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OCCUPATIONAL STRESS AND WELL-BEING IN MOBILE SERVICE WORKPLACES: EVIDENCE FROM RAILWAY CATERING EMPLOYEES

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ABSTRACT

Employees in mobile service setting are vulnerable to unique occupational strains which can impact the psychological well-being and health. Nevertheless, current workplace health studies have been significant on workers working in comparatively stable organizational environments. This paper also addresses the effect of various workplace factors on the wellbeing of employees in a portable hospitality facility such as pantry rail workers in a railway set up. The paper is based on the Job Demands-Resources (JD-R) framework and examines how workload, physical working environment, interpersonal conflict, customer related stressors, and job insecurity affect occupational well-being mediated by job stress. The survey data was gathered using 180 employees at the pantry in the major routes at the Western Railway Zone. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to test the hypothesized relationships. The results show that the job stress is affected the most by customer-related stressors and the physical work environment. In mediation analysis, it is shown that job stress mediates the relationship between various occupational demands and employee well-being partially. Apart from this, some of the structural requirements have direct impacts on well-being implying that the various demands of the job could work via different health-impairment routes in mobile workplaces. The paper builds up on the JD-R framework by analyzing stress dynamics at a mobile service workplace, an occupational area that has been under-researched by scholars. The research highlights new data on interaction of the operational, environmental, and relational needs to determine the effect they have on the well-being of employees in the transport-based service environments by concentrating on the workers in the railway catering. The results point to the necessity of specific workplace health interventions that would help to reduce the environmental conditions and the impact of customers during the process of catering operations in railways.

KEYWORDS: Railway pantry staff; Job Demands-Resources (JD-R) theory; Occupational well-being; Job stress; Mobile service workplace; Transport-based service systems; PLS-SEM.

1. INTRODUCTION

The health and occupational well-being of employees are known to be the key determinants of organizational performance and sustainability in service-based industries. The health of frontline staff is critical to the quality of services, the stability of operations, and the safety of customers in high-contact work settings where there is a constant pressure of work, and interpersonal contact occurs on a regular basis (Grandey et al., 2020; Karatepe and Karadas, 2019). In turn, health management at work has now turned into a critical research subject in hospitality, healthcare and transport industries.

Although the research on workplace health has been expanding, the majority of empirical research studies have focused on employees who are working in rather stable and fixed workplaces, e.g., a hospital, hotel, corporate office (Bakker et al., 2023; Demerouti et al., 2001). Such environments usually offer well defined working areas, timetables and laid down rest periods. In contrast, considerably less attention has been given to "mobile service workplaces," where employees perform their duties within continuously moving and spatially constrained environments. There is also a fundamental change in the limits between the workplace, environmental control, and recovery opportunities in these environments, and they might contribute to an enhanced effect of occupational stressors (Bakker et al., 2023; Portoghese et al., 2025). The essence of stress processes in such mobile situations is an important but under-researched field of health in the workplace.

The operations of the railway catering offer a most appropriate background to study these dynamics. The Indian Railways is the fourth-largest railway network in the world that operates over 22,000 trains and carries a daily load of about 23 million people (Ministry of Railways, 2023). Among this comprehensive infrastructure, onboard catering services are organized by the Indian Railway Catering and Tourism Corporation (IRCTC) in the first place. As opposed to hospitality employees in land-based facilities, the railroad pantry employees deliver their services in mobile catering carts with food preparation, delivery, and contact with passengers taking place simultaneously on a moving train. Such employees face unique work-related issues, such as limited space, high temperature, mechanical vibration, and noise (Kim et al., 2020; Li et al., 2022). Moreover, employees should adhere to strict service schedules when handling passengers during travel durations which in most cases take more than 48 to 72 hours. The originality of the current research is connected with the gap in the studies related to the dynamics of the stress in the mobile hospitality setting. Despite the fact that the Job Demands-Resources (JD-R) framework is a sufficiently developed theoretical prism, its use in relation to transport-based service systems is insufficient. The conceptual issue that is tackled in the study is the impact of overlapping operational, environmental, and relational demands of hindrance on employee well-being mediated by the job stress. These are multi-dimensional pathways that the study measures using Partial Least Squares Structural Equation Modelling (PLS-SEM) and Importance-Performance Map Analysis (IPMA). This research study contributes to the literature on research about the health of the transport workforce by attempting to fill a research gap in the literature, addressing the context of the mobile hospitality industry.

The study pursues four primary objectives: (1) to identify the critical job demands unique to the mobile service environment; (2) to evaluate the direct effects of these demands on job stress and occupational well-being; (3) to analyze the mediating role of job stress within the health-impairment process; and (4) to identify priority intervention areas for improving workplace health in railway catering operations.

2. LITERATURE REVIEW AND CONCEPTUALIZATION

2.1. Defining Key Constructs in the Mobile Context

In order to measure the occupational health of staff working in railways pantry, the core variables should be conceptualized in the context of incessant movement and space limitation. Occupational Well-being relates to the general psychological well-being and well-being of the employees, which is defined as positive emotional states and job satisfaction with work-life situations (Keyes, 2005). Job Stress refers to both the psychological and physiological levels of stress that develop when the perceived work requirements are beyond the ability of the individual to manage (Parker and DeCotiis, 1983). The conceptualization of the five demands (hindrance) discussed in this study is given in Table 1.

Table 1: Conceptualization of Occupational Challenges.

Construct	Definition / Description	Key References
Workload	The quantitative and temporal pressure arising from excessive tasks, tight schedules, or multitasking requirements.	Karasek (1979); Nabi (2025)

Physical Work Environment	Ergonomic and environmental conditions (heat, vibration, noise) that contribute to physical fatigue and psychological strain.	Kim et al. (2020); Li et al. (2022)
Interpersonal Conflict	Tension, disagreements, or lack of support among coworkers and supervisors in confined workspaces.	Spector & Jex (1998); Chaves-Montero et al. (2025)
Customer-related Stressors	Psychological strain arising from passenger incivility, aggression, or unrealistic service demands during travel.	Grandey et al. (2004); Abdou et al. (2024)
Job Insecurity	Perceived uncertainty regarding the stability and continuity of employment, particularly among contractual workers.	De Witte (2005); Aljawarneh et al. (2025)

2.2. Theoretical Framework: JD–R Health-Impairment Process

2.3. Research Model and Hypotheses Formulation

The given work is based on the Job Demands Resources (JD -R) theory that assumes that each occupation has certain risk factors contextually linked to job stress (Bakker and Demerouti, 2017). These aspects fall under the categories of job demands and job resources. Job demands can be defined as the physical, social or organisational features of the job that involve prolonged physical and/or psychological effort and therefore entail some physiological and/or mental expenses (Demerouti et al., 2001). The present study concentrates on the pathway of health-impairment of the JD-R model. This pathway presents a situation where the poorly structured jobs or persistent job requirements (e.g., workload, unfavorable environment) deplete mental and physical resources of employees and can hence result in energy depletion and developing health issues (Bakker et al., 2023). These hindrance needs are likely to provoke a condition of persistent strain in the context of the railway pantry, which will lead to job stress and the consequent deterioration of occupational well-being.

2.3.1. Workload

Workload refers to the number and time pressure created because of the tasks, strict schedules, and multi-task demands (Karasek, 1979). Role overload frequently is a key predictor in the highly pressured organizational environments in which the perceived demands surpass the cognitive ability of the person (Nabi, 2025). To pantry employees in long-distance trains, workload is not a simple number of tasks but a process of service provision in a moving ship. Recent reports reveal that the perceived hindering effect of workload is a significant source of escalation of emotional exhaustion and job strain (Ma et al., 2025; Mehmood, Zaheer, and Faisal, 2025). Moreover, this inability to cope with these tasks due to time restrictions is a direct issue of psychological health of an employee and their health in relation to work (Phungsoonthorn and Charoensukmongkol, 2022).

Based on this evidence, we propose:

- H1.1: Workload has a significant positive effect on job stress.
- H2.1: Workload has a significant negative effect on occupational well-being.

2.3.2. Physical Work Environment

The physical work environment encompasses the ergonomic and environmental conditions—such as temperature, noise, and space—that influence employee health (Kim et al., 2021). In the context of mobile service work, the environment is an objective stressor; pantry cars are compact, high-heat kitchens exposed to constant train vibration. Theoretical advancements in the JD–R model emphasize that objective environmental demands require significant self-regulation, leading to rapid energy depletion (Li, Tuckey, Bakker, et al., 2022). Prolonged exposure to these "spatially constrained" conditions has been linked to latent profiles of poor work well-being, as employees find it difficult to physically or mentally detach from the stressors during their shift (Portoghese, Min, & Galletta, 2025). Consequently, the physical environment acts as a precursor to both acute strain and long-term health erosion. Hence:

- H1.2: Physical work environment constraints have a significant positive effect on job stress.
- H2.2: Physical work environment constraints have a significant negative effect on occupational well-being.

2.3.3. Interpersonal Conflict

The interpersonal conflict is defined as the tension, disagreements or lack of support among coworkers and supervisors (Spector and Jex, 1998). Social dynamics is of primary importance in a mobile hospitality setting since members of staff are going to be working and living in close quarters due to lengthy travel. The systematic review of the service workers suggests that interpersonal friction is the high predictor of emotional exhaustion as it interferes with the cooperative climate with which service delivery takes place (Chaves-Montero, Blanco-Miguel, and Rios-Vizcaiano, 2025). In such cases of conflict within the confined mobile environment, the human cost is greater; the absence of social support is a crossover effect that exacerbates

work-related stress and has a direct negative impact on mental health (Kim, Kang, Choi, and Sohn, 2020). Therefore, we propose:

- H1.3: Interpersonal conflict has a significant positive effect on job stress.
- H2.3: Interpersonal conflict has a significant negative effect on occupational well-being.

2.3.4. Customer-related Stressors

Customers stressors relate to the mental strain associated with the contacts with the passengers, incivility, or the violent service requests (Grandey et al., 2004). Railway operations frontline service workers often face so-called passenger aggression and thus require a high level of emotional labor, i.e., the attempt to control personal emotions and meet the expectations of passengers (Abdou et al., 2024). Such emotional strain is a strong force behind mental unhappiness and burnout (Aljawarneh et al., 2025). Recent data indicate that the experience of encountering rude or demanding passengers in a mobile environment (when the employee has no options but to stay in the environment) forms some sort of a spillover of stress, which negatively affects the employee and his or her jovial mood and satisfaction with his/her work responsibilities (Abdou et al., 2024). This resulted in our second hypotheses:

- H1.4: Customer-related stressors have a significant positive effect on job stress.
- H2.4: Customer-related stressors have a significant negative effect on occupational well-being.

2.3.5. Job Insecurity

Job insecurity is an assumed lack of stability and permanence of employment (De Witte, 2005). One of the persistent structural demands is that of insecurity among the railways pantry staff, a huge portion of which are contractual employees. In comparison to acute stressors in the operations, job insecurity produces a lasting precariousness that establishes a direct fight to psychological pain (Aljawarneh et al., 2025; Rhéaume, 2021). According to the theoretical viewpoints, the state of being continuously afraid of being dismissed reduces work engagement and is a continued source of burnout to occupational health, even in the absence of daily acute situations (Bakker and de Vries, 2020; Sankar, 2025). Thus, we hypothesize:

- H1.5: Job insecurity has a significant positive effect on job stress.
- H2.5: Job insecurity has a significant negative effect on occupational well-being.

2.3.6. The Mediating Role of Job Stress

In the JD–R health-impairment process, job stress acts as the central psychological conduit through which diverse demands influence well-being (Bakker et al., 2023). While occupational challenges provide the "input," job stress is the "process" that depletes internal resources, leading to negative well-being "outcomes" (Mehmood et al., 2025). Empirical studies consistently show that psychological distress and emotional exhaustion mediate the impact of operational pressures on job embeddedness and overall mental health (Sankar, 2025; Dima, Meseşan Schmitz, & Şimon, 2021). In a mobile workplace, the stress generated by physical heat or passenger aggression acts as a bridge that transmits the adverse effects of the job into a broader decline in vitality and satisfaction (Abdou et al., 2024; Sarwat et al., 2021). Accordingly, we propose:

- H3: Job stress has a significant negative effect on occupational well-being.
- H4: Job stress mediates the relationship between occupational challenges (workload, physical environment, interpersonal conflict, customer stressors, and job insecurity) and occupational well-being

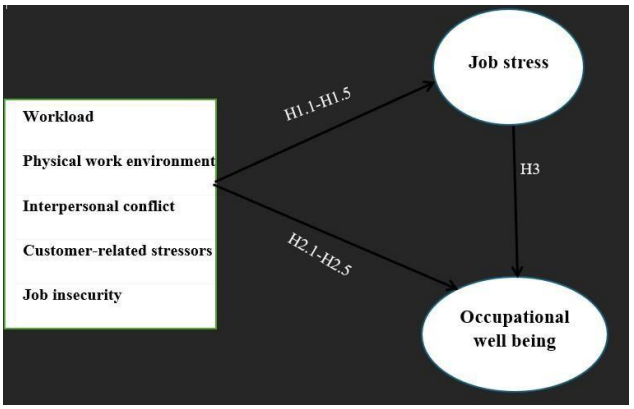

Figure 1: Conceptual framework of the research.

3. RESEARCH METHODOLOGY

3.1. Research Design and Context

The current work has used quantitative cross-sectional survey as a research design to test the JD-R health-impairment pathway in a mobile service setting. This cross-sectional design is especially appropriate to capture the perceptions of employees concerning the psychological perspective and assess complex mediation models in the real-time occupational conditions (Hair et al., 2021). The contextual setting of the IRCTC onboard catering activities is determined by the intensity of labor, limited space, and constant movement.

3.2. Sampling and Data Collection:

The target group consisted of cooks, attendants, supervisors who work in long distance pantry cars. The stratified purposive sampling technique was employed to give a representative sample of the high-intensity mobile work. Data gathering was concentrated on key rail lines within the Western and Central Railway Zones such as Mumbai-Ahmedabad, Ahmedabad-Delhi and Mumbai-Kolkata. These paths have been chosen because they have a long travel schedule and they demand high operation in which onboard staff are heavily burdened. A combined strategy of face-to-face surveys and digitally-aided survey was employed to accommodate different levels of literacy and the logistical issues concerning a mobile workforce. To achieve conceptual and linguistic similarity between surveys among various groups of the employees, the survey instrument was translated into both Hindi and Gujarati languages through a strict back-translation process (Brislin, 1970). In order to achieve the accuracy of the responses and to avoid causing much disruption, the surveys were carried out during rest period or terminal layovers (Podsakoff et al., 2003). Of 250 mailed questionnaires with 180/250 as the valid response, a response rate of 72% was achieved after the screening of incompleteness and the tendency to give low-quality responses (e.g., straight-lining).

Table 1: Details of the staff.

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	161	89.4
	Female	19	10.6
Age Group (years)	18 – 25	28	15.6
	26 – 35	64	35.6
	36 – 45	57	31.7
	Above 45	31	17.2
Education Level	Secondary School	45	25.0
	Higher Secondary	68	37.8
	Diploma / Technical	44	24.4
	Graduate & Above	23	12.8
Designation	Cook / Assistant Cook	72	40.0
	Server / Attendant	62	34.4
	Supervisor / Pantry Manager	46	25.6
Employment Type	Permanent (IRCTC)	64	35.6
	Contractual (Third-party)	116	64.4
Work Experience (years)	Less than 5 years	52	28.9
	5 – 10 years	68	37.8
	More than 10 years	60	33.3
Monthly Income (INR)	Below 15,000	41	22.8
	15,001 – 20,000	63	35.0
	20,001 – 25,000	49	27.2
	Above 25,000	27	15.0

3.3. Measurement Instruments

All constructs were measured using established, peer-reviewed scales adapted to the railway catering context. Responses were recorded on a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree).

1. Occupational Challenges (Job Demands): Scales for workload, interpersonal conflict, and the physical work environment were adapted from Spector and Jex (1998) and Kim et al. (2020). Customer-related stressors were measured using items from Rathi and Lee (2016), while job insecurity was assessed using the scale developed by De Witte (2005).
2. Job Stress: Perceived strain and emotional exhaustion were measured using the scale by Parker and DeCotiis (1983).
3. Occupational Well-being: Overall vitality and mental health were assessed using items derived from the WHO-5 Well-being Index and the Mental Health Continuum–Short Form (Keyes, 2005).

A pilot study involving ten pantry staff members was conducted to verify the face validity, clarity, and contextual relevance of the adapted items before full-scale administration.

3.4. Data Analysis Strategy

Data analysis was performed using SmartPLS 4, utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS-SEM is particularly advantageous for this study as it excels in predictive modeling, handles complex mediation structures effectively, and does not require restrictive distributional assumptions (Hair et al., 2021).

The analysis followed a rigorous two-step process:

1. Measurement Model Assessment: Evaluating indicator reliability, internal consistency (Cronbach's alpha and composite reliability), convergent validity (Average Variance Extracted), and discriminant validity (Fornell-Larcker criterion and Heterotrait-Monotrait ratio).
2. Structural Model Assessment: Examining path coefficients (β), the coefficient of determination (R^2), and predictive relevance (Q^2).

Mediation effects were tested using a non-parametric bootstrapping procedure with 5,000 resamples to generate bias-corrected confidence intervals. Finally, an Importance-Performance Map Analysis (IPMA) was conducted to identify priority intervention areas by contrasting the total effects (importance) of job demands against their average latent variable scores (performance).

4. RESULTS

4.1 Preliminary Data Analysis and Assumption Testing

One additional test was conducted to evaluate the possible risk of Common Method Bias , which could be relevant because the research relies on a single-source survey. A full collinearity test was conducted. VIF values for all constructs and indicators were then examined, and all levels were well below the critical value of 5, even the highest single indicator, which had a VIF value of 2.333. This means that critical multicollinearity is ruled out and thus that CMB is not a severe risk present that could mislead the results, making the data robust for PLS-SEM.

Table 2: Construct-wise loadings and VIF values.

Item Code	Item Statement	Loadings	VIF values
WL1	I have too much work to complete during my shift.	0.789	1.604
WL2	I am pressured by tight time schedules while working.	0.809	1.723
WL3	I often need to multitask under time constraints.	0.797	1.717
WL4	I rarely get sufficient breaks during my shift.	0.798	1.592
PWE1	The pantry workspace is hot and poorly ventilated.	0.863	2.176
PWE2	Noise and vibration make my work more difficult.	0.819	1.954
PWE3	The workspace is cramped and lacks ergonomic support.	0.859	2.333
PWE4	Sanitation and hygiene facilities in the pantry are inadequate.	0.843	2.074
IC1	There are frequent disagreements among staff during shifts.	0.771	1.449
IC2	I feel unsupported by my supervisors when problems arise.	0.833	1.485
IC3	Conflict with colleagues increases my stress at work.	0.819	1.441
CS1	Passengers often behave rudely toward pantry staff.	0.765	1.739
CS2	Handling passenger complaints is emotionally draining.	0.820	1.961
CS3	Passengers place unrealistic demands on pantry services.	0.802	1.923
CS4	Dealing with intoxicated or aggressive passengers is common.	0.833	2.080
CS5	I face verbal abuse from passengers regularly.	0.832	2.054
JI1	I worry about losing my job or contract.	0.834	1.680
JI2	I feel uncertain about my long-term employment prospects.	0.847	1.644
JI3	My income is not stable and causes concern.	0.833	1.634
JS1	I feel emotionally drained at the end of the workday.	0.818	1.700
JS2	My job makes me feel tense and stressed.	0.752	1.469
JS3	I feel exhausted because of my work.	0.766	1.589
JS4	I find it difficult to recover from work-related strain.	0.809	1.693
OWB1	I generally feel cheerful and in good spirits at work.	0.759	1.561
OWB2	I feel active and energetic during my work duties.	0.823	1.882
OWB3	I am satisfied with my mental well-being related to work.	0.796	1.690
OWB4	I feel calm and relaxed during non-working periods.	0.865	2.039

4.2 Assessment of the Measurement Model

The reliability and validity of the seven reflective constructs met standard psychometric criteria, as shown in Table 3-5. Internal consistency was examined through Composite Reliability and Cronbach's α, and all constructs exceeded accepted thresholds. Similarly, item loadings of 0.75 to 0.87 confirmed strong indicator reliability. Convergent validity was also confirmed with Average Variance Extracted values for all constructs greater than 0.50. Thereby adequate shared variance among items. Finally, discriminant validity was tested on the construct level through both the Fornell-Larcker criterion, in which the square root of each construct's AVE exceede its inter-construct correlations, and the Heterotrait-Monotrait ratio. HTMT remained below 0.90 for all construct pairs.

Table 3: Internal consistency and convergent validity.

	α	CR	AVE
CS	0.870	0.906	0.657
IC	0.736	0.850	0.653
JI	0.788	0.876	0.702
JS	0.794	0.866	0.619
OWB	0.827	0.885	0.658
PWE	0.868	0.910	0.716
WL	0.810	0.875	0.637

Table 4: Discriminant validity (HTMT matrix).

	CS	IC	JI	JS	OWB	PWE	WL
CS	-						
IC	0.254	-					
JI	0.206	0.171	-				
JS	0.608	0.675	0.383	-			
OWB	0.535	0.480	0.361	0.704	-		
PWE	0.093	0.220	0.204	0.561	0.370	-	
WL	0.251	0.313	0.262	0.539	0.448	0.236	-

Table 5: Fornell-Larcker criterion.

	CS	IC	JI	JS	OWB	PWE	WL
CS	0.811						
IC	0.213	0.808					
JI	0.173	0.132	0.838				
JS	0.510	0.520	0.306	0.787			
OWB	-0.461	-0.379	-0.291	-0.576	0.811		
PWE	0.076	0.172	0.170	0.470	-0.313	0.846	
WL	0.213	0.242	0.211	0.435	-0.369	0.201	0.798

4.3 Assessment of the Structural Model

The structural model was evaluated to test the hypothesized relationships and assess the overall predictive power of the JD–R framework in this context.

The model exhibited substantial explanatory capability, successfully accounting for significant variance in the endogenous constructs. The five occupational challenges explained 62.2% of the variance in Job stress (R-squared = 0.622) and a satisfactory 42.1% of the variance in Occupational well-being (R-squared = 0.421). The Q-squared values of 0.372 and 0.260 for Job stress and Occupational well-being, respectively, confirmed that the model possesses strong predictive relevance.

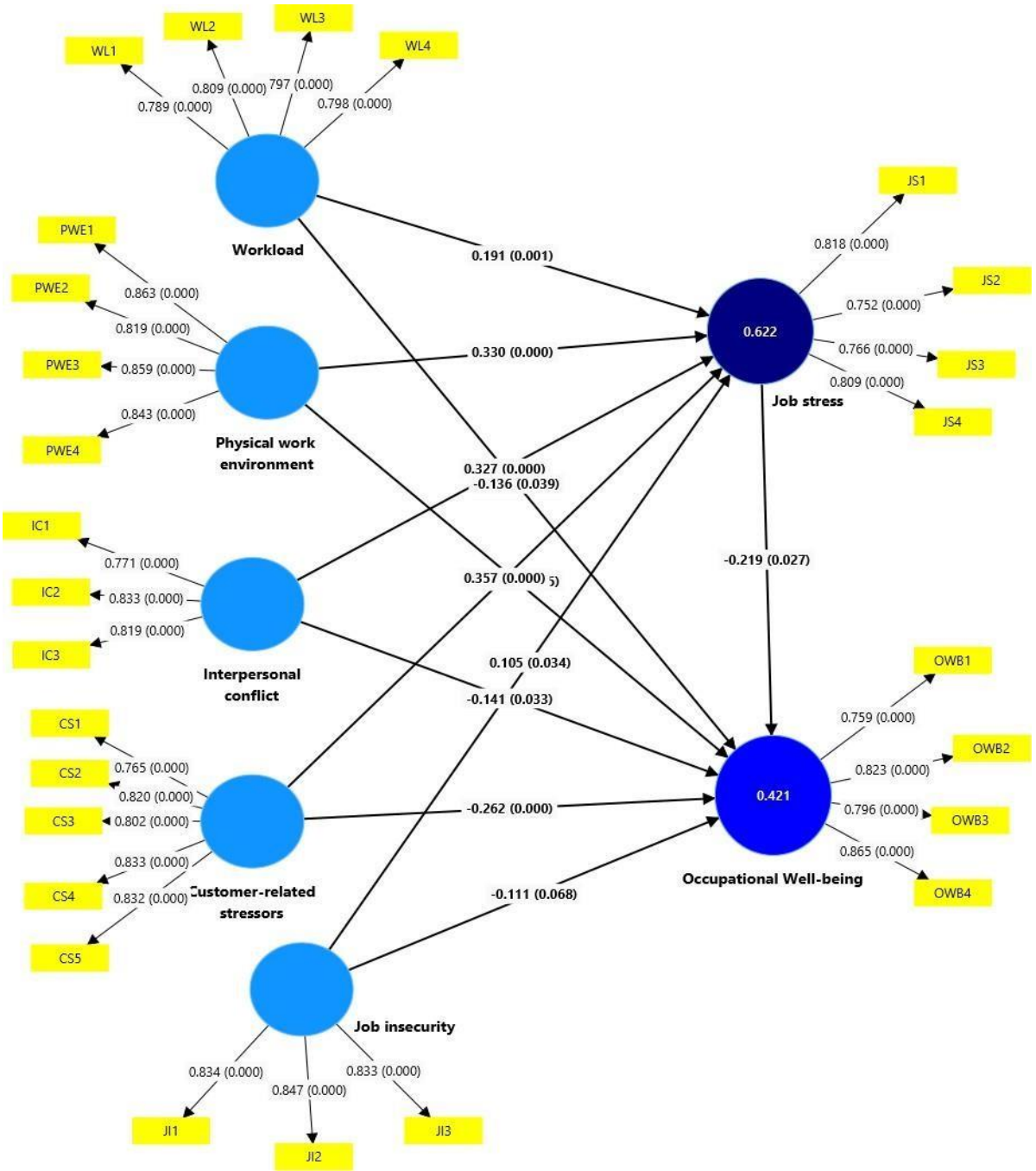

Figure 2: Casual model for influence of occupational challenges on stress and occupational well-being.

4.3.2 Hypothesis Testing: Direct Effects

I. Occupational Challenges → Job Stress (H1.1 to H1.5)

Customer-related Stressors emerged as the single strongest positive predictor of Job stress (β= 0.357; t = 7.456; p = 0.000), demonstrating that interaction with passengers is the most acute source of strain. This was immediately followed by the Physical work environment (β= 0.330; t = 6.858; p = 0.000) and Interpersonal conflict (β= 0.327; t = 5.957; p = 0.000). Workload (β= 0.191; p = 0.001) and Job insecurity (β= 0.105; p = 0.034) also significantly contribute to the experienced strain. Since the p values for all the paths are less than 0.05 with T value above the table value of 1.96, provided sufficient evidence to accept hypotheses from **H1.1 to H1.5**.

II. Occupational Challenges → Occupational Well-being (H6 to H10)

The direct negative impact of the challenges on Occupational Well-being was also substantially confirmed. **Customer-related Stressors** exerted the largest **negative direct influence** on well-being (β= -0.262; t = 3.901; p = 0.000), underscoring the severe toll that passenger incivility takes on staff vitality and mental health. Similarly, l other challenge variables—Interpersonal conflict (β= -0.141; p = 0.033), and Workload (β= -0.136; p = 0.039) also significantly influences wellbeing of panty staffs. However, the path from Physical work environment (β= -0.120; p = 0.085), and Job insecurity (β= -0.111; p = 0.068) to overall wellbeing is not proved significant as the pa values less than 0.05. Therefore, there is lack of evidence to accept hypotheses namely H2.2 and H2.4.

Table 5: Hypothesis testing direct effect.

Relationships	Direct	T statistics	P values	Decision
Workload --> Job stress	0.191	3.465	0.001	H1.1 accepted
Physical work environment --> Job stress	0.330	6.858	0.000	H1.2 accepted
Interpersonal conflict --> Job stress	0.327	5.957	0.000	H1.3 accepted
Customer-related stressors --> Job stress	0.357	7.456	0.000	H1.4 accepted
Job insecurity --> Job stress	0.105	2.124	0.034	H1.5 accepted
Workload --> Occupational Well-being	-0.136	2.069	0.039	H2.1 accepted
Physical work environment --> Occupational Well-being	-0.120	1.725	**0.085**	H2.2 rejected
Interpersonal conflict --> Occupational Well-being	-0.141	2.137	0.033	H2.3 accepted
Job insecurity --> Occupational Well-being	-0.111	1.823	**0.068**	H2.4 rejected
Customer-related stressors --> Occupational Well-being	-0.262	3.901	0.000	H2.5 accepted
Job stress --> Occupational Well-being	-0.219	2.208	0.027	H3accepted

4.4 Mediation Analysis

The mediating role of Job Stress (JS) between occupational challenges and Occupational Well-being (OWB) was examined to test the model's core theoretical proposition.

First, the prerequisite condition for mediation was satisfied: Job Stress had a significant negative effect on Occupational Well-being (β = –0.219, t = 2.208, p = 0.027), supporting H3.

Subsequently, the specific indirect effects (H4) were tested using a bias-corrected bootstrapping procedure. Job Stress significantly mediated the effects of Physical Work Environment (β = –0.072, p = 0.049), Interpersonal Conflict (β = –0.071, p = 0.029), and Customer-related Stressors (β = –0.078, p = 0.037) on Occupational Well-being. These findings confirm that stress acts as a key psychological conduit transmitting the adverse impact of physical, social, and emotional demands on well-being.

Conversely, the indirect effects of Workload (β = –0.042, p = 0.078) and Job Insecurity (β = –0.023, p = 0.162) were not significant, indicating that these factors influence well-being primarily through direct mechanisms rather than through acute stress responses. Overall, the results partially support H4, validating the Job Demands–Resources health impairment pathway for most challenge dimensions.

Table 6: Mediation results.

	Specific indirect	T statistics	P values	2.5%	97.5%	Decision
WL→JS → OWB	-0.042	1.764	0.078	-0.095	-0.003	No mediation
PWE →JS → OWB	-0.072	1.971	0.049	-0.153	-0.007	Partial mediation
IC→JS→ OWB	-0.071	2.178	0.029	-0.136	-0.008	Partial mediation
CS→JS→ OWB	-0.078	2.083	0.037	-0.155	-0.008	Partial mediation
JI→JS→ OWB	-0.023	1.399	0.162	-0.062	0.001	No mediation

4.5 Importance–Performance Map Analysis (IPMA)

Customer-induced stressors emerge as the highest priority issue for managers to act upon, being most destructive in terms of job-related well-being (β = –0.340). This dimension represents the greatest

combined-level gain in work wellness. Interpersonal conflict (β = −0.213) and the physical work environment (β = −0.192), too, are revealed to be significant antecedents of strain indicating a necessity for additional support on an interpersonal level and improvement in working conditions. Although **job insecurity** displays a meaningful direct effect, its relative impact on well-being (β = −0.134) is comparatively lower than other stressors. Overall, the IPMA presents a useful tool IRCTC and Indian Railways can draw upon to strategically allocate resources that aim at alleviating customer-facing and operational stress related factors and effecting the most significant gains in employee health/well being.

Table 7: IPMA results.

	Occupational Well-being	Job stress	Performance	Interpretation
Customer-related stressors	-0.340	0.357	50.059	Critical (High Impact, Low Performance)
Interpersonal conflict	-0.213	0.327	50.000	High Priority
Job insecurity	-0.134	0.105	50.270	High Priority
Physical work environment	-0.192	0.330	50.000	Moderate Priority
Workload	-0.178	0.191	50.045	Lowest Priority

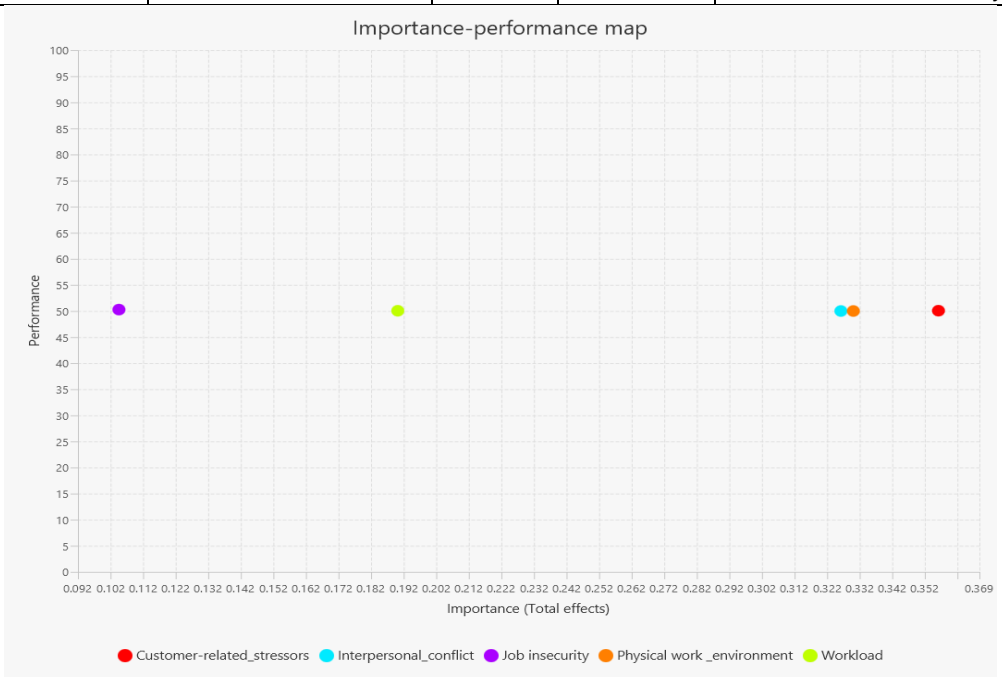

Figure 3: IPMA for Job stress.

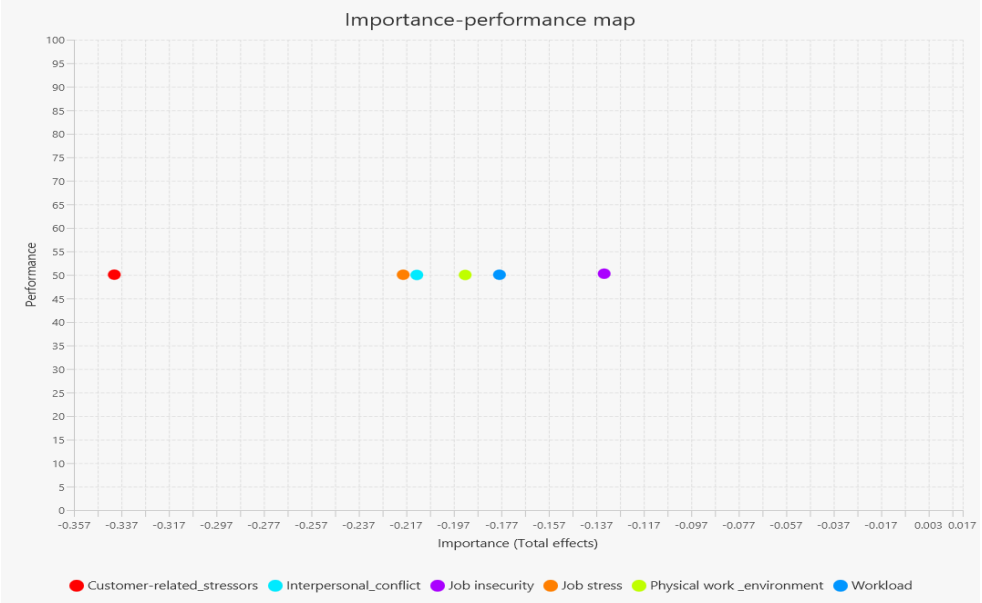

Figure 4: IPMA for Job stress.

5. DISCUSSION

The present study examined how multiple occupational challenges influence employee well-being among railway pantry staff operating within a mobile service environment. Drawing on the Job Demands–Resources (JD–R) framework, the findings confirm that workplace demands play a critical role in shaping psychological strain and well-being in this occupational context. Overall, the results indicate that railway catering operations represent a demanding service setting in which operational, environmental, and relational pressures converge to influence employee health outcomes.

5.1 Environmental and Relational Demands as Key Sources of Stress

One of the most important insights of this study is the prominent role of customer-related stressors in shaping job stress among railway pantry staff. The interaction of passengers is another crucial component of the railway catering services, and the staff has to control their emotions when addressing the complaints, expectations of the services, and even incivility. Past studies have always found customer incivility as a significant cause of emotional drain among frontline service workers (Grandey et al., 2004; Abdou et al., 2024). This literature is extended by the current findings, which helps to prove that such stressors can be especially acute in the conditions of mobile hospitality buildings. In contrast to staff members in the traditional hospitality environment, railway pantry employees provide services in a limited workspace in which it is hardly possible to disengage (in contact with challenging customers) throughout the service delivery process. Constant customer contact that is stressful thus causes long-term impact of emotional stress that is a contributory factor to the stress of employees.

Physical work setting also became one of the significant factors which caused job stress. The pantry workers are working under tight kitchen space with such conditions as high temperatures, mechanical vibration and train movement noise. In the JD -R model, these conditions constitute tangible work requirements that demand prolonged physiological work and can eventually consume the energy of the employees. Past studies have demonstrated that unfavorable working conditions are among the factors that lead to fatigue and mental stress in workers operating in strenuous working environments (Li et al., 2022). The current research supports this argument by noting that the environmental constraints are a major cause of occupational stressor in mobile services working environments.

In the same line, interpersonal conflict was observed to cause stress among employees and this brings to stress the importance of social dynamics within constrained work settings. Another factor that can cause the release of stress between individuals and lessen chances of psychological isolation of colleagues is the fact that railway pantry personnel tend to work and travel in large groups over long periods of time. Past research has shown that conflict in workplaces changes cooperation and leads to emotional exhaustion among employees in the service industry (Spector and Jex, 1998; Chaves-Montero et al., 2025). These dynamics can also be enhanced in the framework of the railway catering operation because there are no clear spatial limits between the work and the rest space.

5.2 Job Stress as the Mechanism Linking Job Demands and Well-being

One of the key findings of the research is the mediating effect of job stress concerning the correlation between some occupational stressors and the well being of the employees. The results show that demands in the workplace affect well-being indirectly by causing a rise in psychological strain. Such a trend is aligned with the JD-R health-impairment process, which implies that high work demands exhaust both physical and mental resources of the employees, causing stress and poor health conditions (Bakker and Demerouti, 2017). The customer-related stressor mediation on interpersonal conflict and physical work environment suggests that stressors initially take the form of a psychological strain prior to determining the overall well-being. That is, unless these workplace conditions are directly experienced by the employees in concrete form, they might not perceive the impact of such conditions on their well-being. Other researchers also mention the role of stress as a major psychological process that connects demanding working conditions and the health outcomes of employees (Dima et al., 2021; Sankar, 2025).

These findings also provide insight into how the JD–R framework operates within mobile service environments, where multiple stressors occur simultaneously and accumulate within spatially constrained workplaces. Under such conditions, job stress becomes a critical pathway through which environmental and relational demands influence employee well-being.

5.3 Direct Effects of Workload and Job Insecurity on Well-being

Interestingly, the findings indicate that workload

and job insecurity have a significant impact on employee well being via direct mechanisms, as opposed to job stress. This implies that the various types of job demands might be working in various psychological directions. In the case of the railway pantry workers, workload is an intrinsic aspect of their daily job as being involved in constant food preparation and delivery of food to passengers on long routes. The heavy workloads may thus become a normal part of the job to the employees.

Workload could have a slow impact on well-being by a build-up of fatigue and lower psychological vitality in the long run, rather than causing acute stress reactions. Such trends have been witnessed in the service employees who have been exposed to long-term operational requirements (Ma et al., 2025). The same tendency was seen with regards to job insecurity which had a direct impact on the well being of the employees. With widespread contractual relationship in the railway catering operations, there always exist an impression of employment insecurity among the employees.

Job insecurity is a structural issue as opposed to operational stressors, which occur on a daily basis during the service interactions of employees, and could overtime wear them off their feet and career dedication. Other previous studies have also shown that perceived job insecurity has a detrimental impact on well-being, as it worsens psychological security and attachment to the organization (Rhéaume, 2021; Aljawarneh et al., 2025). These results indicate that various kinds of job demands can be associated with dissimilar health-impairment courses in the JD -R model. The relational and environmental demands can affect the well-being mainly due to the response to stress but structural demands like job insecurity may have more direct psychological impacts.

5.4 Managerial Prioritization of Workplace Health Interventions

The Importance-Performance Map Analysis (IPMA) provides a strategic hierarchy for IRCTC and railway policy-makers. Customer-induced stressors were identified as the highest priority area, indicating that managing passenger interactions would yield the most significant gains in employee well-being. While workload is frequently the focus of labor discussions, our findings reveal that in the mobile context, the social and emotional environment is more destructive to the human spirit than the sheer volume of work (Abdou et al., 2024; Nabi, 2025). Prioritizing conflict-resolution training and environmental ventilation represents the most effective evidence-based strategy for enhancing the psychological resilience of this essential workforce.

6. THEORETICAL CONTRIBUTIONS

This paper has three major implications on the literature on health in the workplace and Job Demands Resources (JD-R) framework. First, the study brings JD-R model to the understudied setting of mobile service workplaces. Although earlier research has mostly studied the effects of stress among employees in non-portable organizational contexts, the current result suggests that the JD-R health-impairment route is still relevant in space confined and repeatedly relocated workplaces. The research expands the theoretical limits of the JD-R model out of the traditional service situation through the analysis of the railway catering operations (Bakker et al., 2023).

Second, the study leads to the improvement of health-impairment mechanism of the JD-R framework. The results show that various types of job demands affect the well-being of the employees in unique ways. The relational and environmental demands influence the domain of well-being rather directly, but the structural demands (workload and job insecurity) have a stronger direct impact. This difference implies that there can be numerous health-impairment pathways under the JD- R model.

Third, the research would add to the body of knowledge on emotional labour and customer-related stressors in service work. The results indicate that the effects of customer incivility can be enhanced in spatially-restrictive workplaces where the employees do not have many chances of psychological disconnection with service interactions. Through its emphasis on the theme of spatial constraints determining the demands of emotional labour, the work provides an additional contextual insight into the literature on frontline service work within the context of transport-based service systems.

7. MANAGERIAL IMPLICATIONS

The results of this research provide various practical implications to organizations in charge of handling the operations of the railway catering department, especially the Indian Railway Catering and Tourism Corporation (IRCTC) in ensuring the health conditions at the workplace of the pantry employees are improved. First, the outcomes indicate the customer related stressors as the most important stressor of staff stress and therefore organisations ought to be interested in interventions that minimize the interactions between passengers and staffs.

Employees can learn to control the problematic behaviour of passengers better with the help of the training programs which are oriented at the skills of conflict management, emotional control, and communication. Also, a set of guidelines to follow when dealing with the misconduct of passengers can help minimize the emotional pressure on frontline employees.

Second, the great impact of physical work environment on job stress means that it is necessary to increase environmental conditions in the pantry cars. Problems related to the physical strain of working in a confined mobile kitchen can be addressed through the improvement of the ventilation systems, the minimization of noise levels, and the ergonomics of the working space. The resolution of these environmental limitations can help to improve the well-being of employees and the efficiency of the provided services.

Third, the results highlight the need to control the interpersonal relationships between the pantry staff. As employees spend most of their time working and commuting over long distances, organizations ought to consider team-based interventions like communication courses, conflict management training and role definition to reduce interpersonal tensions among the human resource.

Fourth, the workload and job insecurity may not have worked via stress mediation, but they had direct negative impacts on the well-being of the employees. This implies that the organizations must deal with structural attributes of employment such as the proliferation of contractual employment agreements. Better employment security and equitable workload sharing can help increase employee security and commitment in the long run.

Lastly, the outcomes of the IPMA indicate that better social and environmental conditions of work can be more beneficial to the well-being of employees compared to the workload management only. When organizations are focusing more on the enhancement of the passenger interaction management, the workplace environment, and the team dynamics, they may create a more integrated workplace health strategy in conducting railway catering activities.

8. LIMITATIONS

This study has a number of limitations even though it has contributed to it. First, the use of cross-sectional survey data does not allow responding to the definitive causal relations among variables. Although the structural model is presented to give evidence of significant associations, its cross-sectional design only gives a snapshot of the process of health-impairment. Second, it was a limited sample by the geographical location of the Western Railway in India. Although this background highlights important details on high-intensity mobile work, the results are not wholly applicable to other transport arrangements or other cultural hospitality practices. Third, the research was limited to one sole pathway of the JD- R framework; the health-impairment. The conceptual model lacked job resources, including organizational support, quality leadership, or peer cohesion, that could serve as protective mechanisms against the established stressors.

9. FUTURE RESEARCH DIRECTIONS

Future research should adopt longitudinal designs to evaluate how occupational stress and health outcomes evolve over extended travel cycles. Such approaches would provide deeper insights into the temporal dynamics of recovery and the long-term implications of sustained exposure to mobile hindrance demands. Also, other models in the future must build upon the JD-R model by adding job resources as moderators. Research into the effects of supervisory support or psychological hardiness on the influence of passenger incivility and environmental restrictions would give a more comprehensive insight about workforce resilience. Lastly, cross-sectional research in various transport industries (maritime hospitality or long-haul air catering) may assist in defining whether the stress processes identified here are inimitable to the rail transportation or are typical of mobile service systems. The importance of spatial constraints in determining the process of emotional recovery is a key area of research that has been identified as important towards the development of occupational health theory.

10. CONCLUSION

This paper clarifies the complicated occupational health relationships of pantry workers in railways, in which the mobile service workplace presents unique problems. Using the JDrelational structural framework, we reveal interplay of environmental, relational and structural demands to diminish employee well-being in a mediated and direct direction. In particular, the incivility of the customers and poor physical conditions turn out to be quite crucial factors that contributed to the occurrence of the psychological strain, which is enhanced by the physical limitation of the moving train. The results of this paper highlight the necessity of more specific strategies that go beyond the traditional workload management and consider the emotional and

environmental reality of mobile labor. Finally, the sustainability and excellence of service of the national transport infrastructure requires the psychological well-being of this critical workforce.

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