



Investigation of Workplace Loneliness and Personal Well-Being in Private Higher Education Institutions

A JD–R Model Approach in India

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ABSTRACT

The perceived lack (or low quality) of social relationships in the workplace has become a psychosocial threat of insufficient nature in the post-pandemic academic workforce, which has been labeled as workplace loneliness. In the fast-growing Indian market of the increasing number of private institutions of higher learning, this additional pressure in terms of performance, mixed-mode schedules, and uncertain collegial relations has rendered loneliness as a possible risk factor to the well-being of faculty and staff. This paper uses the Job Demands-Resources (JD-R) framework and considers the role of workplace loneliness in personal well-being as a twofold phenomenon, the health-impairment process (theoretically mediated by emotional exhaustion) and the motivational process (theoretically mediated by work engagement). Furthermore, perceived supervisor support and collegial support are also tested as moderators of job demands.

Using survey data from 628 employees across 24 private higher-education institutions (HEIs) in India, a two-step structural equation modeling (SEM) approach was applied. The key variables showed significant positive and negative relationships to each other. Exhaustion and engagement are both found to mediate the relationship between loneliness and personal well-being (WHO-5). The loneliness path seems to be weakened by supervisor support and collegial support. The results expand JD-R theory by conceptualizing loneliness in the work place as a relational job demand and shedding light on social-support processes that can shield the well-being of employees in Indian HEIs.

Keywords: Workplace Loneliness, Job Demands–Resources Model, Emotional Exhaustion, Work Engagement, Well-Being, Supervisor Support, Higher Education, India

INTRODUCTION

Context and Rationale

There are unprecedented growth and extreme marketization of the Indian higher-education sector whereby more than two-thirds of tertiary students are enrolled in the sector by the private sector. Universities and colleges are under increasing pressure to be accountable, face complicated regulatory environments, and have an increasing number of student demands of service quality and employability. Both faculties and administrative staffs are required to deal with teaching, research, and service outputs simultaneously through performance-based appraisal systems.

Although such environments appear very vibrant, they tend to undermine genuine collegial interaction and community membership. Loneliness in the workplace, which is defined as a difference between the desired and the real quality of relationships at workplace, is becoming an acknowledged force of strain, although quite subtle. Contrary to social isolation, which is objective, loneliness is subjective and constructed in relation. It subverts motivation, belonging, and sense thus lowering person and organizational well-being (Bryan et al., 2024; McCarthy et al., 2024). This is increased by long working hours, discontinuous schedules, and a lack of faculty control in Indian HEIs.

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Theoretical Foundation

The Job Demands–Resources (JD-R) model provides an integrative framework for explaining how job characteristics affect employee outcomes. The model suggests two general mechanisms:

1. A health-impairing process that excessively stresses mental and physical resources, resulting in burnout and decreased well-being.
2. A motivational process that requires job resources that stimulate engagement, meaning and positive outcomes.

The present study applied JD-R to the social aspects of the workplace by conceptualizing loneliness as a relational demand; the demand that places a continuing need for self-regulation in the context of managing negative affect and uncertainty around the issue of belonging. In contrast, social job resources such as perceived supervisor support and collegial support are protective against strain and promote engagement. (Tummers & Bakker, 2021).

Research Objectives

Despite rising attention to academic burnout, little empirical work examines how loneliness operates within the JD-R framework in Indian private HEIs. This study therefore aims to:

1. Assess the direct relationship between workplace loneliness and personal well-being.
2. Test emotional exhaustion and work engagement as mediating mechanisms.
3. Evaluate the moderating roles of supervisor and collegial support.

Significance and Contributions

The study makes a theoretical contribution through the addition of a relational-demand lens to the JD-R theory and an empirical contribution through the provision of one of the first quantitative tests in the context of private higher education in India. It practically proposes action items such as leadership practices, mentoring structures and inclusive teams to mitigate loneliness and support wellbeing at the HEI.

LITERATURE REVIEW AND HYPOTHESES

Workplace Loneliness

Workplace loneliness is the subjective sense of poor social belonging or emotional attachment of an employee at the workplace (Ozcelik & Barsade, 2018; Wright et al., 2025). Loneliness is a perceived disparity of the desired and actual quality of relationships, as opposed to social isolation, which is objective. Recent studies have demonstrated that workplace loneliness is negatively associated with job satisfaction, work engagement, and organizational commitment, while positively related to burnout and turnover intentions (Bryan et al., 2024; Walumbwa et al., 2024). Previous research has further shown that workplace loneliness reduces employee engagement and commitment, particularly when leader–member exchange and coworker exchange quality are weak (Jung et al., 2021). In a higher educational context, growing hybrid work arrangements and online communication have only intensified informal collegial relationships, with loneliness becoming a pseudo social burden among the faculty and administrative personnel.

Loneliness and Personal Well-Being

It is well known that employee well-being, including emotional, psychological, and physical wellness, is a primary determinant of personal and organizational performance (Diener et al., 2020). Loneliness is a key factor linked to diminished subjective well-being, increased anxiety, depressive symptoms, and a low level of life satisfaction (Buecker & Horstmann, 2021). Loneliness at work is a form of affective strain that creates conditions for the depletion of emotional resources and the deterioration of motivational states. Recent evidence shows a vicious circle: the decline in well-being leads to loneliness, and the lack of social interaction further constrains well-being and strengthens the perception of loneliness (Lam & Jolly, 2023). The well-being of higher education employees has been said to be influenced by high emotional labor, performance expectations, research pressures, and student-centered demands. According to a study by Naylor and James (2023), academic employees experience a greater psychological stress burden than those in similar occupations due to the intensity of their workload and the lack of work-life boundaries, thereby

making them more vulnerable to loneliness. Collegial support is often limited, competition is prevalent, and opportunities for meaningful interaction are reduced, which can negatively influence faculty well-being. Existing literature suggests that institutional pressures, performance expectations, and evolving work structures in higher education contribute significantly to employee stress and reduced well-being (Diener et al., 2020; Buecker & Horstmann, 2021).

Workplace Loneliness Through the JD-R Model Lens

A comprehensive model of workplace loneliness based on the Job Demands-Resources (JD-R) model (Bakker, 2023) provides an understanding of the issue as resulting from job demands and as a predictor of strain and well-being outcomes. The model is a two-process model: the health-impairment process and the motivational process. The former involves high job demands that drain energy and induce strain, while the latter involves job resources that enhance engagement and well-being. Recent studies propose that loneliness is a social job demand that drains emotional resources involved in the mechanism of health impairment. Walz and Korte (2024) found that job demands (workload, role conflict, and work-home interference) contribute to employees' loneliness, which, in turn, contributes to emotional fatigue and decreases well-being. On the other hand, job resources, including supervisor support, colleague support, meaningful work, and autonomy, mitigate the adverse impacts of loneliness on well-being (Elahi et al., 2025). Collegiality and mentorship are especially critical in academic institutions and help to cushion employees against the strain of loneliness. In the JD-R paradigm, workplace loneliness has been conceptualized both as a result of a resource deficit and as a mediator of the demand-strain relationship. Research shows that low social support, low team cohesion, and a lack of collaborative culture result in diminished social resources, which in turn enhance loneliness and burnout (Kremer et al., 2023). Institutions of higher learning tend to have poorly organized systems of cooperation, which only exacerbate the perceived isolation, even when there is physical contact. Negative effects of loneliness on well-being are mitigated when job resources are

greater, supporting the JD-R buffering hypothesis (Bakker, 2023).

Higher Education and the Indian Context

The sphere of higher education has been changing rapidly, and even more so in India, where the system of private universities is competitive, as indicated by their rankings, admissions, accreditations, and student demand. As much as these changes lead to innovation and growth, they also increase job demands more strictly due to the regular appraisals, longer working hours, and task-switching between teaching, research, administration, and outreach duties. According to Jain and Pathak (2024), faculty at private HEIs in India report increased stress and decreased well-being compared with those at public institutions due to performance-oriented cultures and a lack of autonomy. The digitization after the pandemic increased hybrid work and decreased the informal communication between faculty and staff, making social connection intentional and less organic. As a result, it is probable that loneliness in the workplace among Indian private universities is on the increase but empirically under investigated. Considering that JD-R model is a powerful measure of predicting occupational well-being across industries, which can be used in the analysis of loneliness amongst Indian HEI employees, the application can further understand that job demands and resources affect well-being in this industry.

Summary of Gaps and Need for the Study

Even though the global research findings associate workplace loneliness with reduced well-being, burnout, and performance, there is minimal research that places the findings in Indian contexts of the private higher education institution. Student loneliness or general stress in the workplace are quite common topics in existing Indian research, which has underreported the experience of faculty and staff. Further, the study has a gap in the literature in terms of the framing of loneliness into a JD-R theoretical framework applied in the HEI workforce. Therefore, this paper seeks to address these gaps by exploring the connections between workplace loneliness, job demands/resources and personal well-being among the employees that work in private HEIs in India.

JD–R Model and Relational Demands

Conventional JD–R studies focused on quantitative work and emotional work. The past five years have experienced a transition to social and interpersonal needs, such as incivility, ostracism, and loneliness (Lee et al., 2023). Loneliness depletes cognitive-affective resources and limits access to instrumental support thus hindering the process of obtaining motivational resources.

The conceptual framework of this study is grounded in the Job Demands–Resources (JD–R) model, where workplace loneliness is conceptualized as a relational job demand. The model proposes that workplace loneliness influences employee well-being through two primary pathways: a health-impairment pathway via emotional exhaustion and a motivational pathway via work engagement. Emotional exhaustion and work engagement serve as mediating variables. Furthermore, perceived supervisor support and collegial support act

as moderating variables that buffer the relationship between workplace loneliness and emotional exhaustion.

Based on the health-impairment process of the JD–R model, loneliness at the workplace has the potential of increasing exhaustion because employees are forced to use emotional resources to manage relational losses. Therefore, we propose:

H1: There is a positive relationship between workplace loneliness and the exhaustion of emotions.

On the other hand, in the motivational pathway, loneliness can diminish engagement through decreased intrinsic energy and work-related connectedness. Thus:

H3: Work engagement has an adverse relationship with workplace loneliness.

Figure 1 presents the conceptual framework of the study grounded in the Job Demands–Resources (JD–

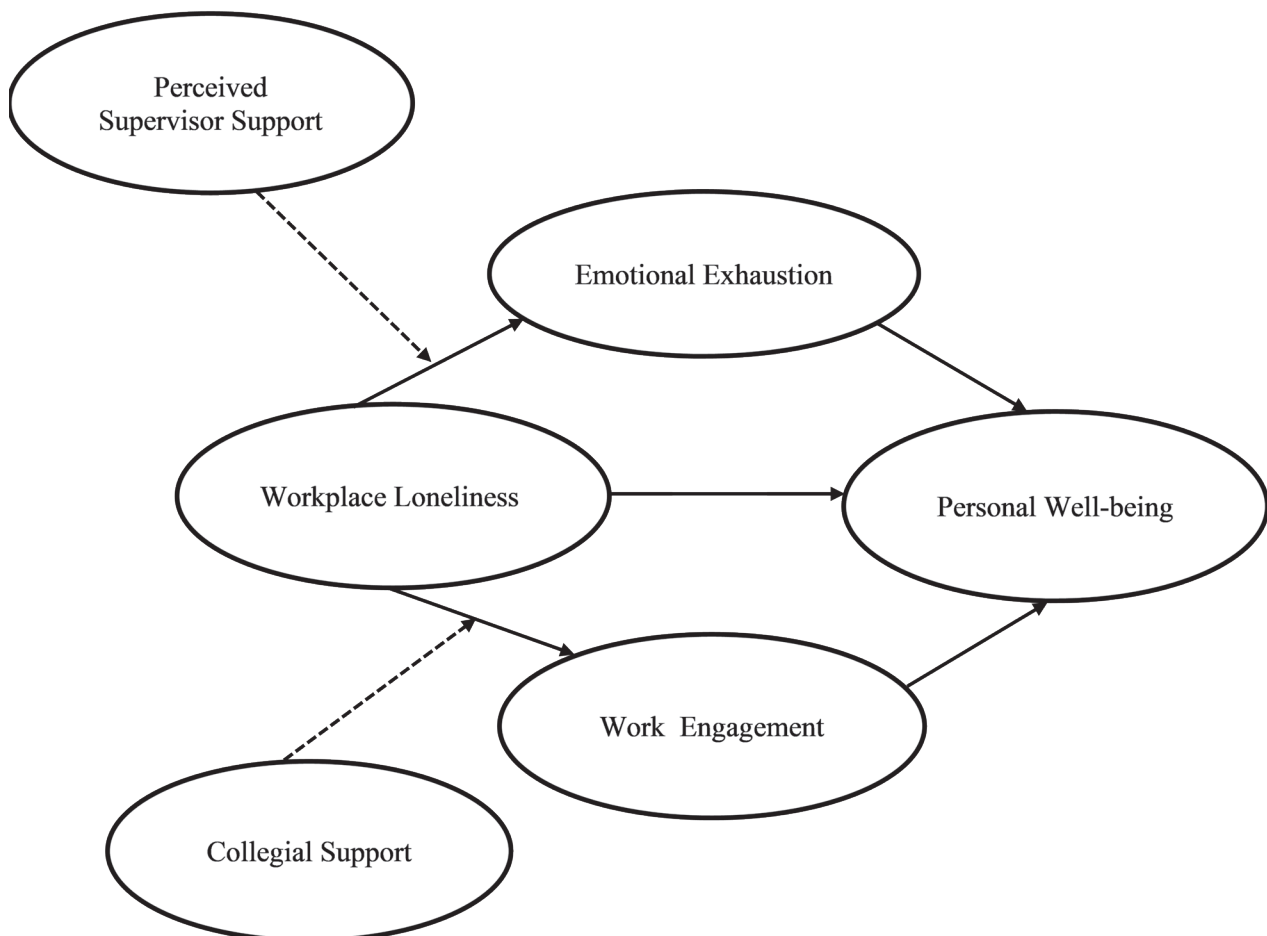


Figure 1: Structural Model of the JD–R Pathways
Source: Author's analysis

R) model. The framework illustrates workplace loneliness as a relational job demand influencing personal well-being through emotional exhaustion and work engagement. Perceived supervisor support and collegial support are proposed as buffering resources that weaken the adverse impact of workplace loneliness on emotional exhaustion.

Mediating Mechanisms

Emotional exhaustion represents the core dimension of burnout (Maslach et al., 2016). Prolonged loneliness heightens vigilance to rejection, leading to chronic depletion and psychological fatigue (Chaves-Montero et al., 2025). In an attempt to further learn about these two pathways, we explore whether emotional exhaustion and work engagement can mediate the relationship between loneliness and well-being as below.

H2: Emotional exhaustion mediates the relationship between workplace loneliness and well-being.

Conversely, work engagement—characterized by vigor, dedication, and absorption—is enhanced by social connectedness (Schaufeli & Bakker, 2023). Loneliness undermines these drivers, resulting in disengagement.

H4: Work engagement mediates the relationship between workplace loneliness and well-being.

Moderating Role of Social Support

Perceived supervisor support and collegial support function as protective resources. When present, they can buffer the detrimental effects of loneliness on exhaustion by providing alternative channels of validation and support (Liu et al., 2024).

Social resources like supervisor and peer support can serve as buffers that mitigate the

harmful impact of loneliness on exhaustion. Therefore:

H5: Perceived supervisor support moderates the positive relationship between workplace loneliness and emotional exhaustion, such that the relationship becomes weaker when perceived supervisor support is high.

H6: Collegial support moderates the positive relationship between workplace loneliness and emotional exhaustion, such that this relationship weakens when collegial support is high.

METHODOLOGY

Research Design

A cross-sectional quantitative design was adopted using structured online and paper questionnaires. The study targeted private universities and autonomous colleges across five Indian regions. Institutional cooperation was secured via formal letters of consent, and anonymity was assured.

Sample

A total of 702 responses were received; 628 were retained after data-quality screening (no straight-lining, < 10% missing). Of these, 58% were faculty, 42% administrative staff; 44% identified as female. Average age = 37 years (SD = 8.2), tenure = 3.8 years (SD = 3.0). Work modes: on-site 47%, hybrid 38%, remote 15%. Power analysis (G*Power 3.1) indicated that $N \geq 400$ was sufficient for detecting medium SEM effects ($\beta \approx 0.3$) with .95 power.

Measures

All constructs were measured using 5-point Likert scales (1 = strongly disagree – 5 = strongly agree).

Table 1: Reliability and Validity Statistics of Constructs

Construct	No. of Items	Source	Cronbach's Alpha (α)	Composite Reliability (CR)	AVE
Workplace Loneliness	7	Wright et al. (2025)	0.89	0.90	0.62
Emotional Exhaustion	5	Maslach et al. (2016)	0.92	0.93	0.69
Work Engagement	9	Schaufeli & Bakker (2023)	0.90	0.91	0.58
Perceived Supervisor Support	4	Eisenberger et al. (2020)	0.88	0.89	0.66
Collegial Support	4	Halat et al. (2023)	0.86	0.87	0.62
Personal Well-Being	5	WHO (2024)	0.87	0.88	0.59

Source: Author's analysis based on survey data

Cronbach's α , composite reliability (CR), and average variance extracted (AVE) were calculated.

Personal well-being was measured using the WHO-5 Well-Being Index, which has demonstrated strong reliability and validity across occupational and psychological well-being studies (Sischka et al., 2020).

Procedure and Ethics

Questionnaires were distributed via institutional HR offices. Participation was voluntary; respondents provided informed consent.

Data Analysis

Data were analyzed using AMOS 28 with maximum-likelihood estimation. The two-step SEM procedure comprised (1) confirmatory factor analysis (CFA) to assess the measurement model and (2) structural analysis to test hypothesized relationships. Model fit was evaluated using χ^2/df , CFI, TLI, RMSEA, and SRMR. Moderation was tested via latent-interaction modeling, and mediation via bootstrapped indirect effects (5,000 resamples).

Model-fit criteria: CFI $\geq .90$, TLI $\geq .90$, RMSEA $\leq .08$, SRMR $\leq .08$ (Hu & Bentler, 1999).

DATA ANALYSIS AND RESULTS

Measurement Model and CFA Results

A first-order CFA, comprising six latent constructs (workplace loneliness, emotional exhaustion, work engagement, perceived supervisor support, collegial support, well-being), was estimated. The measurement model yielded strong fit indices:

- $\chi^2(460) = 972.13$, $p < .001$;
- $\chi^2/df = 2.11$;
- CFI = .951;
- TLI = .944;
- RMSEA = .042 (90% CI = .038 – .046);
- SRMR = .048.

All standardized factor loadings ranged from .62 to .88 ($p < .001$). Composite reliability (CR) and average variance extracted (AVE) for each construct matched those reported in Table 1.

Discriminant validity was confirmed via HTMT values all $< .85$. Common-method factor analysis (a latent factor loading on all items) accounted for less than 18% variance, and substantive loadings remained stable, alleviating concern about method bias.

Thus, the measurement model stands as a valid baseline for structural analyses.

Structural Model and Hypothesis Testing

The proposed structural model (Figure 1) was estimated. Model fit remained within acceptable bounds: $\chi^2(523) = 1,120.47$, $\chi^2/df = 2.14$, CFI = .948, TLI = .942, RMSEA = .043 (90% CI = .039 – .047), SRMR = .052.

Table 2 presents the key path coefficients, standard errors, and significance.

Table 2: Structural Path Estimates

<i>Hypothesized Path</i>	<i>Beta (β)</i>	<i>SE</i>	<i>p-value</i>	<i>95% Confidence Interval</i>
Loneliness → Exhaustion	0.46	0.06	< .001	[.35, .57]
Loneliness → Engagement	−0.34	0.07	< .001	[−.47, −.21]
Exhaustion → Well-being	−0.52	0.05	< .001	[−.61, −.43]
Engagement → Well-being	0.27	0.06	< .001	[.15, .39]
Loneliness → Well-being	−0.17	0.07	0.01	[−.31, −.03]

Source: Author's analysis based on survey data

All hypothesized direct paths (H1, H3) were supported. The negative direct effect from loneliness to well-being ($\beta = -.17$) suggests partial mediation.

Interpretation

- Workplace loneliness significantly increases emotional exhaustion ($\beta = .46$) and significantly reduces work engagement ($\beta = -.34$).
- Exhaustion has a strong negative influence on well-being ($\beta = -.52$), whereas engagement positively contributes to well-being ($\beta = .27$).
- The direct effect (loneliness → well-being) remains negative and significant, but smaller in magnitude, consistent with partial mediation.

Indirect Effects and Decomposition

Bootstrapping (5,000 resamples) yielded the following indirect estimates:

- Loneliness $\rightarrow$ Exhaustion $\rightarrow$ Well-Being: $\beta_{\text{indirect}} = -.24$ (95% CI = $[-.31, -.16]$)
- Loneliness $\rightarrow$ Engagement $\rightarrow$ Well-Being: $\beta_{\text{indirect}} = -.09$ (95% CI = $[-.14, -.04]$)
- Total effect (loneliness $\rightarrow$ well-being): $\beta_{\text{total}} = -.50$, $p < .001$

These results confirm H2 and H4: personal well-being is significantly mediated by both exhaustion and engagement.

Moderation (Buffering) by Social Support

To examine H5 and H6, we introduced latent interaction terms:

- Loneliness $\times$ PSS $\rightarrow$ Exhaustion
- Loneliness $\times$ CS $\rightarrow$ Exhaustion

The interaction of loneliness with perceived supervisor support (PSS) yielded $\beta = -.11$, $SE = .05$, $p = .028$; loneliness $\times$ collegial support (CS) produced $\beta = -.09$, $SE = .05$, $p = .041$.

Simple-slope analyses and region-of-significance tests reveal that:

- Under low PSS (-1 SD), the slope of loneliness $\rightarrow$ exhaustion is steep ($\beta \approx .57$, $p < .001$).
- Under high PSS ($+1$ SD), the slope attenuates ($\beta \approx .35$, $p < .01$).
- The Johnson–Neyman point is at Support $\approx +1.20$ SD—beyond which the loneliness effect on exhaustion is non-significant.

Hence, H5 is supported: higher supervisor support weakens the exhaustion impact of loneliness. A parallel buffering effect is observed for collegial support (H6), albeit slightly weaker.

Robustness Checks and Multi-Group Tests

Alternative Ordering Test (Engagement $\rightarrow$ Exhaustion)

We re-specified a model reversing the mediation order. Fit worsened ($\Delta CFI = -.012$), and the flipped

path (engagement $\rightarrow$ exhaustion) was small and non-significant ($\beta = -.08$, $p = .09$).

Common-Method Latent Factor Check

Inclusion of a method factor absorbing shared item variance did not substantially alter substantive parameter estimates (all β s changed $< .03$).

Multi-Group Invariance (Faculty v. Staff; Work Mode Groups)

Configural, metric, and scalar invariance held ($\Delta CFI < .01$). Structural paths were not significantly different across subgroups, suggesting model generalizability across roles and work modes.

In sum, the structural and moderation models with latent interactions robustly support all six hypotheses.

DISCUSSION AND IMPLICATIONS

Theoretical Contributions

Relational demands in JD-R.

This study advances JD-R theory by explicitly modeling workplace loneliness as a relational job demand—a construct requiring regulatory effort and attenuating access to relational resources. Although the traditional focus of JD-R has been on workload, emotional labor, and cognitive demands, there is an increasing interest in the emergence of social/relational demands, such as incivility and ostracism (Lee et al., 2023; Bryan et al., 2025). The findings show that chronic relational deficits can be just as depleting as more classic demands, at least within the service-intensive academy.

Dual pathways to well-being.

We then show how loneliness acts simultaneously through the health-impairment route via emotional exhaustion and the motivational route through engagement. The exhaustion-mediated path, $\beta = -.24$, is greater in magnitude than the engagement path, $\beta = -.09$, indicating that the straining effects of loneliness outweigh its motivational obstruction—though both are meaningful. This dual-path framework aligns with contemporary integrative JD-R theory (Bakker, 2023; Li et al., 2025).

Support as Contextual Resource

The moderation findings underscore that perceived supervisor support and collegial support act as buffering resources, weakening the strain path (loneliness → exhaustion). This insight reinforces expanded JD-R propositions about interactive effects and contextual resource amplification (Tummers & Bakker, 2021; Lee et al., 2023). For academic settings, it points to the pivotal role of relational leadership and peer climates in tempering social strain.

Contextual Contribution to Indian HEIs

Unlike the Western institutions of learning guided in the most part by autonomy and by collegial institutional leadership, Indian private schools of higher learning are directed by a performance-based hierarchical model in which the return to pressure and the demand for accreditation reinforce a relational tool. This means the effects of loneliness on wellbeing is reduced at the workplace but enhances loneliness as a determinant. The study empirically shows validity of the JD-R model in this context and suggests new knowledge hitherto unknown; the relational demands are not only intra-personal but are also a representation of institutional structure in Indian academia.

Theoretical Implications

In this study, literature on the JD-R framework was extended by adding the job-related factor of workplace loneliness, which widens the theoretical scope of the JD-R framework. It also provides a additional benefit in combining both health-related and motivational approaches to the role loneliness plays in well-being. Identification of social support variables as moderators further adds support to the buffering proposition of the JD-R.

Practical Implications

The results indicate that supportive supervisory and collegial relationship within academic institutions is important. Universities could adopt structured mentoring, peer-support programs, inclusive leadership training to combat workplace feelings of loneliness and contribute to employee well-being.

Implications for Private HEIs

Table 3: Practical Recommendations for Private HEIs

<i>Focus Area</i>	<i>Action Step</i>	<i>Intended Outcome</i>
Leadership and Mentoring	Train supervisors in active listening and micro-recognition routines (e.g., weekly peer appreciation).	Builds perceived supervisor support and reduces loneliness.
Team Design	Introduce buddy-mentor pairing for new and hybrid staff.	Strengthens belonging and collaboration.
Scheduling and Social Time	Avoid consecutive teaching blocks; plan short breaks for informal interaction.	Encourages organic faculty connections.
Monitoring and Support	Use quarterly pulse surveys (WHO-5, 3-item loneliness scale) to detect social isolation.	Enables targeted well-being interventions.
Institutional Culture	Promote open-door leadership and cross-departmental communities of practice.	Fosters sustained collegiality and reduces relational fatigue.

Source: Author's analysis

Limitations and Future Research

Cross-Sectional Design

Causal inference is limited. Longitudinal or experience sampling designs can track the timing and relationship between loneliness, exhaustion, and engagement (Zhu et al., 2023)

Self-Report Measures

While mitigated through procedural techniques and method factor tests, using multi-source data such as peer ratings and objective well-being metrics would improve validity.

Contextual Generalizability

Private higher education institutions (HEIs) differ in size, mission, and governance. Future multi-level modeling could explore how institutional climate acts as a moderator. Similar studies in public universities and in various countries could test consistency across different contexts.

Other mediators/moderators

Psychological safety, meaning-making, identity salience, and digital communication norms may affect outcomes. Integrating JD-R 3.0 in digital academia offers promising opportunities (Li et al., 2025). Future research should also use longitudinal designs and institutional intervention frameworks to confirm the JD-R relational demand model over time and look at the effects of structured social-support programs on employee well-being within HEIs.

Future Research Directions

Future research may use longitudinal designs to establish causal relationships and study the timing and dynamics of loneliness and well-being. In addition, cross-cultural studies can offer comparative insights across educational systems. More investigation into digital communication patterns, psychological safety, and organizational culture as moderators could enhance the JD-R framework.

CONCLUSION

Loneliness in the workplace is a significant issue that impacts the health of individuals, particularly in private higher education. Being separated from loved ones can leave people feeling isolated and alone, and this can be problematic for their health. However, supervisors and colleagues can help workers avoid burnout. This is something which the institutions can do to improve. For instance, in the private sector of higher education in India, it is good to provide opportunities for individuals to connect with one another. This may be in the form of team-building events, mentoring relationships, and a meeting that is inclusive of everyone. Creating comfortable and simple-to-use social areas would also be beneficial. Further research is required to better understand how these things act in various educational environments across time. This means we can identify how to address loneliness and further the well-being of individuals. This can have major impact for individuals if they are in an institution where programs and spaces are put together that draw people together and help maintain their mental health.

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