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Impact of commuting on employee well being and work life balance among corporate workforce in Bengaluru

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Abstract

Urban commuting has emerged as a significant occupational stressor, particularly in rapidly urbanising Indian cities where traffic congestion and inadequate transport infrastructure adversely affect employees' daily lives, especially in high density Indian cities where traffic jams and infrastructural inconveniences are increasingly getting worse by the day. This paper explores the impact that the everyday commuting life in Bengaluru has on the well-being, work-life balance, and organizational performance of full-time employed professionals. Data was collected using five composite indices were constructed that reflected five different measures of the commuting-to-performance continuum: the Commuting Intensity Index (CII), the Commute-Induced Stress Index (CISI), the Employee Well-Being Index (EWBI), the Work-Life Balance Index (WLBI) and the Organisational Impact Index (OII). The relations between these indices were analysed by applying the rigorous analytical framework in form of correlation analysis, regression modelling, analysis of variance and serial mediation analysis. The results show that commuting intensity has a strong link with decreased employee well-being, whereas the stress related to commuting proves to be a potent force leading to the worsening of work-life balance. Importantly, a statistically significant sequential mediation was developed, which indicates how the cumulative weight of commuting induces through stress and well-being to eventually impact on organizational performance. Additional observation indicated that these relationships are moderated by individual and contextual variables, such as the period commuting, transportation means, marital status, and parental demands, illustrating the heterogeneity in commuting experience in the workforce.

***Keywords*:** Commuting Intensity, Employee Well Being, Work Life Balance, Commute Induced Stress, Organisational Performance, Serial Mediation, Urban Mobility, Bengaluru

JEL Classification: I31, J28, R41

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1. Introduction

Megacities are the driving forces of economic development and they attract millions of labourers to the thick urban centres and the concentration of employment that characterizes the industrial economies of the modern era. Nevertheless, this spatial unification of work and population is very expensive to people. The enhanced urbanisation along with the rising geographical distances between residential areas and job centres have significantly increased the commute time of a significant number of urban workers on their daily commute (Stutzer & Frey, 2008; Olsson et al., 2013). What used to be a short, daily commute to work and back home has in most cities become a tiring and time-consuming nightmare that essentially determines how workers live and work. Commuting is no longer a neutral, passive practice but has become one of the most predictable and widespread factors of employee well-being and work-life balance in modern cities. Commute has emerged as a perennial and inescapable cause of work stress in fast developing cities. Evidence from Southwest Delhi also suggests that longer and more complex commuting journeys significantly increase stress, mental fatigue, and reduce job satisfaction among working-class commuters (Ajmer Singh, 2024). The long-term stay in traffic jams, extremely random travel time, and poor and insufficiently developed transport infrastructure generate conditions of a constant psychological stress for the daily commuter (Masthi et al., 2019; Hilbrecht et al., 2014). Evidence from Bengaluru further indicates that perceived traffic congestion is positively associated with commute stress and has significant implications for commuters' mental health (Singh & Reddy, 2021). Compared to discrete workplace stressors which can be controlled or avoided at least in the short run, commuting stress is structural and repetitive, it happens twice a day, five or six days a week, and there is little that an individual can do to regulate the magnitude or length of commuting stress. In the long run, such a repetitive exposure exhausts the psychological and physical resources of the employees even before they get to the workplace, establishing a negative emotional and cognitive atmosphere during the workplace that will be transferred to the workday. The overall impact of this daily load, when added up over weeks and months, is that what might seem a small inconvenience turns into a major occupational health issue that has quantifiable effects on both individuals and organisations.

The empirical data based on different geographical settings and fields of study invariably verify the harmful impacts of commuting on various aspects of employee well-being. Increased commuting time has been strongly linked to reduced life satisfaction, increased emotional exhaustion, and reduced subjective well-being, which remain strong despite the fact that individual factors, including income, occupation, and personality, are also taken into consideration (Olsson et al., 2013; Han et al., 2023). Commuting stress has been found to extend beyond personal well-being, highlighting the work-family conflict by blurring the line between work and family life, as well as the time and energy that employees would otherwise spend on family roles, leisure, and psychological restoration (Allen et al., 2021; Bai et al., 2021). The organisational impacts are equally pronounced: the negative effect of commutes has been associated with lower job

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performance, lower employee engagement and greater absenteeism, implying that the cost of commuting extends beyond the individual to organisational productivity and human capital performance (Atis et al., 2022; Nepal et al., 2021; Ma & Ye, 2019). Although the amount of research in this field is increasing, nevertheless, most of the current research has been done in the setting of developed countries with relatively organized and dependable transport infrastructure. It is not yet clear how such findings are directly applicable to the rapidly urbanising nations such as India where commuting environments are typified by severe congestion, infrastructural shortages, modal fragmentation, and significant temporal uncertainty (Masthi et al., 2019; Tao et al., 2023).

Bengaluru offers a particularly interesting and practically important case to study within the context of India. With its rapid development as one of the fastest-growing metropolitan cities in India, and a globally-established technology and services centre, Bengaluru has seen an incredible population surge and spatial expansion over the last 20 years, with a massive load on an inadequately-developed transport infrastructure. The city is also regularly ranked as one of the most traffic-prone urban hubs of the world, with average commuting durations vastly higher than those seen in comparably sized cities, and with a labour force that is overrepresented with highly skilled, paid-salary professionals whose output, engagement, and retention are of strategic significance to their employers (Prasad, 2024; Mazumdar et al., 2023). Although a few recent studies have begun examining commuting experiences among Bengaluru employees, these have primarily focused on well-being and motivation (Rupali & Sreenath, 2025). Empirical studies that simultaneously examine employee well-being, work–life balance, and organisational performance within a comprehensive organisational framework remain limited. The current Indian literature is inclined to either health outcomes or life satisfaction in their own right, but they are rarely combined in the same organisational context, and even fewer is a managerial or human resource approach to commuting as an organisational issue.

To fill this gap, the current research paper analyses the effect of commuting conditions in Bengaluru on employee well-being, work-life balance, and organisational performance of full time working professionals. Based on the theory of resource depletion and the spillover paradigm, the research hypothesizes and estimates a stress-spillover model, sequential in nature, where the intensity of commuting results in the occurrence of psychological stress, which subsequently, decays the employee welfare, work-life balance, and subsequently lead to adverse organisational impacts. Combining the lenses of urban mobility, occupational health, work-family conflict, and human resource management, the research will assist in offering empirically based context-specific findings applicable not only to academics in these arenas but also to organisations, policymakers, and urban planners seeking sustainable, evidence-based remedies to the mounting challenge of workforce well-being in congested Indian metropolitan settings.

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2. Literature Review

It has been proposed that relying on urban commuting is a consistent stress factor with concrete health consequences. Similarly, Mohammad Ali et al. (2021) reported that office workers experiencing longer commuting times, severe traffic congestion, and greater reliance on public transport exhibited significantly higher levels of physical and psychological health complaints, reinforcing the adverse health consequences of daily urban commuting. Masthi et al. (2019) have shown that chronic exposure to the traffic in Bengaluru is related to stress, anxiety, fatigue, and physical discomfort. Prasad (2024) also demonstrated that the length of commute and the mode of travel have a considerable and important influence on perceptions of quality of life, with the increasing commute causing less life satisfaction. Drawing on massive urban data, Han et al. (2023) affirmed that the negative impact of longer commuting on job satisfaction, physical health, and overall life quality can be partially reduced but the transport infrastructure of a certain quality can alleviate such effects.

This private experience of commuting (especially the inability to control congestion), makes the difference to the consequences of employee well-being. Hilbrecht et al. (2014) discovered that time pressure caused by congestion, and emotional strain diminish life satisfaction despite the fact that the absolute commuting times are equal, pointing out the psychological burden as a very important mechanism. The commuting stress has also been evidenced to influence work behaviour: Atis et al. (2022) observed that negative moods caused by stressful commutes led to decreased job performance, whereas Nepal et al. (2021) reported mobile sensing data confirmed a physiological stress response and worse performance due to difficult commutes. Longer commute times are associated with increased work–family conflict, reduced life satisfaction, lower job performance, and diminished job satisfaction (Allen et al., 2021; Chatterjee et al., 2020; Zhang et al., 2023). Bai et al. (2021) took it a step further, demonstrating the impact of relative commuting, (commuting more than one's contemporaries) on work-family conflict, and that life satisfaction and childcare support are partial mitigators. Olsson et al. (2013) went on to suggest that commuting satisfaction is independently associated with overall happiness, making the commute a special and significant sphere in life. Kasperczuk et al. (2025) further emphasised that effective work–life balance is positively associated with employee motivation, job satisfaction, and organisational performance, highlighting its importance as a strategic human resource management outcome.

Chatterjee et al. (2020) and Tao et al. (2023) highlighted emotional spillover and resource depletion as key pathways by which commuting negatively impacts well-being, yet point to the lack of longitudinal and developing-country studies. Singh (2024) indicated spatial differences in commuting stress in the Indian context, and Mazumdar et al. (2023) reported great physical and mental stress on the populations of Bengaluru that were exposed to traffic. Organisationally, Marecki (2023) conducts a study that connects work-life balance with burnout and poor

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performance, whereas Patil et al. (2024) prove that decreased commuting with hybrid work has a significant positive impact on well-being and performance.

Collectively, the literature demonstrates five major gaps to be

(1) Paucity of India-specific and Bengaluru-centric empirical research;

(2) Diffuse analysis of well-being and work-life balance;

(3) Scarcity of organisational and managerial prism of commuter research;

(4) Limited engagement with subjective commuting experience;

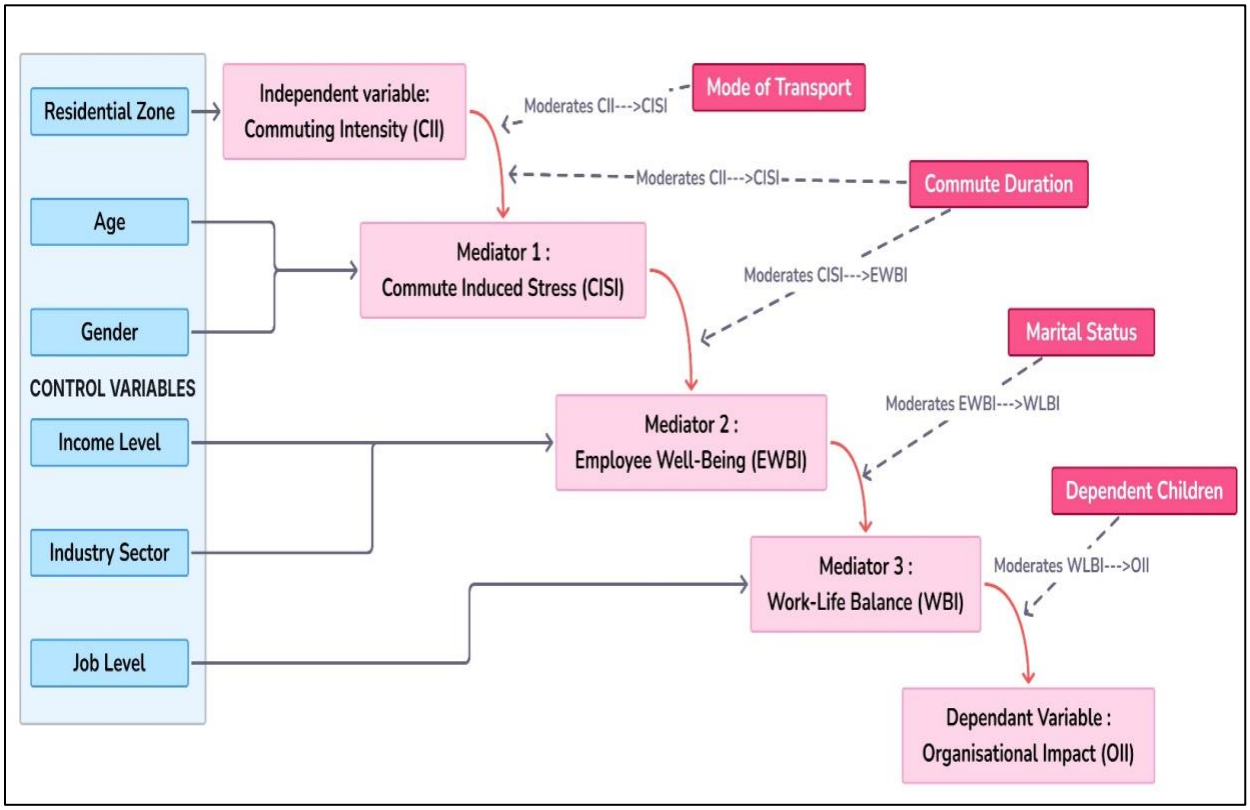
(5) Lack of employee-oriented research in corporate and service domains. The present study is designed to address these gaps.

2.1 Conceptual Framework and Hypotheses

This paper hypothesises a sequential stress spillover process whereby commuting intensity itself is not directly linked with organisational performance, but, rather, propagates its influencing impacts via a series of psychological and personal life processes:

CII → CISI → EWBI → WLBI → OII

Fig 1. Conceptual Model



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An increase in commuting intensity (CII) is theorized as the main structural stressor, operationalized via perceived physical load, exposure to congestion, lack of predictability in time, and fatigue. It is also theorised to produce commute induced stress (CISI), and subsequently reduce the well-being of employees (EWBI). The decline in well-being at that period affects the work-life balance (WLBI), which eventually translates to unfavourable organisational performance (OII) like productivity, loss of motivation, and consideration of absenteeism. The model also includes the four moderators, i.e., mode of transport (moderating CII→CISI), commute duration (moderating both CII→CISI and CISI→EWBI), marital status (moderating EWBI→WLBI), and dependent children presence (moderating WLBI→OII). Four hypotheses were tested:

H_1: Commuting time significantly affects employee well-being.

H_2: Commuting stress significantly affects employees' work–life balance.

H_3: Mode of transport significantly affects employee well-being.

H_4: Extended commuting time significantly influences work–life balance satisfaction.

3. Methodology

3.1 Sample and Data Collection

Primarily data were collected through a structured questionnaire, which was administered to full time working professionals in Bengaluru city, Karnataka state, India. Bengaluru is ranked as world's second most congested city and every year travellers waste an average of 168 hours in traffic, which is equal to seven full working days. Respondents were selected based on who travelled to the workplace at least four days in a week and had a work experience of at least five years in the city. Samples were selected from various industry sector and different regions of Bengaluru, considering the sample size of 384 giving a 95% confidence level with about 5 per cent margin of error as per Krejcie Morgan Table (1970) against total workforce of 4 − 5 million in Bengaluru city. After eliminating the missing response, the complete response was from 300 respondents.The sample was widely representative: 153 male and 147 female participants; age was dominated by 25 years to 40 years (82.3), and it was distributed among eight industry sectors with IT/ITES (16.3) and BFSI (11.7) being well-represented in the sample along with manufacturing, education, healthcare, and retail. The majority of the respondents were of a middle-level to senior executive (69.3%). Most (55%) gave one-way commute times of 30−60 minutes (31.3% commute times of 61-90 minutes and 11% commute times of 91-120 minutes). The most popular mode (24.3%), was two-wheelers, and multi-modal combinations (17.7) and metro (16.3).

3.2 Measures

The questionnaire had seven sections of 53 items. There were five constructs that were assessed on 5-point Likert scales and transformed into composite mean-score indices:

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- Commuting Intensity Index (CII) : 8-item scale, including physical fatigue, exposure to congestion, time unpredictability, and perceived congestion.
- Commute-Induced Stress Index (CISI) : 8 questionnaire items assessing the irritability, emotional exhaustion, anticipatory stress and cognitive fatigue.
- Employee Well-Being Index (EWBI) : 9 questions that measure energy, emotional stability, burnout, and mental calmness (E6, E7 reverse-coded).
- Work-life balance index (WLBI) : 8 items that assess time adequacy, spillover, recovery, and satisfaction (F6 item is reverse-coded; index direction is inversed, meaning that higher scores should denote greater imbalance).
- Organisational Impact Index (OII) : 6 questions that evaluate the loss of productivity, loss of motivation, loss of focus, and consideration of absenteeism.

This was performed through reliability analysis where it has been established that there is a high level of internal consistency in all the four sections with Cronbach-alpha of more than 0.7. Python was used to process and analyse all the data (Google Colab environment).

Table 1. Internal Consistency Reliability of the Five Indices

Questionnaire Section and Construct	Cronbach's α
Section C – Commuting Characteristics → Commuting Intensity Index (CII)	0.976
Section D – Commute-Induced Stress → Commute-Induced Stress Index (CISI)	0.870
Section E – Employee Well-Being → Employee Well-Being Index (EWBI)	0.722
Section F – Work–Life Balance → Work-life balance index (WLBI)	0.742
Section G – Organisational Impact → Organisational Impact Index (OII)	0.778

3.3 Statistical Analysis

Additionally, Pearson correlation and ordinary least squares (OLS) linear regression were used to test H_1 and H_2. H_3 and H_4 were the subject of one-way ANOVA with Tukey's HSD post hoc tests.

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Bootstrapping (5000 resamples) was used to test the pathway CII→CISI→EWBI→WLBI→OII to establish the significance of the indirect discontinuity. Interaction terms were added to regression models so as to test moderation. Regression diagnostics tests comprised Breusch-Pagan homoscedasticity, Durbin-Watson autocorrelation and Q-Q-plot schedules of residual normality tests, were all used to validate the model.

4. Results and Discussion

4.1 Hypothesis Testing

H_1 − Intensity of commuting and employee wellbeing. The results were a strong statistically significant negative correlation between CII and EWBI ($r = -0.818$, $p = 0$). OLS regression confirmed commuting intensity as a significant predictor of well-being ($\beta = -0.469$, $p < .001$), accounting for 66.9% of variance ($R^2 = 0.669$, $F(1, 298) = 601.5$, $p < .001$). All the regression assumptions were met (Breusch-Pagan $p = -0.113$; Durbin-Watson = 2.194). Thus, H_1 is accepted.

H_2 − Stress and work life balance. A more enormous negative correlation was noted between CISI and WLBI ($r = -0.932$, $p < .001$). Regression results showed $\beta = -0.738$, $p < .001$, $R^2 = 0.869$, $F(1, 298) = 1983$, $p < .001$, indicating that commute-induced stress explains 86.9% of variance in work–life balance. All assumptions of regression hold (Breusch Pagan = 0.210; Durbin Watson = 1.885). Thus, H_2 is accepted.

H_3 − Employee well-being and mode of transport. One-way ANOVA indicated a statistically significant difference between transport modes in terms of EWBI ($F = 2.708$, $p = 0.014$). The Tukey's HSD found one significant pairwise comparison where the employees that use a combination of various transport modes as opposed to those who use personal cars reported lower well-being significantly (mean difference = −0.436, adjusted $p = 0.015$). Thus, H_3 is accepted.

H_4 − Work-life balance and commute duration. ANOVA revealed that the commute duration had a highly significant impact on WLBI ($F = 37.247$, $p < .001$). The threshold effect of post hoc tests showed that significant decays in work life balance occur beyond 61−90 minutes and the highest decay (mean WLBI = 2.06 vs. 3.08 for 30–60-minute commuters) occurs among 91−120 minutes commuters. Thus, H_4 is accepted.

Table 2. Summary of Hypothesis Testing Results

Hypothesis	Key Statistic	Outcome
H_1: CII → EWBI	$r = -0.818$; $R^2 = 0.669$	Accepted
H_2: CISI → WLBI	$r = -0.932$; $R^2 = 0.869$	Accepted

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H_3: Transport → EWBI	F = 2.708; p = 0.014	Accepted
H_4: Duration → WLBI	F = 37.247; p < .001	Accepted

4.2 Serial Mediation Analysis

Full mediation was tested after individual validation of each of the paths in the proposed sequential model:

Table 3. Summary of Results of Serial Mediation Analysis

Path	Relationship	β	R^2	p-value
Path a	CII → CISI	0.702	0.831	< .001
Path b	CISI → EWBI	−0.668	0.804	< .001
Path c	EWBI → WLBI	0.912	0.736	< .001
Path d	WLBI → OII	−1.061	0.703	< .001

A statistically significant full indirect effect was supported (indirect effect = 0.452, 95% CI [0.389, 0.512]) by bootstrapped serial mediation (5,000 resamples). Given the range of the confidence interval is not inclusive of zero, the sequential pathway CII → CISI → EWBI → WLBI → OII is well supported. This confirms the stress-spillovers-performance hypothesis: the intensity of commuting has an indirect relationship with organisational performance, because it generates an escalating psychological stress, a decline in well-being and work-life balance due to the spillover effects.

4.3 Moderation Analysis

There were four effects of moderation. The effect of mode of transport was significant (CII to CISI relationship: $R^2 = 0.862$) as personal car users felt stress less than passengers using a multi-modal mode of transport ($\beta = 0.171$, $p = 0.027$), and company transport users ($\beta = 0.197$, $p = 0.013$) probably because of less flexibility and perceived control.

The CISI→EWBI interaction was highly moderated by the commute time ($R^2 = 0.811$; interaction $\beta = -0.079$, $p = 0.004$) and the stress-well-being slope between short and long commutes increased to −0.529 (short commutes) and −0.766 (long commutes), respectively, in line with the idea of

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resource depleting. The CII→CISI relationship was also highly significant because of the time spent commuting ($R^2 = 0.855$; interaction $\beta = 0.165$, $p < .001$) and the slope of the relationship between short and long commuters was almost three times higher in duration.

The EWBI→WLBI interaction was moderated by marital status ($R^2 = 0.740$; interaction $\beta = -0.146$, $p = 0.027$) with the effect being more pronounced amongst single workers (slope = 0.983) than married workers (slope = 0.836), which indicates that there was increased structural complexity for family role demand other than individual well-being. Lastly, presence of dependent children mediated the WLBI→OII relationship ($R^2 = 0.709$; interaction $\beta = 0.192$, $p = 0.022$), and parents had a slightly buffered effect on this relationship (slope = −0.945) than non-parents (slope = −1.137), which may be an indication of role accommodation and structured routines.

Table 4. Summary of results of Moderation Analysis

Moderation Effect	Path Moderated	Moderator Variable	R^2	Interaction β	p-value
Mode of Transport	CII → CISI	Transport Mode	0.862	0.197	0.013
Commute Duration	CII → CISI	Commute Time	0.855	0.165	< .001
Commute Duration	CISI → EWBI	Commute Time	0.811	−0.079	0.004
Marital Status	EWBI → WLBI	Marital Status	0.740	−0.146	0.027
Parental Status	WLBI → OII	Dependent Children	0.709	0.192	0.022

4.4 Discussion

The results empirically bolster the idea that commuting should be viewed as a structural stress and have a wide organisational ramification in the Bengaluru setting. This extremely negative relationship between commuting intensity and employee well-being ($R^2 = 0.669$) confirms and contextualises the previous research by Masthi et al. (2019) and Hilbrecht et al. (2014), which proposes that the psychological burden of congested urban commuting, and in the specified scenarios, not merely the congestion duration itself, significantly depletes the employees' psychological resources. The near-perfect ($R^2 = 0.869$) effect of commute-induced stress occurring in work-life balance is one of the most robust-related relationships identified in the literature of commute and is aligned with the spillover processes found in the articles by Allen et al. (2021) and Bai et al. (2021). The commute duration threshold effect, which is those commutes decreasing dramatically after 60 minutes, can be explained by the resource depletion theory (Hobfoll, 1989) and has direct practical consequences related to effective flexible work policies.

The stress -spillover-performance model is an effective explanation model because the confirmed serial mediation pathway (indirect effect = 0.452) supports the model. The relevance of this finding

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is that commuting is not a peripheral concern anymore: it is a causal organisational risk, stress generated by commuting drains individual well-being, leading to disruption of the work-life interface, and thus productivity and motivation. This is consistent with Atis et al. (2022) and Nepal et al. (2021) on the organisational implications of commute stress, but stretches their results with a multi-stage mediation design.

The moderate tests remind us the commuting effects are contingent to the context. The increased stress of multi-modal commuters is an indication of complexity and unpredictability as risk factors beyond the alone time in transit, which is also evident in the insights of Hilbrecht et al. (2014). The marital status result, with the well-being work-life balance relationship among married workers being less positive, confirms role theory claims that the structural life parameters come into place to mediate how the psychological states translate to balance results. The impact of dependent children on organisations through buffering effect is new and should be examined further, which may indicate the motivation strategies coupled with the boundaries management that may be enabled by the care giving burden.

5. Conclusion, Implications, and Future Research Directions

The commuting intensity is determined in the present study as a considerable structural stressor among the corporate work force in Bengaluru through a highly structured sequential process. Commuting stress creates psychological stress, undermining employee well-being, work-life interface, and results in quantifiable organisational outcomes, lower productivity, low motivation and increased absenteeism intentions. Since all four hypotheses are supported at statistically significant levels, and the bootstrapped serial mediation pathway has proven to be statistically significant (indirect effect = 0.452, 95% CI [0.389, 0.512]), the stress-spillover-performance model is confirmed as a strong explanatory model. Moderation tests also demonstrate that commute duration, mode of transport, marital status, and dependent children also significantly influence these associations, highlighting the contingency of the effects of commuting.

The implications are at various levels. In the case of organisations, the threshold effect observed in this study, where work-life balance suffers drastically above 60 minutes of one-way commuting, can be used to provide a useful guide to focus HR interventions. The most practical responses are flexible work hours, hybrid working and transport subsidies. To the policymaker and urban planner, transport infrastructure investment can be seen as a workforce productivity intervention with a downstream impact on employee health and organisational outcome.

These results should be viewed in the context of a number of limitations. The cross-sectional design, even though the relationships observed are consistent, does not allow it to conclude on causality. The next generation research must use panel designs or experience-sampling methods with preferably policy events that permit natural experiments. The use of self-reported measures presents the risk of common method bias, and the use of GPS tracking, smart card data, and wearable sensors would enhance the construct validity significantly. The restriction of the sample

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to Bangalore makes the generalisability constrained since a multi-city replication across cities like Mumbai, Delhi, Chennai, and Hyderabad would dictate whether the model would be a pan-urban Indian phenomenon. Other boundary conditions, such as personality traits, coping strategies and perception of organisational support, should be explored in future research.

Despite these constraints, the study is the first to give empirical validation of the stress-spillover-performance model, which can be integrated in Bengaluru and can be put to the action of managers, policy makers and urban planners. With the increase in size of Indian cities, and the continuing shift in remote-office boundaries, the processes by which commuting influences employee and organisational performance will increasingly be relevant. The model elaborated here provides a good base to the future longitudinal, multi-city, and methodologically pluralistic study.

5.1 Managerial Implications

The implications of the findings have immense practical implications to organisations in crammed city such as Bengaluru. Because commuting strain has a major negative impact on employee well-being and work-life balance, organisations should consider commuting strain a strategic human resource issue and not just a marginally logistical problem. The threshold effect observed in this research - according to which the work-life balance declines steeply after 60 minutes of one-way commuting - can be treated as a tangible guideline to HR managers to understand who at risk groups of employees are and who to focus their interventions such as flexible working hours, compressed working weeks and hybrid working arrangements. Moderation results also indicate that employees who use various transport modes and those whose commute is longer must receive more intense assistance, and that life-stage variables, such as marital status and parental duties, should be considered when establishing wellness policies, instead of utilizing a one-size-fits-all method. On a larger scale, the established serial mediation process (i.e., the relationship between commuting load and productivity loss, motivation reduction and absenteeism) is a strong business case in favour of proactive investments in commute-reducing factors, such as building location, satellite workspace, subsidised transport modes, which are unlikely to get downstream returns in engagement, retention, and organisational performance.

5.2 Future Research Directions

This study has a cross-sectional limit which future studies should overcome by tracing the cumulative and longitudinal nature of commuting stress by using longitudinal designs or experience-sampling designs where researchers trace the levels of commuting stress and how this stress accumulates and changes over time which ideally entails using the incidence of policy events like the country gaining metro transit lines or mandatory hybrid works. Self-reported indices should be complemented or substituted with objective commuting measures such as GPS-based mobility data, smart card transit data, and wearable physiological data to enhance construct validity and decrease the chances of common method bias. Geographically, repeating the study in other Indian metropolitan cities (Mumbai, Delhi, and Chennai) would challenge the hypothesis of

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whether the stress-spillover-performance chain is universal to Indian cities in general or was limited to the Bengaluru's infrastructure and workforce composition, and a multi-country comparison between similarly congested cities worldwide would further situate the model. The individual-level boundary conditions (e.g., neuroticism, resilience, commuting self-efficacy, coping strategies) and organisational-level moderators such as formal flexible work policies and managerial support culture should also be added to the theoretical framework, which might help explain the resistance to change that the current model fails to explain. Lastly, considering the increasing nature of hybrid working, future research ought to consider how the lowered rate of commuting interacts with the stress-spillover chain.

Declarations

Author Contributions

A A Y : Conceptualization, methodology, investigation, data curation, formal analysis, software, visualization, writing – original draft preparation.

T D : Supervision, methodology, validation, writing – review and editing.

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Data Availability

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Ethics Approval

This study involved an anonymous questionnaire survey of adult working professionals. Formal ethical approval was obtained from Research Ethics Review Board (RERB) members (Dr. Lakshmi Arya Thathachar, School Of Law, RV University, Dr. Anjana Reddy, Principal, RV Institute of Legal Studies, Dr. Keerthi Kishore S. ,School Of Liberal Arts and Sciences, RV University) of authors' institution. The study was conducted in accordance with the ethical principles for research involving human participants, including voluntary participation, informed consent, anonymity, confidentiality, and respect for participants' rights.

Consent to Participate

Informed consent was obtained from all individual participants prior to their participation in the study. Participants were informed about the purpose of the research, that participation was voluntary, that no personally identifiable information would be collected, and that they could choose not to participate.

Consent to Publish: Not applicable

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Competing Interests

The authors declare that they have no competing interests.

Clinical trial number: Not applicable.

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