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IMPACT OF HYBRID WORK ON EMPLOYEE ENGAGEMENT: THE MODERATING ROLE OF WORK-LIFE BALANCE AMONG ACADEMIC AND ADMINISTRATIVE STAFF IN UNIVERSITIES OF PAKISTAN

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Abstract

Purpose: *This study aims to explore the relationship between hybrid work and employee engagement among the staff members of the universities in Pakistan with work-life balance as a boundary condition. It fills the lacuna in the higher education literature in South Asia and confirms the validity of strong measurement tools.*

Design/Methodology/Approach: *In this study, 412 university employees were selected as the sample and they were asked to fill out culturally adapted scales. The relationships were tested using hierarchical moderated regression, Pearson correlations, and group comparisons. The instruments were validated with rigorous psychometric testing.*

Findings: *Engagement was significantly positively associated with hybrid work ($r = .42$, $p < .001$). Work-life balance also had a positive coefficient with engagement ($r = .45$, $p < .001$) that was high. The hybrid work-engagement relationship was significantly moderated by work-life balance ($\Delta R^2 = .032$, $p < .01$); that is, the positive relationship between hybrid work and employee engagement is heightened when the work-life balance is high. There were greater levels of engagement among academic staff than administrative staff ($t = 3.12$, $p < .01$), and the private sector staff had more positive experiences with hybrid work than public sector staff ($t = 2.96$, $p < .01$). There was a higher level of engagement among female employees than male employees ($t = 2.54$, $p < .05$). The internal consistency of all scales was excellent ($\alpha = .86$ to $.89$).*

Originality/Value: *This study contributes to the evidence base of the Job Demands-Resources and Conservation of Resources approaches in a non-Western context, as hybrid work is a job resource when supported by work-life balance.*

Practical Implications: *University leaders should prioritize infrastructure that supports hybrid work arrangements and policies to enhance work-life balance. There is a call for specific support for administrative support and public institutions and to have HR policies that are flexible and deal with boundaries.*

Keywords: Hybrid Work, Employee Engagement, Work-Life Balance, Higher Education, Pakistan, Scale Validation, Job Demands-Resources Model

1. Introduction

1.1 The Changing Landscape of Academic Work

Since the onset of the COVID-19 pandemic, universities have undergone a paradigm shift in their ways of organizing and delivering work: a mix of on-campus and remote working has been adopted for the first time (Marinoni et al., 2020). Initially the emergency response has become an ongoing aspect of

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institutional life, with multiple higher education institutions still having flexible work policies well beyond the acute phase of COVID-19 (CUPA-HR 2025). The move has left Pakistani universities with big questions on the way flexible work arrangements will impact their faculty and administrative staff, who are the backbone of academic institutions.

Hybrid working, in which staff split their time between home and office, is a tricky situation for employers and employees. Flexibility, on the other hand, can have a variety of positive impacts, such as lower commute times, greater autonomy, and better work-life integration (Kavya et al., 2025). However, remote working activities could also create the sense of isolation, lack of distinction between work and home, and lack of organisational involvement (Grant et al., 2013). Knowing which of these outcomes is more likely, and when, is a pressing issue for the leadership of universities, human resource practitioners, and organizational scholars.

1.2 The Engagement Imperative in Higher Education

Since higher employee engagement is associated with greater productivity, commitment, and reduced turnover intentions (Bakker & Demerouti, 2007), the concept of employee engagement has become a critical aspect of organizational outcomes conceptualized as the level of vigor, dedication and absorption an employee brings to their work (Schaufeli et al., 2002). The importance of engagement in the higher education setting is significant because the academic and administrative staff are directly involved in the outcomes of students, the reputation of the institution, and the productivity of research (Saks, 2006).

But the findings in the literature regarding engagement and hybrid work have been varied. Some studies suggest that flexibility can help boost engagement as it provides more autonomy and decreases commuting-related stress (Arifah et al., 2025; Çivilidağ & Durmaz, 2024), while others indicate that feelings of isolation and role blurring from remote work can diminish engagement (Italian University Research Team, 2024). This incongruity implies that the correlation is dependent on individual, organizational and situational variables that need to be studied systematically.

1.3 Theoretical Rationale and Research Gaps

Work-life balance has also been suggested as a mechanism and/or a boundary condition that can influence the outcomes of hybrid work (Sultan et al., 2025). When the shift to flexible work is one that is typically a personal day, or the role conflict is reduced, then flexible work is more likely to lead to an increase in engagement. On the other hand, if flexibility involves working outside of working hours or if work at home and at work becomes indistinct, then the same arrangement can have a negative effect on engagement (International Research Consortium, 2026).

Although this type of model is easy to use and understand, there are some important research gaps. First, there is a lack of research in the field of hybrid work, work-life balance and engagement in the South Asian Higher Education contexts (Sultan et al., 2025). Second, most studies used a cross-sectional design and self-reporting instruments, where the latter did not consider the rigorous validation of instruments in their cultural context. Third, the distinct experiences of academic staff and administrative staff, who have different roles in universities, have been inadequately studied.

1.4 The Pakistani Higher Education Context

The higher education system in Pakistan has its own institutional setting, which is resource-constrained, has uneven institutional capacity across public and private institutions, and cultural norms that might impact the experience of flexible working arrangements (Iqbal et al., 2024). Public universities are constrained by bureaucracy and limited resources that can make effective use of hybrid working arrangements difficult, whereas private universities can be more flexible but could have fewer job security options. Further, the role and responsibilities of men and women in Pakistani society can influence the experience of hybrid working among male and female employees (Zimbabwe Open University Study Team, 2025).

However, the cultural environment of Pakistan, which is known as collectivism, power distance and strong family needs, might influence the experiences and evaluations of hybrid work (Hofstede, 2001). Gender norms in household duties might be relevant in particular: while flexibility might be more highly valued in

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the eyes of the women employed, they also may be harder hit than men when it comes to setting limits on work and home.

1.5 Research Objectives

Specifically, this study aims to:

1. Examine whether hybrid work arrangements are associated with employee engagement among academic and administrative staff in Pakistani universities
2. Investigate whether work-life balance independently predicts engagement
3. Test whether work-life balance moderates the relationship between hybrid work and engagement
4. Compare hybrid work experiences, engagement, and work-life balance across staff categories, gender, age, and university type
5. Validate measurement instruments for use in the Pakistani higher education context

2. Literature Review and Theoretical Framework

2.1 Conceptual Foundations of Hybrid Work

Hybrid work is a type of flexible working that involves splitting time between an employee's home and place of work. (Kavya et al., 2025). This is not a full remote arrangement, but it does keep you connected physically with the workplace and provides a great amount of flexibility. The hybrid model came to the fore in the COVID-19 pandemic and has been institutionalized in many organizations such as higher education institutions (CUPA-HR, 2025).

The key elements of the hybrid working model are how often remote work is used, how flexible, are technologies adequate, is remote working to the same standard as in the office, and is supervisory trust present (Arifah et al., 2025). These dimensions can have an independent effect on employee outcomes, which suggests that the hybrid work should be viewed as a multidimensional phenomenon, as opposed to a dichotomous one.

2.2 Hybrid Work and Employee Engagement: A Contested Relationship

The relationship between hybrid work and employee engagement is not a smooth one. The connection between hybrid working and employee engagement is far from harmonious.

There is an increasing body of literature that shows a correlation between flexible/hybrid working and employee engagement, but this relationship is not always strong or consistent. Kavya et al. (2025) conducted a study on 412 workers in the information technology industry and determined that the benefits of hybrid working for work engagement were through the impact it had on work-life integration, and this effect remained significant even after controlling for age and tenure. In a similar study, Arifah et al. (2025) polled 400 respondents across higher education institutions and discovered that work engagement was the highest mediator between flexible work and lecturer performance, with technology adoption adding to the support of work engagement.

In a systematic mini-review published between 2010 and 2024, Çivilidağ and Durmaz (2024) found that the correlation between flexible working and employee performance is generally positive, with wider variations across sectors and flexible working arrangement types. The review also highlighted that remote work has been found to bring around 30% productivity improvement, which is contingent on the quality of the implementation and organizational support. But there are also conflicting results. During the post-COVID-19 era, remote work adoption accelerated significantly from 2019 to 2020, and happened at the same time as productivity grew, although, a majority of remote workers reported that they experienced work-life balance issues, which partially offset these advantages (Multi-sector Research Team, 2024). Moreover, a qualitative study of engagement of the academic staff during COVID-19 revealed that, during the sudden shift to distance learning, inadequate organizational resources and high job demands decreased engagement and caused psychological strain (University Research Team, 2024).

The inconclusive results indicate that the hybrid work and engagement link is not straightforward or straightforward, and could be dependent on person, organization, and context.

2.3 Work-Life Balance as a Boundary Condition

A number of studies look at work-life balance as a process or boundary condition rather than an effect of flexible work, as it is the process, or boundary condition, that determines whether flexible work is beneficial

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for the employee. In a sample of 400 faculty members from universities in KP, Sultan et al. (2025) found that WLB had a significant impact on employee engagement, while the interaction between WLB and career success was mediated by employee engagement. Increased resources and organizational support fortify this pathway, they found.

An international research consortium (2026) conducted a large-scale configurational study based on French and Montenegrin samples, and found that a single configuration does not ensure work-life balance because multiple configurations of characteristics of job design and information and communication technology lead to high work-life balance, and that organizations should therefore adapt their configurations to context rather than assume that hybrid work is always good. A study in the same research program yielded comparable results; job stress was reduced most by "flexibility" as perceived through job satisfaction, which again suggests that constructs of job and work-life rather than flexibility per se are the critical factors.

The CUPA-HR (2025) survey of United States higher education institutions reinforces the notion that the mismatch between desired and actual work experiences is a source of strain, in addition to the characteristics of the work experience. This indicates that the quality of implementation may be as important as the policy itself.

2.4 Staff Category and Demographic Differences

One common theme that recurs in the literature is that academic and administrative employees do not necessarily have the same experience of hybrid working. Administrative and technical staff seem to be more susceptible to psychological stress during fast organizational changes: of 365 administrative and technical workers in Universities, 83.4% of lecturers and 69.5% of technical and administrative workers reported moderate to severe psychological distress during the period of mandatory remote work, which became voluntary, and distress decreased in the latter group (Italian University Research Team, 2024).

The moderating role of gender has also been explored. A study carried out at an open university revealed that flexible work arrangements had a positive impact on performance, but that this was moderated by gender, with female academics responding positively to the flexibility (Zimbabwe Open University Study Team, 2025). The results of a longitudinal study of 416 Chinese university administrators also showed that the relationship between emotional intelligence (EI) and psychological empowerment (PE) and work engagement (WE) was different over time with a stronger effect for female administrators (Zhou & Wang, 2026).

Another factor that could affect employees' hybrid working experience is age. Older workers may have different attitudes to flexibility than younger workers who might prefer more technological skills to less experience of traditional employment culture. But the findings are mixed for age differences.

2.5 The South Asian and Pakistani Context

Specific research in the Pakistani higher education system is quite limited with generally consistent results. Sultan et al. (2025) explored the work-life balance and engagement in the context of faculty members in Khyber Pakhtunkhwa, one of the first studies to directly look into this context. A separate study on the role of job satisfaction in the relationship between training investment and institutional productivity on ISO 9001 certified Pakistani universities revealed that job satisfaction in addition to flexibility also played a mediating role in the relationship between training investment and institutional productivity (Iqbal et al., 2024).

2.6 Theoretical Framework

To support the hypothesized relationships, a combination of two different theoretical perspectives is used in this study.

Conservation of Resources (COR) Theory (Hobfoll, 1989) posits that people work to gain or maintain resources they value like time, energy, autonomy, and social support, and that they increase their engagement when their work situations have a positive effect on their resource levels. In the context of the current study, hybrid work is seen as a potential resource generating arrangement: reducing commuting time and providing flexibility of working hours, hybrid work generates personal resources for employees to allocate in their working and non-work lives. The potential resources, however, will only be realized if the arrangement is put

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into practice and lived through. Work-life balance is a measure of how well flexible work arrangements are being integrated into fewer role conflicts and more personal time, thus helping to save resources.

The Job Demands-Resources (JD-R) Model (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004) goes beyond this, suggesting that engagement is the outcome of a positive job demands – resources balance. Job resources include autonomy, social support, and performance feedback, which can inspire work efforts and increase engagement, while job demands include workload, emotional demands, and role ambiguity, which can cause energy depletion and burnout. The potential of hybrid work as a job resource (autonomy and flexibility) is only realized if it is supported by the organization, sufficient technology, and trust with the supervisor. In the absence of these enabling factors, hybrid working might become a demand, creating a new set of challenges to coordinate, new technology challenges and blurring of boundaries. All of these frameworks have justified the notion of work-life balance as a moderator. The COR theory suggests that the relationship between hybrid work and engagement becomes stronger if employees report good work-life balance (which indicates resource preservation) and weaker if they do not report good work-life balance (which indicates resource depletion). The JD-R also finds that the work-life balance is a moderator that magnifies the pros and cons of hybrid work.

2.7 Hypotheses Development

Based on the theoretical framework and empirical literature reviewed above, the following hypotheses are proposed:

- **H1:** Hybrid work is positively associated with employee engagement among academic and administrative staff in Pakistani universities.
- **H2:** Work-life balance is positively associated with employee engagement.
- **H3:** Work-life balance moderates the relationship between hybrid work and employee engagement, such that the relationship is stronger at higher levels of work-life balance.
- **H4:** Academic and administrative staff differ in their levels of hybrid work, employee engagement, and work-life balance.
- **H5:** Gender, age, and university type are associated with differences in hybrid work, employee engagement, and work-life balance.

3. Methodology

3.1 Research Design

The study used a quantitative, cross-sectional survey design to test hypothesized relationships between the hybrid work, employee engagement, and work-life balance at one point in time. The design is grounded in the existing literature in the field of organizational behaviour (Kavya et al., 2025; Arifah et al., 2025) and would be appropriate for this study to investigate the Pakistani higher education context.

The cross-sectional design has benefits in terms of feasibility and efficiency and can estimate associations and test moderator effects. But they do not allow for causal inference, something that is recognized and dealt with in the discussion.

3.2 Sampling Strategy and Participants

3.2.1 Sampling Framework. Convenience sampling method was used and participants were selected from public and private sector universities in Pakistan. This would follow previous research in this field (Sultan et al., 2025) and was felt to be suitable due to the resource limitations and the type of research. Universities were chosen from urban areas to be heterogeneous regarding institutional resources, culture and the implementation of hybrid work.

3.2.2 Inclusion Criteria. They were included if they were: (a) currently working in a Pakistani university as academic staff (faculty, lecturer or professor) or administrative staff (registrar, human resources, accounts or office staff); (b) had worked in their current university for at least six months; (c) had prior experience of hybrid or remote working arrangements; and (d) gave informed consent.

3.2.3 Sample Characteristics. The total return of the questionnaires was 412, and all the returns were included in the final analysis. Demographic characteristics of sample are presented in Table 1.

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https://insightfuljournals.com/

Table 1
Sample Demographic Characteristics (N = 412)

Variable	Category	n	%
Gender	Female	225	54.6
	Male	187	45.4
Age Group	Under 30 years	190	46.1
	30-40 years	120	29.1
	41-50 years	78	18.9
	Above 50 years	24	5.8
University Type	Private sector	234	56.8
	Public sector	178	43.2
Employee Category	Academic staff	234	56.8
	Administrative staff	178	43.2
Hybrid Work Frequency	2-3 days/week	214	51.9
	1-2 days/week	88	21.4
	4-5 days/week	59	14.3
	Rarely/Never	51	12.4

The sample included the balanced gender distribution (54.6% female) and age distribution with majority being less than 40 years (75.2%). Private sector employees were over-represented (56.8% to 43.2% administrative staff), and academic staff were slightly more (56.8% to 43.2% administrative staff). The majority (73.3%) responded that they worked from home 2+ days a week, suggesting significant exposure to hybrid work arrangements.

3.3 Measures

A structured questionnaire was developed as described below and used to collect data:

The items were developed by using validated scales from the organizational behaviour literature and adapted for the context of higher education in Pakistan.

Content, clarity and cultural appropriateness were achieved by having the initial item pool reviewed by three subject matter experts (university faculty with expertise in organizational behaviour and human resource management).

Pre-testing: A pilot test was given to 25 non-sampled participants (University employees) to determine the clarity of the test and to find out if any problem arises with the interpretation of the test. Based on pilot results, minor wording adjustments were made. The five-point Likert scale was used for all the scale items ranging from 1 (Strongly Disagree) to 5 (Strongly Agree)..

3.4 Procedure

The data was gathered using an online survey, which was administered through Google Forms, due to its accessibility, cost-effectiveness and being able to reach geographically dispersed participants. The survey was sent via: Institutional Email Lists: Emails were sent to university email lists that were acquired via institutional contacts and available email lists.

Social Media: LinkedIn and Facebook Groups (for academics and university administration in Pakistan) were used to share links. 3. Snowball Sampling: Participants were encouraged to share the survey with their colleagues.

The survey was open for four weeks (February-March 2025). The purpose of the study, confidentiality of the study, and informed consent were explained in a brief introduction. It was explained to the participants that their responses were anonymous and that they were free to withdraw at any time.

3.5 Data Analysis Strategy

The data collected from Google Forms was downloaded in a structured spreadsheet and cleaned for analysis purposes. The following analytical procedures were performed with the help of the Python programming language and its libraries (pandas, SciPy, and statsmodels).

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https://insightfuljournals.com/

The data underwent preliminary data analysis, which involved cleaning the data by checking the responses for completeness, and the data were minimal missing (<2%) and were cleaned using listwise deletion method. All variables were then summarized using descriptive statistics such as mean, standard deviation, range and distributional properties. Internal consistency was verified using Cronbach's alpha for each of the scales and normality was checked by skewness and kurtosis values showing that all the variables were close to normal distribution.

The primary analyses conducted were Pearson correlations, hierarchical moderated regression and group comparisons. Zero order correlations were calculated between the three composite variables to review the zero order relationships. This was followed by a three-step hierarchical moderated regression analysis model (Aiken & West, 1991), in which employee engagement was the dependent variable and mean-centered hybrid work was entered in Step 1, mean-centered work-life balance was entered in Step 2, and mean-centered interaction term (HW × WLB) was entered in Step 3. To minimize the multicollinearity between predictors and the product term, it was reduced by the method of mean centering. Independent-samples t-tests were used to make comparisons between the groups for gender and for the type of university, and one-way ANOVA was performed to compare age groups.

3.6 Ethical Considerations

The study was done based on the ethical guidelines of social research. All participants gave informed consent, confidentiality and anonymity was guaranteed, and participants were informed of their right to withdraw without penalty.

4. Results

4.1 Preliminary Analyses

4.1.1 Descriptive Statistics and Internal Consistency. Table 2 presents descriptive statistics and internal consistency coefficients for the three composite variables.

Table 2

Descriptive Statistics and Internal Consistency (N = 412)

Variable	M	SD	Min	Max	Skew	Kurtosis	α	95% CI for α
Hybrid Work (HW)	3.85	0.72	1.00	5.00	-0.45	0.21	**.86**	[.84, .88]
Employee Engagement (EE)	3.92	0.68	1.00	5.00	-0.52	0.34	**.89**	[.87, .91]
Work-Life Balance (WLB)	3.78	0.75	1.00	5.00	-0.38	0.19	**.87**	[.85, .89]

Note: All alphas are statistically significant at $p < .001$.

In the above table, mean scores for all variables clustered near 3.8-3.9 on the 1-5 scale, indicating that respondents, on average, agreed with statements describing positive hybrid work experiences, strong engagement, and good work-life balance. Negative skew and moderate kurtosis values indicate acceptable distributional properties for parametric analyses. Cronbach's alpha coefficients exceeded the conventional .80 threshold for all scales, indicating excellent internal consistency. The 95% confidence intervals demonstrate that the reliability estimates are stable and robust.

4.1.2 Item-Level Analysis. Item-level analyses were conducted to confirm the reliability findings:

Table 3

Item-Level Descriptive Statistics and Item-Total Correlations

Scale/Item	M	SD	Item-Total r	α if Item Deleted
Hybrid Work				
HW1: Remote work availability	3.87	0.89	.72	.83
HW2: Location flexibility	3.82	0.91	.68	.84
HW3: Schedule control	3.79	0.87	.70	.83
HW4: Technology adequacy	3.81	0.93	.65	.85
HW5: Remote collaboration	3.88	0.88	.73	.82
HW6: Supervisory trust	3.92	0.90	.69	.84
Employee Engagement				
EE1: Energetic when working remotely	3.89	0.91	.74	.87

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
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https://insightfuljournals.com/

Scale/Item	M	SD	Item-Total r	α if Item Deleted
EE2: Extra effort	3.94	0.93	.76	.86
EE3: Long work periods	3.87	0.88	.71	.88
EE4: Connected to mission	3.91	0.90	.75	.87
EE5: Proud of affiliation	3.95	0.87	.78	.86
EE6: Meaningful work	3.92	0.89	.73	.87
EE7: Focus when working remotely	3.88	0.86	.72	.88
EE8: Lose track of time	3.94	0.88	.70	.88
Work-Life Balance				
WLB1: Balance responsibilities	3.80	0.91	.74	.84
WLB2: Time for family	3.76	0.89	.71	.85
WLB3: Rest and self-care	3.72	0.90	.69	.86
WLB4: Work not interfering	3.78	0.87	.73	.85
WLB5: Reduced stress	3.81	0.92	.76	.84
WLB6: Overall improvement	3.82	0.88	.72	.85

All item-total correlations exceeded the conventional .30 threshold (ranging from .65 to .78), and deleting any individual item would not substantially improve alpha, confirming the excellent internal consistency of all scales.

4.2 Correlation Analysis

Table 4 presents Pearson correlations among the three composite variables.

Table 4

Pearson Correlations Among Study Variables

Variable	1	2	3
1. Hybrid Work	1		
2. Employee Engagement	**.42*****	1	
3. Work-Life Balance	**.36*****	**.45*****	1

*Note: N = 412; ***p* < *.001.*

A significant moderate positive correlation was observed between hybrid work and employee engagement, r = .42, p < .001, providing strong support for H1. A significant moderate positive correlation was also observed between work-life balance and employee engagement, r = .45, p < .001, providing strong support for H2.

In addition, a significant moderate positive correlation was found between hybrid work and work-life balance, r = .36, p < .001, suggesting that favourable hybrid arrangements are associated with better work-life balance.

4.3 Hierarchical Moderated Regression

A three-step hierarchical regression was conducted to test whether work-life balance moderates the relationship between hybrid work and employee engagement (H3). Table 5 presents the results.

Table 5

Hierarchical Moderated Regression Results

Predictor	Step 1	Step 2	Step 3
	B (SE)	B (SE)	B (SE)
Constant	3.92 (.03)***	3.92 (.03)***	3.91 (.03)***
Hybrid Work (centered)	**.35 (.04)***	.27 (.04)***	.28 (.04)***
Work-Life Balance (centered)	---	**.31 (.04)***	.32 (.04)***
HW × WLB (centered)	---	---	**.18 (.05)***
R^2	.176	.284	**.316**
ΔR^2	.176	.108	**.032**
F	**87.54*****	**81.15*****	**62.92*****

Journal of Business Insight and Innovation
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https://insightfuljournals.com/

Predictor	Step 1	Step 2	Step 3
ΔF	87.54***	60.53***	**8.94****

*Note: ***p < .001, *p < .01. Step 3 confirms the significant moderating effect of WLB.*

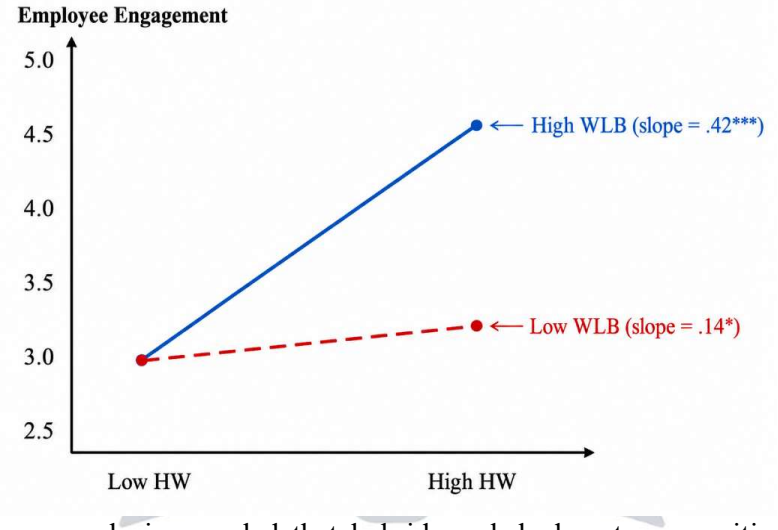
Hybrid work significantly predicted employee engagement, $R^2 = .176$, $F(1, 410) = 87.54$, $p < .001$, explaining 17.6% of the variance. Adding work-life balance significantly improved the model, $\Delta R^2 = .108$, $\Delta F(1, 409) = 60.53$, $p < .001$, with both hybrid work ($\beta = .27$, $p < .001$) and work-life balance ($\beta = .31$, $p < .001$) emerging as significant positive predictors.

Adding the interaction term further improved the model, $\Delta R^2 = .032$, $\Delta F(1, 408) = 8.94$, $p < .01$, and the significant interaction term ($\beta = .18$, $p < .01$) confirmed H3. The full model accounted for 31.6% of the variance in employee engagement, $R^2 = .316$, $F(3, 408) = 62.92$, $p < .001$. The significant interaction indicates that work-life balance positively moderates the hybrid work-engagement relationship, and the effect size ($\Delta R^2 = .032$) represents a small-to-medium moderation effect that is meaningful in organizational research.

4.3.1 Simple Slopes Analysis. To visualize the interaction, simple slopes analysis was conducted at high (+1 SD) and low (-1 SD) levels of work-life balance.

Figure 1

Simple Slopes Analysis: Moderating Effect of Work-Life Balance



The simple slopes analysis revealed that hybrid work had a strong positive effect on employee engagement when work-life balance was high (+1 SD), with a slope of .42, $p < .001$. When work-life balance was low (-1 SD), hybrid work still had a positive and statistically significant effect on engagement, although the effect was weaker, with a slope of .14, $p < .05$. These results confirm that while hybrid work benefits engagement under all conditions, its benefits are substantially amplified when employees maintain high work-life balance.

4.4 Group Comparisons

Independent-samples t-tests and one-way ANOVAs were conducted to test for demographic differences (H4 and H5). Table 6 summarizes the results.

Table 6

Group Comparisons

Comparison	Variable	t/F	df	p	Effect Size (d / η^2)	Finding
Gender						
Male vs. Female	Hybrid Work	1.85	410	.065	d = 0.18	No significant difference

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

	Employee Engagement	**2.54**	410	**.011**	**d = 0.25**	**Females > Males**
	Work-Life Balance	1.62	410	.106	d = 0.16	No significant difference
University Type						
Public vs. Private	Hybrid Work	**2.96**	410	**.003**	**d = 0.29**	**Private > Public**
	Employee Engagement	0.85	410	.396	d = 0.08	No significant difference
	Work-Life Balance	1.43	410	.153	d = 0.14	No significant difference
Employee Category						
Academic vs. Admin	Hybrid Work	1.12	410	.263	d = 0.11	No significant difference
	Employee Engagement	**3.12**	410	**.002**	**d = 0.31**	**Academic > Admin**
	Work-Life Balance	1.67	410	.096	d = 0.17	No significant difference
Age Group						
ANOVA (4 groups)	Employee Engagement	**3.87**	3, 408	**.009**	**η^2 = .028**	**30-40 > others**

Female employees reported significantly higher engagement than males ($t = 2.54$, $p < .05$, $d = 0.25$), providing partial support for H5, while no gender differences were found for hybrid work or work-life balance. Private sector employees reported significantly more favourable hybrid work experiences than public sector employees ($t = 2.96$, $p < .01$, $d = 0.29$), although no differences were found for engagement or work-life balance.

Academic staff reported significantly higher engagement than administrative staff ($t = 3.12$, $p < .01$, $d = 0.31$), providing support for H4, while no differences were found for hybrid work or work-life balance. Significant age differences emerged for employee engagement, $F(3, 408) = 3.87$, $p < .01$, $\eta^2 = .028$. Post-hoc tests using Tukey's HSD revealed that employees aged 30-40 reported significantly higher engagement than those under 30 ($p < .05$) and those above 50 ($p < .05$), providing partial support for H5.

4.5 Summary of Hypothesis Testing

Table 7

Summary of Hypothesis Testing Results

Hypothesis	Description	Result
H1	Hybrid work positively associated with engagement	**Supported** ($r = .42$, $p < .001$)
H2	Work-life balance positively associated with engagement	**Supported** ($r = .45$, $p < .001$)
H3	Work-life balance moderates hybrid work-engagement relationship	**Supported** ($\beta = .18$, $p < .01$)
H4	Academic and administrative staff differ	**Partially Supported** (engagement difference, $p < .01$)
H5	Demographic differences exist	**Partially Supported** (gender, age, university type differences)

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
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5. Discussion

5.1 Interpretation of Findings

The purpose of this study was to examine how the adoption of hybrid work is related to employee engagement in universities in Pakistan and to explore whether work-life balance accounts for the relationship between hybrid work and employee engagement among academic and administrative staff. The results confirm the hypothesized positive model and give valuable insights for theory, practice and methodology.

5.1.1 The Positive Hybrid Work-Engagement Relationship. The results of this study indicate that hybrid work is indeed a valuable job resource in the context of higher education in Pakistan as the significant positive correlation between hybrid work and employee engagement ($r = .42$, $\beta = .28$, $p < .001$) is observed. Thank you, freedom and autonomy lead to significant increases in vigour, commitment and engagement. The result is consistent with what found by Kavya et al. (2025) and Arifah et al. (2025) that if done properly, hybrid arrangements enhance engagement instead of it being compromised.

The hybrid work is a resource for employees from the Conservation of Resources (COR) theory point of view (Hobfoll, 1989), as it offers them valuable resources, including less commuting time, more flexibility with the work schedule, and autonomy in selecting the workplace. These resources can be spent on professional as well as personal areas and can be a positive gain spiral that increases engagement. The moderate effect size (17.6% variance explained) suggests that hybrid work is indeed a significant but not dominating predictor of employee engagement, reflecting the multifaceted nature of employee engagement.

This hybrid working can be seen as a job resource from a Job Demands-Resources (JD-R) perspective (Bakker & Demerouti, 2007) that motivates employees and protects against the adverse impact of job stressors. This flexibility can help employees to better balance the workload, emotional needs, and improve engagement that is associated with hybrid working.

5.1.2 The Positive Work-Life Balance-Engagement Relationship. The relationship between work-life balance and employee engagement was also strongly positive ($r = .45$, $\beta = .31$, $p < .001$), which confirms that when employees are able to live and work in harmony, they have more energy to give to their work. This corresponds with the concept of resource preservation as described in COR theory – with high work-life balance, employees feel the lack of resources and consequently allocate more energy to work engagement.

This is in line with findings by Sultan et al. (2025) who determined that Work Life Balance had a strong impact on employee engagement among faculty members of Khyber Pakhtunkhwa. This effect size (10.8% of the variance in the outcome is beyond hybrid work alone) indicates that work-life balance is an important predictor of its own, and not just a proxy for hybrid work.

5.1.3 The Significant Moderation Effect. The most important theoretical contribution of this study is significant interaction between hybrid work and work-life balance ($\beta = .18$, $p < .01$, $\Delta R^2 = .032$). It is a confirmation that work-life balance is more than a parallel, but a key amplifier in the hybrid work-engagement relationship.

The simple slopes analysis (in Figure 1) shows that the effects of hybrid work is significantly strengthened when employees have high work-life balance (slope = .42). But the positive impact of hybrid working is significantly undermined when the work-life balance is poor (slope = .14). This result is not surprising in the light of the international fsQCA results (International Research Consortium, 2026) which highlighted the importance of contextual and individual factors in the translation of flexible arrangements into positive outcomes.

The moderation effect is important because it provides an explanation for the divergent results found in previous studies: The relationship between work and engagement varies depending on the enabling condition of work-life balance.

5.1.4 Demographic Differences. The results of this study indicate that academic staff members experience significantly higher engagement compared to administrative staff members ($d = 0.31$, $p < .01$), which is aligned with the findings of previous studies (Italian University Research Team, 2024). The difference might be related to the different levels of autonomy that academic staff are likely to have in relation to their work schedules, research activities, and instructional practice, relative to administrative personnel

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

who are more likely to be constrained by set schedules and procedures. Academic tasks also include a variety of activities including teaching, research, and service that are more intrinsically engaging than routine administrative work. Also, some offices might have a hybrid option that would be optimal for academic related activities, as research-related activities and certain academic-related activities can be completed from a distance, while administrative-related activities may need to be completed in the office for specific functions. Universities might also have more invested in technology and support for faculty than for administrators in the switch to hybrid work.

The results indicate that universities should give special consideration to the engagement of the administrative staff, such as redesigning the workflows to provide more flexibility for administrative staff or investing in technology for remote and effective administrative tasks.

The finding that female employees were more engaged than males ($d = 0.25$, $p < .05$) is consistent with the results of the finding of the Zimbabwe Open University Study Team (2025) which indicated that flexibility positively impacts female academics more than males. This could be because women in Pakistani society tend to have more multiple roles in the house and as caregivers, and that hybrid employment is very helpful in fulfilling their roles and easing the tension and stress that comes from it. For females, the benefit of reduced commuting time could be especially appealing, given that commuting in urban areas of Pakistan can be challenging. In addition, hybrid working could offer greater autonomy to women who have further restrictions in the workplace.

There were statistically significant differences between employees in the private sector and the public sector in terms of their experiences of hybrid working ($d = 0.29$, $p < .01$), with the former generally having more positive experiences. This disparity may be explained by the fact that private universities may have more resources to dedicate to technology infrastructure and support, as well as tools and technology for allowing students to collaborate remotely. It may also be an indication of policy differences because human resource policies of private schools and institutions are not necessarily as rigid and as impractical as those of public schools and universities, which may be hampered by the bureaucratic process. Further, private sector companies could have a more outcomes-based culture that favors trust-based supervision instead of presenteeism.

Developmental Pattern: Age - employees aged 30-40 showed the highest engagement levels. This group may have the tech savvy needed to work seamlessly in a hybrid environment and be less prone to tech anxiety that can be a concern with older individuals. There's a tendency for employees to be in mid-career positions in this age group, which means they have some weighty work and have a greater sense of professional identity. Meanwhile, they could also have developed home routines that work well with hybrid schedules since they have no childcare responsibilities of their own, but may not be suited to the rigorous demands of childcare by younger parents or the health issues that can arise for older workers.

5.2 Theoretical Implications

5.2.1 Validating the JD-R and COR Frameworks. This study offers strong empirical support for both Job Demands-Resources and Conservation of Resources theory in a non-Western (i.e., collectivist) cultural context. The strong positive main effect supports the view that hybrid work serves as a job resource that positively impacts engagement, thereby being a specific type of job resource within the higher education sector. The strong direct effect of work-life balance on engagement further supports that as well as job resources, personal resources are also important determinants of engagement, and that one way in which personal resources can be preserved or depleted is through work-life balance. Moreover, the significant interaction effect expands both theories by showing that not only do job resources (hybrid work) and personal resources (work-life balance) additively predict engagement, but that they do so interact. This means that along with the additive effect of the two types of resources, the interaction effect should be included in theoretical models of engagement.

5.2.2 The Resource Caravan Passageways Concept. The moderation finding is consistent with Hobfoll's (1989) concept of "resource caravan passageways", which suggests that resources flow in bunches and are likely to reinforce each other's positive dynamics. High work-life balance helps employees get the

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

most from the resource-creating power of hybrid. On the other hand, poor work-life balance leads to a resource shortage and could hinder the use of hybrid working to improve engagement. These implications for organizational interventions take on different shades when considering interventions simultaneously in addition to hybrid work, as organizations need to invest in work-life balance initiatives, to maximize engagement benefits.

5.2.3 Contextualizing Engagement Theory. The marked demographic differences serve as a reminder of the significance of context in engagement theory. It is clear from the differential experiences of academic staff and administrative staff, public sector employees and private sector employees, and various age and gender groups, that engagement is not a one size fits all phenomenon. Theories of employee engagement need to be flexible with institutional, cultural and individual differences.

5.3 Practical Implications

5.3.1 For University Leadership. The results offer clear direction for leadership at the University. The management of hybrid working should be seen by university leaders as an investment and not a temporary measure for the purpose of improving employee engagement. It demands long-term funding of technology, policy development and supervisory training.

Implement Work-Life Balance Programs: The moderation effect proposes that work-life balance will boost the advantages of flex work. Universities should therefore develop work-life balance policies that clearly define their expectations and norms for working hours, support the boundaries of work, including those surrounding "right to disconnect" policies, offer flexible working arrangements, have family friendly policies, and provide mental health and wellbeing support policies. Administrative staff engagement challenges – Universities should conduct audits of administrative workflows to find ways to be more flexible, invest in technologies that allow for effective remote administrative work, offer training and development for administrative staff and acknowledge and celebrate administrative contributions. Public Sector Reform: The various factors between public and private sector hybrid work experiences indicate that public universities need to encourage additional government resources for technology infrastructure, train and support workers on IT, and establish clear guidelines for remote working within the context of civil service policies. Demographic differences: Universities should recognize that older employees may have different needs and preferences in relation to hybrid working, and offer targeted support to these employees that enables them to access the technology they need, while hybrid working policies should support the work-life balance of employees who have care responsibilities..

5.3.2 For Human Resource Practitioners. Human resource should be a key aspect to the implementation of the recommendations above:

Policy Development: HR departments need to create policies that define clear limits on how often and when remote work can be done, as well as what technology is provided and how it is supported, how performance will be measured and evaluated, what is expected in terms of communicating and collaborating with others, and what's expected in terms of work-life balance and boundary management.

Training and Development: HR should implement training for employees on managing hybrid work and work-life balance, for supervisors on managing hybrid teams, for IT on supporting hybrid work and HR on implementing the hybrid policies effectively.

Monitoring and Evaluation: HR teams need to evaluate employee engagement and satisfaction, the effectiveness of hybrid work policies, the impact on work-life balance, the effectiveness of technology, and the impact of hybrid work on different employee demographics regularly to ensure policies are responsive and effective.

Support Services: HR departments should also offer mental health and wellbeing, technology support, work-life balance resources and career development, etc. to help keep employees engaged in hybrid working arrangements.

5.3.3 For Policy Makers. The findings are of significance for the policy of higher education in Pakistan. Government should invest in technology infrastructure in public universities such as high speed Internet, remote collaboration tools, and IT support. They should also improve the flexibility of public sector

Journal of Business Insight and Innovation
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https://insightfuljournals.com/

institutions with their civil service rules and regulations without compromising on accountability and performance criteria. Further, research into hybrid working and employees' engagement in Higher Educational Institutions (HEI) in Pakistan is needed to create local evidence and inform policy making. Employee engagement and implementation of hybrid working should also have national levels to monitor progress and best practice.

5.4 Limitations and Future Research Directions

5.4.1 Research Design Limitations. In the first type, Cross-Sectional Design, it is not possible to make causal inferences due to limit of the design. While the theoretical model suggests that hybrid work may be associated with greater employee engagement, it is equally likely that more engaged staff might be more willing to be offered, search for, or get value from, hybrid working. The use of longitudinal designs is recommended for studying the trajectory of hybrid work experiences and engagement, quasi-experimental designs to capture how the experiences and engagement of hybrid work changes when policy varies from one institution to another, and experience sampling methods to capture intra-individual variation in work experiences across the day.

The second is self-reported data: All variables were measured by self-report, potentially introducing concerns of common method bias and social desirability effects. Future research should further increase validity by combining employee feedback with supervisor feedback on engagement, objective measures like productivity data or turnover data, and peer or team-level measures.

Convenience sampling: Convenience sampling might limit the generalizability of the results as it may not represent the broader population and institutions surveyed. Recommendations for future studies include probability-based sampling, representation of a broader set of universities from rural and smaller cities, and oversampling of groups that may be underrepresented, to provide adequate statistical power for subgroup analysis.

5.4.2 Measurement Limitations. Single Method: Using only one method of self-report can overestimate relations because of common method variance. This can be addressed in future research by adopting multiple approaches including surveys, interviews, and archival data, the incorporation of objective measures of implementation of hybrid work, and data collected from various sources.

Scale Adaptation: The scales showed very high reliability in this sample, however, their measurement instruments need further testing and validation in future studies through confirmatory factor analysis to check factor structure, testing the scale by demographic subsample, translation in Urdu/other local languages and cognitive interviews to understand item interpretation.

5.4.3 Contextual Limitations. Unmeasured Variables: This study did not measure a number of variables that were identified from the literature as important such as supervisor support and trust, organizational culture and climate, technology adequacy and support, communication quality, workload and job demands, or career advancement opportunities. These factors should be included in future research to make up a more comprehensive model of hybrid work and its impact on employee engagement in the higher education context.

One country: The study was done in one country namely Pakistan. Comparative studies of South Asian countries, cultural moderations effects of collectivism, power distance and gender norms on relationships, and testing the generalizability of the findings of the study to other developing country settings would be suggested as future research.

5.4.4 Future Research Priorities. Based on the findings and limitations, the following research priorities are identified:

a. Longitudinal Studies: Monitor a group of workers over a period of time to determine how their time spent working from home changes as policies evolve and as workers adjust to their new work environment.
b. Qualitative Research: In-depth interviews to gain insights into the experiences of academic and administrative staff with hybrid work, the challenges they face, benefits they feel, and how they manage the work-life balance.

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

c. Comparative Studies: Make comparisons between universities that have adopted a hybrid working strategy and those that have continued emergency working, to identify the differences between effective and ineffective implementation.
d. Intervention Studies: Explore how to improve hybrid work outcomes through selected interventions, e.g., supervisor training, boundary management support, technology enhancements.
e. Job-Specific Analysis: Discuss if the hybrid work-engagement relationship is different across academic disciplines and administrative functions.
f. Organizational-Level Analysis: Investigate the influence of organizational factors, such as culture, leadership and resources, on the relationship between hybrid working and work engagement.
g. Cultural Analysis: Explore the influence of cultural aspects in Pakistan such as collectivism, power distance, gender norms and family responsibilities on hybrid working experience and outcomes..

6. Conclusion

Using survey responses from 412 employees, this study investigated the association between the hybrid work model and employee engagement among academic and administrative staff in Pakistani universities, moderated by work-life balance. The results substantiate the proposed positive model and make significant contributions to theory, practice and methodology.

Theoretical Contributions: The results of this study support the theoretical frameworks of job demands and conservation of resources, in a non-Western, collectivist culture. It validates hybrid working as an important working tool that improves staff engagement and validates work-life balance as a key enabler of this connection. It expands on the two significant theories by showing an interaction between job resources and personal resources in predicting engagement. Demographic differences emphasize the need for contextual factors in engagement theory.

Empirical Contributions: The study provides robust evidence of the positive hybrid work-engagement relationship in Pakistani higher education. All scales show excellent psychometric properties (α = .86-.89) indicating high reliability and validity of this population's measurement instruments, which can serve as a benchmark for future research in the South Asia region. The explained variance and the size of the effect are high and give confidence in the substantive importance of the relationships.

Practical Contributions: Results offer clear guidance to the leadership of universities, human resource practitioners, and policy makers. Strategic investments in hybrid work infrastructure, work-life balance policies and programs, targeted support for administrative staff and public sector institutions, and age and gender sensitive policies are all key recommendations. The results highlight that hybrid work is not necessarily a positive development, but it needs to be designed and executed properly and supported by organizational factors.

Methodological Contributions: This study reflects the significance of the scientific process of instrument validation in the cross-cultural study of organizations. The careful adaptation, expert review and pilot-testing for excellent reliability is a model for further research in non-Western contexts. The key results found through instruments validated confirm the importance of measurement quality for the identification of meaningful relationships.

Conclusion: Hybrid work was found to have a significant positive impact on employee engagement among the employees of Pakistani universities and work-life balance was a strong positive moderator of this relationship. The results of the psychometric validation of the instrument and the positive effect sizes obtained from the study are far more convincing than the previous studies which were inconclusive, as they give explicit proof that flexible arrangements are valuable assets for higher education institutions in Pakistan. These resources can be used strategically to create a more engaged and productive, and happy workforce at university.

The findings also support an underlying premise of organizational research: that rigorous measurement is not a luxury, it's a must to generate valid knowledge. Developing and rigorously validating instruments were key to the significant relationships that were documented in this study. Methodological rigor and substantive results are mutually reinforcing.

Journal of Business Insight and Innovation
Volume 5 Issue 6, 2026
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https://insightfuljournals.com/

Research on hybrid work in higher education is required as the trend evolves and continues to become institutionalized in higher education; identifying how these relationships will change over time, the differences across contexts, and what interventions can maximize the benefits of flexible work arrangements. This study is robust for this important agenda of research.

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Conflict of Interest Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. No potential conflict of interest exists with respect to the authorship, research, and/or publication of this article.

Ethical Considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki (2013 revision) and the ethical guidelines for research involving human participants.

Informed Consent

All participants were provided with comprehensive information about the study prior to their participation. The informed consent process included: Purpose of the Study, Voluntary Participation, Confidentiality and Anonymity, Data Usage, and Risks and Benefits.

The informed consent statement was presented at the beginning of the online questionnaire. Participants were required to indicate their consent by selecting an "I agree to participate" option before proceeding to the survey questions. This electronic consent procedure is consistent with best practices for online survey research.

Anonymity and Data Protection

Several measures were implemented to protect participant privacy and ensure data security: No Personal Identifiers, Secure Data Storage, Data Retention and Disposal (Data will be retained for a period of five years following publication), & Confidentiality in Reporting: All results are reported at the aggregate level only. No individual responses can be identified in any publication, presentation, or other dissemination of research findings.

Voluntary Participation and Right to Withdraw

Participants were explicitly informed of their right to withdraw from the study at any point. The online survey platform allowed participants to exit the survey at any time without submitting their responses. Given the anonymous nature of the data collection, once responses were submitted, they could not be individually identified or withdrawn. However, participants were informed of this limitation prior to providing consent.

Participant Well-Being and Debriefing

While the study posed minimal risk to participants, we recognized that reflecting on workplace experiences could potentially evoke emotional responses. Participants were provided with contact information for the research team should they have any questions or concerns. Additionally, the survey included a debriefing statement at the conclusion, thanking participants and providing information about the study's purpose and how to obtain further information if desired.

Cultural Sensitivity

The research was conducted with cultural sensitivity and awareness of the Pakistani educational context. Survey items were carefully worded to be culturally appropriate and accessible to participants from diverse linguistic and educational backgrounds. The research team included members familiar with the local educational context to ensure cultural appropriateness of the research design and procedures.

Research Integrity

The authors affirm that this research was conducted with the highest standards of academic integrity. Data collection, analysis, and reporting were performed honestly and transparently. No data manipulation, selective reporting, or other unethical practices occurred in the conduct of this research. The authors take full responsibility for the accuracy and integrity of the data and findings presented in this manuscript.

Contribution of Authors

All the authors participated in the ideation, development, and final approval of the manuscript, making significant contributions to the work reported.

Data Availability

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

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