arrangements, digital communication, employee support, performance management, and boundary management. Finally, the research notes that the viability of remote and hybrid employment in the long run lies not only in the provision of technological access but the establishment of working conditions that safeguard the well-being of the employees and at the same time allow them to sustain organisational productivity.

2. Review of Literature

According to the literature published in 2022-26, remote and hybrid work began as an emergency response during the COVID-19 pandemic but now is becoming a permanent feature of the modern work design that is still extremely dependent on organisational, technological and psychosocial circumstances. In a systematic review of 37 studies, Hackney *et al.* (2022) [8] identified that the productivity impacts of working remotely were not uniform with a higher number of positive results identified in the voluntary than compulsory cases. In a similar vein, investigating the drivers in the Indian IT sector, Patanjali and Bhatta (2022) [18] reiterated that organisational support and work structure play a key role in maintaining productivity in the context of WFH. Chatterjee *et al.* (2022) [3] also proved that the flexibility of remote working may add to the organisational performance in cases when they are backed by corresponding organisational policies and top-management support. Their results indicate that flexibility is not quite enough, but rather what makes the

difference between flexibility being a resource that promotes productivity is managerial commitment, as well as formal organisational arrangements. Based on the hybrid work, Castaneda *et al*. (2022) [2] contended that factors such as employee well-being, collaboration, belongingness, and innovation hold significance in ensuring productivity in a hybrid setting. A cross-cultural empirical study conducted by Parry *et al*. (2022) also recognizes that work flexibility and work–life balance are facilitators of hybrid work, whereas role overload, stress-related with travels, etc., may diminish the preference of hybrid work among employees. Moreover, the TechnologyOrganizationEnvironment view, that the researchers consider in 2022, it was discovered that the organisational support, technological competence, work flexibility, and attitudes of employees are the key factors affecting the effectiveness of remote work, and remote work correlates positively with job performance. Evidence in India offers an immensely valuable angle. Applying personnel and digital-activity data of over 10,000 IT professionals at an Indian tech corporation, Gibbs *et al*. (2023) [5] provided an increase in working hours with a small decrease in output leading to an approximate decrease in working productivity of 819%. The authors credited a significant portion of this fall to the higher costs of communication and coordination, a rise in number of meetings and less continuous work hours. This conclusion is especially important as it overcame the belief that the longer working hours implies the more productive workers should become. On the other hand, a study conducted by Chatterjee *et al*. (2023) has determined the positive correlation among remote working habits, work-life balance, availability of technology, communication and overall performance within an organisation, where proper managerial systems play a significant role. Taken together, these sources determine that remote and hybrid work cannot and should not be considered as a widely advantageous or detrimental concept; instead, the effectiveness of work will be determined by how flexibility, job set up, technology, communication, management support, and ability to cope with work-related demands interact with each other.

The second key literature area as a whole is devoted to work-related stress, work-life balance, and employee well-being, which present significant avenues of remote and hybrid work potentially affecting productivity. In their empirical study of IT-enabled workers in the industrial setting of Hyderabad, Prasad *et al*. (2023) [19] assessed remote working and work stress and occupational stress and satisfaction with jobs, motivation, and performance. Their analysis points to the role of technological competency, teamwork, social relations, coping dynamics and work-life balance to explain the results of employees in the remote environment. On the same note, Kumari (2023) [12] review indicated that the high levels of working hours, technological necessity, poor personal time, and lack of organisational support may disrupt the well-being of employees and performance of work even in remote and hybrid work environments. Scholarship on telecommuting in 2023 has also suggested work overload and boundary erosion through professional work-professional coming between professional and personal life as another source of work-family conflict, exhaustion, and reduced well-being, showing that flex is a dual-faceted phenomenon that can be both resourceful and demand-driven. Gore (2024) [7] further supports the Indian evidence as his research interview with western Indian city professionals indicated that they were concerned with the loss of work life balance, stress, anxiety and work performance among WFH workers. In the more global context, a scoping review of 62 studies by Lyzwinski (2024) [14] resulted in employees experiencing the flexibility of remote work often being valued by these workers, although productivity and well-being differed greatly. Isolation, loneliness, workloads, family issues, insufficient home-working conditions were found as key challenges, and support by the management and frequent communication with colleagues might help overcome the adverse outcomes. Based on job demands - resources and work- embeddedness viewpoints, further Liao *et al*. (2024) [13] asserted that telework has the potential to influence job performance by raising or lowering the interaction between work and non-work experience of employees, which is moderated by digital leadership. Indian evidence also indicates the role of social support: a cross-sectional study of 531 employees in Indian IT/ITES learning organisations revealed that hybrid work had a positive connection with social support, work–life balance, and life satisfaction, with social support mediating the correlation between hybrid work and work-life balance (2023). This has been reinforced by more recent evidence. Halder *et al*. (2024) [9] discovered that the efficiency of remote work and managing work-life boundaries had a considerable effect on productivity, whereas Khairnar (2024) [11] reported that most professionals had a better work-life-balance at the remote set up and still encounter communication issues. A comparative study by Yaqub *et al*. (2024) [22] also found a higher job satisfaction and work-life balance that applied to remote workers in comparison to office workers, but the results also indicated that stress and productivity differences emerged across working set-ups. These results indicate that work life balance does not only result as an employee welfare but can even serve as a crucial channel linking flexible work arrangements and productivity. Simultaneously, an extreme level of flexibility and the lack of boundaries can lead to technostress, work intensification, and other psychological detachment issues. The literature, therefore, helps to justify a middle ground explanation according to which remote and hybrid work can improve the sense of autonomy and release fewer commuting requirements and at the same time more pressures and stress on boundary-management.

The latest findings of 20242026 give a better argument in the favor of productivity being safeguarded by hybrid employment provided that it is properly structured, although also providing significant constraints regarding group work, innovation, and psychosocial well-being. The randomized controlled trial by Bloom *et al*. (2024) [1] is one of the strongest contributions to the empirical evidence on the topic, as it included a population of 1,612 employees working in a Chinese company of technology. In the investigations, the two days of working at home increased job satisfaction by about one-third and decreased employee turnover by about a third without causing any significant decline in job performance measurement or promotion. This can be used to give comparatively good causal evidence that an organized hybrid model has the capacity to enhance employee results without necessarily concealing the productivity. Gibbs *et al*. (2024) [6] however reported that in an Indian IT-services organisation data on over 48,000 employees found the number of ideas not to differ substantially during WFH, but

the quality of their ideas declined and that innovation dropped during the following hybrid phase, especially when teams were ill-coordinated in terms of office and home working schedules. This implies that productivity in terms of performing routine tasks may not be affected whereas more complex results like innovation and collaboration may be adversely influenced. As Prasad *et al*. (2024) and new studies indicate, other studies also focus on the importance of digital communication, technological support, organisational culture, and managerial practices to determine the success of the flexible working. Further evidence to support this claim is provided by the scoping evidence of Lyzwinski in 2024 [14] who argues that the outcomes of remote work vary depending on gender, family workload, social support, workload, and condition at home-office. Ghalan *et al*. (2025) [4] looked at the connection between remote work and productivity mediated by the work-life balance, where the claim that productivity ought to be seen in conjunction with the employees capacity to create boundaries between work and personal life is supported. Investigating employees in Bhopal and Indore, Mishra *et al*. (2025) [16] also discovered that remote working was capable of improving productivity by providing flexibility and less commuting time, and collaboration problems and work-life boundaries were also a significant challenge. Investigating the 409 remote workers in Kathmandu Valley, Jha (2025) found that employees who had better work-life balance and reduced stress levels more often indicating higher productivity, but domestic disturbances, management issues, and communication issues were still taken into account. Studies on hybrid work have also been more and more relating work-family conflict to the well being of employees and their mental health which implies that the advantage of flexibility is highly reliant on the possibilities of employee managing boundaries. Notably, in their study of IT professionals in India, Satija and Bakshi (2026) [20] found that individual work style, organisational culture, managerial trust, satisfaction with communication channels, and training were key predictors of WFH productivity, cementing the perspective on the necessity to go beyond a range of simple cases where remote is opposed to office. On the whole, the 20222026 literature shows three significant gaps. First, the literature almost invariably analyzes productivity, stress, or work-life balance independently of each other, but not as one concept used in an explanation. Second, the primary evidence is localized to metropolitan, technology-heavy or international, so regional Indian sites are not explored extensively. Third, there is a relatively weak body of empirical research on the experience of remote and hybrid work in Uttarakhand, where the infrastructure, employment conditions, and commuting conditions, family circumstances, and organisational maturity can have a distinct impact on the experience of remote and hybrid employment, as compared to the findings on major urban areas. Hence, the current research addresses a significant research gap by considering remote and hybrid work stress and work-life balance to determine employee productivity at the same time, with the support of particular empirical evidence in Uttarakhand. This combination lens has the potential to elucidate, in part, whether the role of flexible work arrangements as sources of increased productivity, or whether their benefits are diluted in circumstances where stress and work-life boundaries are improperly regulated.

Table 1: Consolidated Review of Literature

Variable	Author & Year	Factor of the Study	Major Finding Relevant to Present Study
Remote and Hybrid Work Stress	Hackney *et al.* (2022) [8]	Working from home and employee outcomes	The effects of working from home on employee outcomes were mixed, suggesting that the nature and conditions of remote work influence employee experiences and outcomes.
	Patanjali & Bhatta (2022) [18]	Organisational support and work design	Organisational support and appropriate work design were important for sustaining positive outcomes under work-from-home arrangements.
	Prasad *et al*. (2023) [19]	Remote working and occupational stress	Technological proficiency, teamwork, social support, coping mechanisms and work–life balance were important factors affecting employees in remote settings.
	Kumari (2023) [12]	Workload, technology and employee well-being	Excessive working hours, technological demands, inadequate personal time and insufficient organisational support can undermine employee well-being and work performance.
	Gore (2024) [7]	WFH, stress and performance	Work-from-home professionals experienced concerns regarding work–life balance, stress, anxiety and work performance.
	Lyzwinski (2024) [14]	Remote work and psychosocial challenges	Isolation, loneliness, excessive workload, family responsibilities and inadequate home-working environments emerged as important challenges.
	Jha (2025)	Remote work, stress and productivity	Lower stress was associated with better productivity, whereas domestic distractions, supervision problems and communication barriers remained concerns.
Work–Life Balance	Parry *et al.* (2022)	Flexibility and work–life balance	Work flexibility and work–life balance facilitated hybrid work, while role overload and travel-related stress could create barriers.
	Chatterjee *et al.* (2023)	Remote work and work–life balance	Remote-working practices, work–life balance, technological accessibility and communication were positively associated with organisational performance.
	Indian IT/ITES Study (2023)	Hybrid work, social support and work–life balance	Hybrid work was positively associated with social support, work–life balance and life satisfaction, with social support mediating the relationship with work–life balance.
	Halder *et al*. (2024) [9]	Remote-work efficiency and work–life boundaries	The ability of employees to manage work–life boundaries significantly contributed to remote-work efficiency and productivity.
	Khairnar (2024) [11]	Remote work and work–life balance	Remote arrangements improved work–life balance for many professionals, although communication challenges continued to exist.
	Yaqub *et al*. (2024)	Remote versus office	Remote workers reported higher work–life balance and job satisfaction than

	[22]	work	office workers, although differences in stress and productivity were also observed.
	Ghalan *et al*. (2025) [4]	Remote work, work–life balance and productivity	Work–life balance was identified as an important mechanism through which remote work can influence employee productivity.
	Mishra *et al*. (2025) [16]	Flexibility, boundaries and productivity	Flexibility and reduced commuting can enhance productivity, while collaboration difficulties and blurred professional–personal boundaries remain challenges.
Employee Productivity	Chatterjee *et al*. (2022) [3]	Remote-work flexibility and organisational performance	Remote-work flexibility can contribute to organisational performance when supported by appropriate organisational policies and top-management support.
	Castaneda *et al*. (2022) [2]	Hybrid work, well-being and collaboration	Well-being, collaboration, belongingness and innovation were important conditions for maintaining productivity in hybrid environments.
	Gibbs *et al*. (2023) [5]	Working hours, communication and output	Increased working hours did not necessarily translate into greater productivity; communication and coordination costs and reduced uninterrupted work time affected output.
	Bloom *et al*. (2024) [1]	Structured hybrid work and performance	A structured hybrid arrangement improved employee satisfaction without significant deterioration in performance evaluations or promotions.
	Gibbs *et al*. (2024) [6]	Hybrid work and innovation	Poor coordination of office and home-working schedules was associated with reduced innovation outcomes, showing that work arrangement design can affect performance-related outcomes.
	Satija & Bakshi (2026) [20]	WFH productivity determinants	Individual work style, organisational culture, managerial trust, communication-channel satisfaction and training significantly predicted WFH productivity.
RHS + WLB → Employee Productivity	Prasad *et al*. (2023) [19]	Stress, work–life balance and remote work	The interaction of occupational stress, social support, coping mechanisms and work–life balance helps explain employee outcomes in remote work environments.
	Lyzwinski (2024) [14]	Stress, well-being and productivity	Remote-work productivity depends on workload, family responsibilities, social support, home-working conditions and employee well-being.
	Jha (2025)	Stress, work–life balance and productivity	Lower stress and improved work–life balance were associated with better productivity among remote employees.
	Ghalan *et al*. (2025) [4]	Remote work and productivity through WLB	The study reinforced the importance of work–life balance as a pathway connecting remote work with employee productivity.
	Mishra *et al*. (2025) [16]	Flexibility, work–life boundaries and productivity	Remote-work flexibility can enhance productivity, but collaboration difficulties and blurred work–personal boundaries may weaken these benefits.

3. Research Objectives

1. To examine the impact of remote and hybrid work stress on employee productivity among employees in Uttarakhand.
2. To assess the impact of work–life balance on employee productivity among employees in Uttarakhand.
3. To evaluate the combined impact of remote and hybrid work stress and work–life balance on employee productivity among employees in Uttarakhand.
4. To determine the significant correlation between remote and hybrid work stress and work–life balance among employees in Uttarakhand.

4. Hypotheses of Research & Framework

H_1: Remote and hybrid work stress has an impact on employee productivity among employees in Uttarakhand.
H_2: Work–life balance has an impact on employee productivity among employees in Uttarakhand.
H_3: Remote and hybrid work stress and work–life balance jointly has an impact on employee productivity among employees in Uttarakhand.
H_4: There is a significant correlation between remote and hybrid work stress and work–life balance among employees in Uttarakhand.

Research Framework

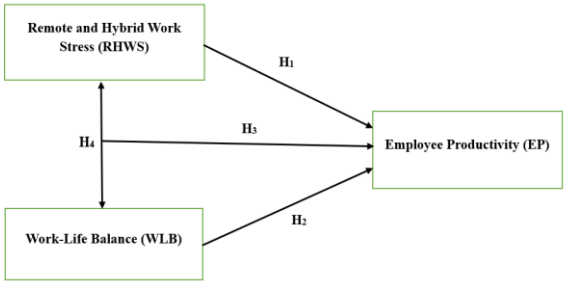

Fig 1: Remote–Hybrid Work and Employee Productivity Framework

5. Methodology

The research design selected is the quantitative one to empirically investigate the correlation between Remote and Hybrid Work Stress, Work-Life Balance and Employee Productivity of the workers in Uttarakhand. The research group included workers in Uttarakhand who had experience of working remotely or in a hybrid setup. The empirical analysis was planned to include 400 respondents. A non-probability convenience sampling methodology has been used during the study, so the researcher was able to gather responses of eligible employees who were available and

ready to take part in the study. A structured questionnaire was used to measure three constructs (major) Remote and Hybrid Work Stress (RHS_Total), Work-life balance (WLB-Total), and Employee Productivity (EP-Total) as the primary data were obtained. The research questionnaire had 30 items, where answers were measured on a seven-point Likert scale, where 1 was strongly disagree and 7 strongly agree. The data collected were examined using the IBM SPSS where descriptive and inferential statistics were used. The measurement of reliability was done by determining the Alpha of Cronbach, simple linear regression was employed to evaluate the effect of RHS and WLB individually and multiple linear regression was employed to evaluate the combined effect of both variables and Pearson correlation analysis was done to evaluate the relationship between the two variables. It happened that the investigation was carried out in specific geographical context of Uttarakhand, India, which presented the evidence related to the contemporary flexible working arrangements at the regional level.

6. Results and Interpretation

6.1. Reliability Analysis

The reliability analysis was done to evaluate internal consistency of the research instrument (30 items) used to gauge Remote and Hybrid Work Stress, Work-Life Balance, and Employee Productivity. The valid 400 responses were analyzed and all the responses were included in the validation test. Cronbach's Alpha was the main indicator to determine how well the internal consistency of the instrument was determined.

Table 2: Overall Reliability Statistics of the Research Instrument

Reliability Measure	Value
Sample Size (N)	400
Valid Cases (%)	100.0
Excluded Cases (%)	0.0
Number of Items	30
Cronbach's Alpha	0.910
Cronbach's Alpha Based on Standardized Items	0.910
Mean of Item Means	4.019
Minimum Item Mean	3.985
Maximum Item Mean	4.093
Mean of Item Variances	1.300
Minimum Item Variance	1.188
Maximum Item Variance	1.421
Mean Inter-Item Covariance	0.328
Mean Inter-Item Correlation	0.252
Minimum Inter-Item Correlation	0.196
Maximum Inter-Item Correlation	0.309

Source: IBM SPSS Output

Table 2 shows the reliability of the research instrument in general in 30 items, and valid responses of 400. Our findings show that every case was valid, and none of the responses were excluded, and thus the data coverage is full. The test attained a Cronbach alpha of 0.910, which represents a high internal consistency as well as much higher than the generally accepted alpha of 0.70 (Nunnally and Bernstein, 1994; Tavakol and Dennick, 2011) [17, 21]. The same standardized alpha (0.910) once again indicates the reliability estimate stability. The average of the items score (4.019) indicates that there are responses generally positive by participants. Moreover, the correlation mean between inter-items amounts to 0.252 (0.196-0.309), which implies that there are satisfactory inter-item correlations but does not imply that the item overlap is too large. In general, the results show that the 30 item research instrument has high internal consistency and reasonable reliability, which will be used in further statistical capabilities and hypothesis testing (Tavakol and Dennick, 2011) [21].

6.2. Regression Analysis: Remote and Hybrid work stress has an impact on employee productivity among employees in Uttarakhand- Fulfillment of Objective 1 & Hypothesis 1

To investigate the relationship between Remote and Hybrid Work Stress (RHS_Total) and Employee Productivity (EP_Total) of employees in Uttarakhand, a simple linear regression analysis was done. RHS Total was the independent variable and EP total the dependent variable in this model. They were analyzed using data gathered on 400 respondents. The aim of the analysis was to establish whether or not the Remote and Hybrid Work Stress is a significant predictor of differences in Employee Productivity among employees in Uttarakhand. Based on this a Hypothesis (H1) was tested.

Table 3: Regression Analysis of Remote and Hybrid Work Stress (RHS) and Employee Productivity (EP)

Regression Statistic	Value
Sample Size (N)	400
R	0.849
R Square	0.721
Adjusted R Square	0.721
Std. Error of the Estimate	5.69724
F-value	1030.622
Significance (p-value)	0.000
Constant (B)	5.315
RHS_Total – Unstandardized B	0.870
RHS_Total – Standardized Beta (β)	0.849
RHS_Total – t-value	32.103
RHS_Total – p-value	0.000

Source: IBM SPSS Output

The regression equation is:

$$EP = 5.315 + 0.870(RHS)$$

Where: *Where: EP= Employee Productivity, RHS. = Remote and Hybrid Work Stress, 5.315 = Constant/intercept (B), 0.870 = Unstandardized regression coefficient (B) for Remote and Hybrid Work Stress.*

To ascertain the effect of Remote and Hybrid Work Stress (RHS_Total) on Employee Productivity (EP_Total) among 400 employees based in Uttarakhand a simple linear regression analysis was utilised. The model demonstrates a high positive relationship, with the R = 0.849, and the R^2= 0.721 denotes that the Remote and Hybrid Work Stress can explain 72.1% of the fluctuation in Employee Productivity. The model is statistically significant, with F = 1030.622, $p < 0.001$, confirming that RHS_Total significantly predicts EP_Total. The unstandardized coefficient (B = 0.870) indicates that a one-unit increase in Remote and Hybrid Work Stress is associated with a 0.870-unit increase in Employee Productivity. The standardized beta (β = 0.849) and t =

32.103, $p < 0.001$ further confirm a significant relationship. Thus, Objective 1 is met and H1 is accepted, which will create a significant association between Remote and Hybrid Work Stress and Employee Productivity among employees in Uttarakhand.

6.3. Regression Analysis: Work–life balance has an impact on employee productivity among employees in Uttarakhand– Fulfilment of Research Objective 2 and Hypothesis 2

The effect of Work Life Balance (WLB -Totals) on Employee Productivity (EP -Total) in the employees of Uttarakhand was tested using simple linear regression test. This model assumed that WLB_Total is the independent variable and EP_Total is the dependent variable. Data was analyzed on 400 respondents. The analysis was conducted to find out to what extent Work Life Balance is significant in explaining the differences in Employee Productivity among the employees in Uttarakhand. In line with this, empirical test was conducted on Hypothesis (H2).

Table 4: Regression Analysis of Work–Life Balance and Employee Productivity

Regression Statistic	Value
Sample Size (N)	400
R	0.840
R Square	0.706
Adjusted R Square	0.705
Std. Error of the Estimate	5.85369
F-value	955.281
Significance (p-value)	0.000
Constant (B)	6.939
WLB_Total – Unstandardized B	0.831
WLB_Total – Standardized Beta (β)	0.840
WLB_Total – t-value	30.908
WLB_Total – p-value	0.000

Source: IBM SPSS Output

Regression Equation

$$EP = 6.939 + 0.831 (WLB)$$

Where: EP= Employee Productivity, WLB = Worl-life balance, 6.939 = Constant/intercept (B), 0.831 = Unstandardized regression coefficient (B) for WLB

The simple linear regression was used to test the relationship between Work-Life Balance (WLB_Total) with Employee Productivity (EP_Total) of the Uttarakhand employees. The findings show that there is a positive correlation between Work-Life Balance and Employee Productivity with $R = 0.840$. The value of R^2 is 0.706, which means a Work-life Balance explains about 70.6 percent of the variance in the Employee Productivity and adjusted R^2 of 0.705 speaks of a good amount of the explanatory power retained by the model after the adjustment. According to the results of ANOVA, the regression model is significant, $F = 955.281$, $p = 0.000$ ($p < 0.001$). Hence, Employee Productivity is highly predictive of Work–Life Balance. A coefficient B that is not standardized $B = 0.831$ means that a one unit changing Work-Life Balance can result in a one-unit change of Employee Productivity under an estimation of 0.831. The beta coefficient ($\beta = 0.840$) (standardized) along with $t = 30.908$ and $p = 0.000$ further indicate the strong significant positive effect. Therefore Objective 2 is met and H2 is accepted and thus it is known that Work-Life balance has a strong positive correlation on Employee Productivity among Uttarakhand employees.

6.4. Multiple Regression Analysis: Remote and hybrid work stress and work–life balance jointly has an impact on employee productivity among employees in Uttarakhand– Fulfilment of Research Objective 3 and Hypothesis 3

To test the combined impact of Remote and Hybrid Work Stress (RHS) and Work–Life Balance (WLB) on Employee Productivity (EP) among the employees working in Uttarakhand, multiple linear regression was used relying on the details of 400 respondents. In the model, the independent variables were simultaneously put as RHS_Total (Remote and Hybrid Work Stress) and WLB_Total (Work Life Balance), whereas EP_Total (Employee Productivity) was used as the dependent variable. The analysis was aimed at testing the third research objective and Hypothesis 3 (H3) as the relationship between Remote and Hybrid Work Stress and Work–Life Balance has a significant influence on Employee Productivity among the Uttarakhand employees.

Table 5: Multiple Regression Analysis of Remote and Hybrid Work Stress and Work–Life Balance on Employee Productivity

Regression Statistic	Value
Sample Size (N)	400
R	0.910
R Square	0.829
Adjusted R Square	0.828
Std. Error of the Estimate	4.47140
F-value	961.160
Significance (p-value)	0.000
Constant (B)	0.600
WLB_Total – Unstandardized B	0.469
WLB_Total – Standardized Beta (β)	0.474
WLB_Total – t-value	15.784
WLB_Total – p-value	0.000
RHS_Total – Unstandardized B	0.520
RHS_Total – Standardized Beta (β)	0.507
RHS_Total – t-value	16.885
RHS_Total – p-value	0.000

Source: IBM SPSS Output

Regression Equation:

$$EP = 0.600 + 0.520(RHS) + 0.469(WLB)$$

Where: EP= Employee Productivity, RHS= Remote and Hybrid work Stress, WLB= Work-life Balance, 0.600 = Constant, 0.520 = Unstandardized coefficient of RHS, 0.469 = Unstandardized coefficient of WLB

The Multiple linear regression analysis was carried out to investigate the combined effect of Remote and Hybrid Work Stress (RHS_Total) and Work-Life Balance (WLB_Total) to Employee Productivity (EP_Total) among the workers in Uttarakhand. The model summary shows very strong relationship among the collectives with $R = 0.910$. R 2 of 0.829 implies that RHS total and WLB total are acting together in explaining employee productivity to the tune of about 82.9 percent and the adjusted R 2 of 0.828 is reflecting the robustness of the model in forecasting the employee productivity after taking into consideration the predictors. The results of ANOVA show that the total regression model is significant, as it has $F = 961.160$ and $p = 0.000$ ($p < 0.001$). Both predictors make significant positive contributions to

Employee Productivity. RHS_Total has an unstandardized coefficient of B = 0.520, standardized beta of β = 0.507, and t = 16.885, p = 0.000, while WLB_Total has B = 0.469, β = 0.474, and t = 15.784, p = 0.000. Therefore, both independent variables have a significant predictive attitude to Employee Productivity in combination. Thus, on the satisfaction of Objective 3 and H3 is granted, it proves that Remote and Hybrid Work Stress and Work life balance is significantly correlated to Employee Productivity among employees in Uttarakhand.

6.5. Correlation Analysis: There is a significant correlation between remote and hybrid work stress and work–life balance among employees in Uttarakhand– Fulfilment of Research Objective 4 and Hypothesis 4

Pearson correlation analysis was done with the data of 400 respondents to investigate the remote and Hybrid Work Stress (RHS) and Work-life Balance (WLB) and their correlation to Remote and Hybrid Work Stress. The objective of the analysis was to ascertain the strength, direction and statistical significance of the relationship between Remote and Hybrid Work Stress and Work Life Balance. Results were used to achieve Research Objective 4 and empirically test Hypothesis 4 (H4) that significant correlation exists between Remote and Hybrid Work Stress, and WorkLife balance among Uttarakhand based employees.

Table 6: Correlation between Remote and Hybrid Work Stress and Work–Life Balance

Variables	RHS	WLB
Remote and Hybrid Work Stress (RHS)	1	0.722**
Work-life Balance (WLB)	0.722**	1
Sig. (2-tailed)	—	0.000
N	400	400

Note: Correlation is significant at the 0.01 level (2-tailed).
RHS = Remote and Hybrid Work Stress; WLB = Work–Life Balance.
Source: IBM SPSS Output

Pearson correlation analysis shows that there is a strong statistically significant positive relationship between Professional and Hybrid Work Stress (RHS) and Work-Life Balance (WLB) with the employees in Uttarakhand. The value r = 0.722 shows a strong positive relation between the two variables and, therefore, the difference in Remote and Hybrid Work Stress is systematically related to the difference in Work is life balance. The p value is p = 0.000 (p < 0.001) that is relatively smaller than the typical significance level of 0.05. As such, the relationship that is observed is statistically significant and may not have been through chance. It has been analyzed based on the answers of 400 employees and this gives a sufficient empirical background of judging the relationship proposed. The positive value of r means that the extent of Remote and Hybrid Work Stress correlates with the extent of Work Life Balance which, in turn, it is measured in actual values in the current sample. But since the analysis of correlation only reveals association, but not causation, the outcome cannot be taken to imply that one variable is a direct causal factor of the changes in the other. The results manage to address Research Objective 4 that aimed to investigate association between Remote and Hybrid Work Stress and Worklife Balance among employees in Uttarakhand. According to the statistically significant correlation coefficient (r = 0.722, p < 0.001), the Hypothesis (H4), according to which the significant correlation is found between Remote and Hybrid Work Stress and Work-Life Balance among the employees in Uttarakhand is accepted/supported. Therefore, the findings create a very high positive and statistically significant relationship between RHS and WLB within the context of the study.

7. Results and Discussion

The paper has studied the impact of Remote and Hybrid Work Stress (RWS), Worklife balance (WLBS) and Employee Productivity (EP) of 400 employees in Uttarakhand. The reliability tested also showed good internal consistency: the 30-item instrument has a Cronbach's alpha of 0.910, which indicates the aptitude of measurements to do the further analysis. The results of the simple regression indicated that Remote and Hybrid Work Stress was a strong predictor of Employee Productivity (R = 0.849, R^2 = 0.721, F = 1030.622, p < 0.001). Similarly, Work–life Balance demonstrated a strong positive effect on Employee Productivity (R = 0.840, R^2 = 0.706, F = 955.281, p < 0.001). In this way, individual predictors were found to be significant in explaining the variations in employee productivity in support of H1 and H2.

The multiple regression analysis also showed that Employee Productivity was well explained by RHS and WLB (R = 0.910 and R^2 =0.829) meaning that the two predictors were able to explain 82.9 percent of the variance in the productivity. The model as a whole was statistically significant (F = 961.160, p < 0.001). RHS had a positive and significant contribution (β = 0.507, t = 16.885, p < 0.001), while WLB also contributed positively (β = 0.474, t = 15.784, p < 0.001). Hence, H3 was supported and Objective 3 was achieved. Additionally, Pearson correlation exhibited a significant positive correlation between WLB and RHS (r = 0.722, p < 0.0 01), which supports H 4 and Objective 4.

8. Conclusion

This paper concludes that the current evolving nature of work arrangements have significant ramifications on the productivity of employees in Uttarakhand. The results indicate that Remote and Hybrid Work Stress is a strong predictor of Employee Productivity, which means that experiences of stress may be largely related to the results of the employees working in flexible and distributed work environments. Simultaneously, Work–Life Balance as the concept manifests itself as the factor of productivity, meaning that the employee, when given an opportunity to balance work, personal, and family life, is in a better position to maintain their productive performance. These results thus place remote working and hybrid working as not yet to be judged based on its convenience and technological aspect of flexibility alone but should also be judged on how the employees feel and cope with the demands that are implied with such arrangements. Remote and hybrid work policies require organisations to be aware of the significance of employee well-being, workload management, communication practices, flexibility, and supportive approaches of managers.

Additionally, the paper confirms that the Remote and Hybrid Work Stress and Work life Balance have significant contribution towards the explanation of Employee Productivity. The joint results suggest that the interaction between the work pressures and the capacity of the employees to sustain adequate balance between work and personal life are the factors that affect productivity within the

workplace of flexible type. The high correlation that is observed between Remote and Hybrid Work Stress and Work to Life Balance further proves that these are interrelated aspects of work experience among employees in Uttarakhand. In turn, organisations need to take a comprehensive view to work remote and hybrid work management by establishing clear work expectations, enhancing communication, offering sufficient managerial resources, promoting healthy work and life boundaries, and responding to factors that might cause work-related stress. It is possible that such practices can help to create a more productive and sustainable working relationship and promote the overall work experience of the workers. Generally, the research delivers on its purposes by developing significant correlations between Remote and Hybrid Work Stress, Work life Balance and, Employee Productivity, and offer empirical foundation to organisations wish to achieve enhanced productivity without jeopardizing the welfare of the employees in the challenging work conditions.

9. Suggestions for Future Research

- It may be possible to extend the geographical scope by ensuring the inclusion of other employees in various states and regions to determine whether the relationships that have been observed apply in a wide variety of working conditions.
- The generalisability of the findings would be enhanced by larger and more varied samples, including samples on different industries, organisational levels and age groups and occupational groups.
- Longitudinal research can offer more information on the how Remote and Hybrid Work Stress, Work Life Balance and Employee Productivity change over time as employees and organisations get used to flexible working practices.
- Other elements, including the organisational support, managerial support, workload, technological preparedness, employee engagement, job satisfaction, and digital fatigue might be included to further elucidate employee productivity.
- Qualitative interviews and mixed-method methodologies may be used to supplement the quantitative data and include the personal experience of employees and their in particular causes of work-related stress, difficulties in establishing the work-life balance, and their ideas of productivity when working remotely and in hybrid workplaces.

Annexure

Questionnaire

Variable	Code	Questionnaire Item
Remote and Hybrid Work Stress	RHS1	I feel stressed because of the demands associated with working remotely or in a hybrid arrangement.
	RHS2	I find it difficult to manage the workload associated with remote or hybrid work.
	RHS3	Working remotely or in a hybrid arrangement makes it difficult for me to mentally disconnect from work.
	RHS4	I feel pressure to remain continuously available to my organisation while working remotely or in a hybrid mode.
	RHS5	Frequent virtual meetings and digital communication increase my work-related stress.
	RHS6	I experience stress when technological problems interfere with my work.
	RHS7	Remote or hybrid work makes it difficult for me to maintain clear boundaries between work and personal life.
	RHS8	I feel isolated or disconnected from colleagues when working remotely or in a hybrid arrangement.
	RHS9	I often work beyond my normal working hours because of remote or hybrid work requirements.
	RHS10	The uncertainty and changing expectations associated with remote or hybrid work increase my stress levels.
Work–Life Balance	WLB1	My current work arrangement allows me to maintain a satisfactory balance between work and personal life.
	WLB2	Remote or hybrid work gives me sufficient time to fulfil my family and personal responsibilities.
	WLB3	I am able to separate my working time from my personal time effectively.
	WLB4	My work schedule provides sufficient flexibility to manage personal commitments.
	WLB5	I have adequate time to relax and recover after completing my work.
	WLB6	My work responsibilities rarely interfere with my family or social activities.
	WLB7	I am able to manage professional and personal responsibilities without excessive conflict.
	WLB8	My organisation's remote or hybrid work practices support my personal well-being.
	WLB9	I have sufficient control over my working schedule to accommodate important personal needs.
	WLB10	Overall, my current work arrangement enables me to achieve a healthy work–life balance.
Employee Productivity	EP1	I complete my assigned work within the expected timeframe.
	EP2	I am able to maintain a high level of efficiency while working remotely or in a hybrid arrangement.
	EP3	I consistently achieve the work-related goals assigned to me.
	EP4	The quality of my work remains high when working remotely or in a hybrid mode.
	EP5	I am able to concentrate effectively on my work during remote or hybrid working hours.
	EP6	I effectively manage my time while working remotely or in a hybrid arrangement.
	EP7	I can handle my assigned workload without compromising the quality of my work.
	EP8	I remain motivated to perform my duties effectively while working remotely or in a hybrid arrangement.
	EP9	I can complete my tasks with minimal supervision in a remote or hybrid work environment.
	EP10	Overall, my productivity is high under my current remote or hybrid working arrangement.

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How to Cite This Article

Jagtap PS, Garg A, Mallikarjuna M. Examining the effects of remote and hybrid work stress and work-life balance on employee productivity: evidence from Uttarakhand. Int J Manag Organ Res. 2026;5(5):49-58.

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