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Strain and Sustain: How Work Overload Impacts Organizational Commitment via Flexibility, Exhaustion, and Work-Life Balance

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Abstract

This study examined the association between work overload (WO) and organizational commitment (OC) among school teachers in Gilgit-Baltistan, Pakistan. Drawing on Conservation of Resources theory and the Job Demands-Resources model, the study tested whether work flexibility (WF) and emotional exhaustion (EE) functioned as statistical indirect pathways and whether work-life balance (WLB) moderated the WO-OC association. Data were collected from 200 teachers through an anonymous online survey using previously developed English-language self-report measures. Parallel statistical indirect effects were estimated with PROCESS Model 4, and moderation was tested separately with PROCESS Model 1. Gender, age category, marital status, monthly income, years of teaching experience, and social desirability were included as covariates. WO was negatively associated with OC at the total-effect level. Significant indirect associations were observed through lower WF and higher EE. The estimated indirect effect through WF was numerically larger than that through EE, although the two indirect effects were not formally contrasted. The WO x WLB interaction was significant. WO was negatively associated with OC at low WLB, unrelated to OC at mean WLB, and positively associated with OC at high WLB, indicating an unanticipated crossover pattern. These findings suggest that workload management, perceived flexibility,

emotional exhaustion, and WLB may be relevant to teachers' commitment under demanding work conditions. Because the data were cross-sectional and self-reported, causal and temporal conclusions should not be drawn.

Keywords: emotional exhaustion, Gilgit-Baltistan, organizational commitment, teachers, work flexibility, work-life balance, work overload

Introduction

In contemporary educational settings, teachers are increasingly expected to manage heavy instructional responsibilities, administrative duties, communication demands, and performance expectations. Work overload (WO) refers to a condition in which job demands, such as excessive workload, time pressure, and competing responsibilities, exceed an employee's available time, energy, or capacity to perform effectively (Peterson et al., 1995). When such demands persist, they may be associated with strain and weaker organizational commitment (OC), particularly when employees perceive that the demands placed on them exceed the resources available to meet those demands (Meyer et al., 2002; Tang & Vandenberghe, 2021).

OC reflects employees' emotional attachment, sense of obligation, and willingness to invest effort in their organization (Meyer et al., 1990; Singh et al., 2008). It is relevant to retention, performance, and organizational stability (Perryer et al., 2010). Understanding how WO is associated with OC is especially important in educational contexts because teachers' commitment can influence institutional functioning and continuity. Although WO has been examined in organizational settings, less attention has been given to how this association operates among teachers in under-researched, non-Western, and resource-constrained regions such as Gilgit-Baltistan (GB), Pakistan (Shoaib et al., 2019).

GB provides a meaningful context for examining the WO-OC association because teachers may work under geographic, infrastructural, and community conditions that shape how job demands are experienced. Educational institutions in the region are geographically dispersed, and teachers may balance professional demands with family and community responsibilities. These contextual features were not measured as direct variables in the present model; rather, they provide background for understanding why WO, work flexibility (WF), emotional exhaustion (EE), and work-life balance (WLB) may be particularly relevant for teachers in GB (Ali & Avdic, 2015; Johns, 2006).

Theoretical Foundations

The present study draws on Conservation of Resources (COR) theory (Hobfoll, 1989, 2001) and the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2017). COR theory proposes that individuals seek to obtain, protect, and preserve valued resources such as time, energy, autonomy, and emotional capacity; stress occurs when these resources are threatened or depleted (Halbesleben et al., 2014). WO can be understood as a resource-demanding condition that consumes time and energy and may initiate resource-loss processes when employees are unable to recover or replenish resources. The JD-R model similarly distinguishes between job demands, which require sustained effort and may be associated with strain, and job resources, which support motivation, engagement, and positive work attitudes (Bakker & Demerouti, 2017; Schaufeli, 2017).

WF, EE, and WLB represent different aspects of this resource process. WF reflects perceived control and autonomy in managing work demands. EE reflects the psychological strain associated with sustained demands. WLB reflects perceived compatibility between work responsibilities and personal life demands. Accordingly, the study examined the total association between WO and OC, the statistical indirect pathways through WF and EE, and the moderating role of WLB among teachers in GB.

Work Overload and Organizational Commitment

According to the JD-R model, sustained job demands such as WO may be associated with a health-impairment process that weakens positive work attitudes. Teachers facing heavy teaching, administrative, and institutional expectations may perceive their responsibilities as exceeding their available capacity. COR theory further suggests that when work consumes valued resources such as time and energy, employees may protect remaining resources by reducing psychological investment in the organization (Hobfoll, 1989; Stein et al., 2021). In the GB context, where teachers may also balance professional expectations with family and community responsibilities, higher WO may be associated with lower OC.

Hypothesis 1: *WO is negatively associated with OC.*

Statistical Indirect Pathway Through Work Flexibility

WF refers to employees' perceived control over when, where, and how they perform their work (Zafari et al., 2019). Within the JD-R framework, WF can be understood as a job resource because it provides employees with control in managing work demands. From a COR perspective, flexibility may help employees preserve time and energy by allowing them to adjust work activities in ways that reduce unnecessary resource loss (Hobfoll, 1989).

WO may be associated with lower perceived WF when heavy workloads, strict schedules, and excessive responsibilities reduce employees' sense of control over how work is completed. Because WF is associated with autonomy, control, and positive work attitudes, lower WF may help explain the statistical association between WO and lower OC.

Hypothesis 2: *WO is statistically indirectly associated with OC through WF.*

Statistical Indirect Pathway Through Emotional Exhaustion

EE, the core dimension of burnout, refers to a state in which employees feel emotionally and cognitively depleted and lack the energy required for sustained work engagement (Schaufeli, 2003). According to the JD-R model, EE is a central mechanism in the health-impairment process through which chronic job demands are associated with negative work outcomes (Bakker et al., 2023). COR theory similarly suggests that resource depletion may be associated with further loss when employees must continue investing energy despite limited opportunities for replenishment (Hobfoll, 2001).

Teachers who report EE may have fewer psychological resources available for organizational attachment, discretionary effort, and sustained commitment. Thus, EE may represent a strain-based statistical pathway linking WO with lower OC.

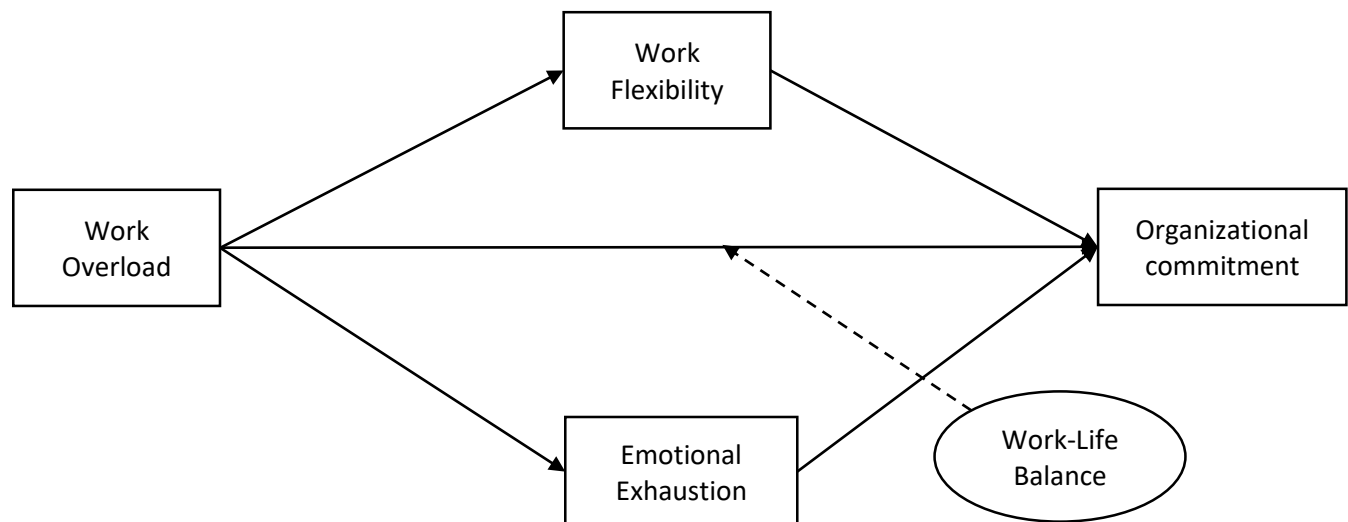
Hypothesis 3: *WO is statistically indirectly associated with OC through EE.*

Moderating Role of Work-Life Balance

WLB reflects employees' perceived ability to fulfill work and personal responsibilities without excessive conflict or interference (Brough et al., 2014; Clark, 2000). Within COR theory, WLB can be viewed as a personal and contextual resource that helps employees protect and replenish emotional, psychological, and social resources. Within the JD-R framework, WLB may support recovery, psychological detachment, and resource preservation.

When WLB is low, WO may be more strongly associated with lower OC because work demands interfere with family, social, and personal responsibilities. In contrast, when WLB is high, teachers may be better able to manage workload demands while preserving important non-work roles and resources. Therefore, WLB may condition the association between WO and OC.

Hypothesis 4: *WLB moderates the WO-OC association such that the negative association is weaker when WLB is high.*

Figure 1*The proposed theoretical Model***Method****Design, Participants, and Procedure**

This pre-registered cross-sectional study used an anonymous online survey design. Data were collected from school teachers working in the GB region of northern Pakistan. Because educational institutions in GB are geographically dispersed and sometimes difficult to access, a convenience sampling strategy was used. Participants were recruited through professional networks and online teacher communities, with a focus on teachers accessible through major educational hubs such as Skardu and Gilgit.

An a priori power analysis was conducted using G*Power 3.1. The analysis indicated that a minimum sample of 89 participants was required to detect a medium effect size ($f^2 = 0.15$) with 95% statistical power in a multiple regression framework (Faul et al., 2009). The final sample exceeded this minimum; however, because the study also included CFA, statistical indirect-effect estimation, moderation, and multiple covariates, the inferential results should still be interpreted cautiously.

A total of 200 teachers completed the Google Forms questionnaire. No missing responses were present in the final dataset, and no cases were excluded from the analysis. Participation was voluntary, and no incentives were provided. A single-response restriction was applied to reduce duplicate responses. Because all variables were collected at one time point, the findings are interpreted as associations and statistical indirect effects rather than evidence of temporal order or causality.

Formal institutional ethics committee approval was not obtained. The study was conducted as a minimal-risk anonymous online survey. Participants reviewed an online information sheet describing the study purpose, voluntary nature of participation, confidentiality protections, and the right to withdraw before submission. Electronic informed consent was obtained before participants completed the questionnaire. No names, institutional identifiers, or contact details were collected. The research plan was pre-registered on the Open Science Framework before data collection:

[https://osf.io/fsjq6/overview?view_only=f50cd2ebb6c7499da0d273547822755d].

Sample Characteristics

The final sample included 200 teachers, of whom 121 were male (60.50%) and 79 were female (39.50%). Regarding age, 45.50% were 25 years or younger, 27.50% were between 26 and 30 years, 16.50% were between 31 and 35 years, and 10.50% were 36 years or older. In terms of marital status, 38.00% were married and 62.00% were single. Regarding monthly income, 34.50% earned less than 20,000 Pakistani rupees (PKR), 21.50% earned 20,000-40,000 PKR, 25.00% earned 40,000-70,000 PKR, and 19.00% earned more than 70,000 PKR. With respect to teaching experience, 72.50% had less than 7 years of experience, 17.50% had 7-12 years, and 10.00% had 13 years or more.

Measures

The questionnaire was administered in English. Because the participants were school teachers and were able to read and respond in English, the English versions of the scales were used. Previously developed and widely used self-report measures were adopted. Although these instruments have demonstrated acceptable psychometric properties in previous studies, formal local validation among teachers in GB, Pakistan, was limited.

Work Overload

WO was assessed using the 5-item scale from Abdulaziz et al. (2022). Responses were recorded on a 5-point Likert scale ranging from 0 (strongly disagree) to 4 (strongly agree). Item scores were summed, with higher scores indicating greater perceived WO. The scale showed good internal consistency in the present study, Cronbach's alpha = .88.

Organizational Commitment

OC was assessed using the 4-item measure employed by Abdulaziz et al. (2022), adapted from Meyer et al. (1990). A sample item was, "I would be very happy to spend the rest of my career with this organization." Responses ranged from 0 (strongly disagree) to 4 (strongly agree). Item scores were summed to create a total OC score ranging from 0 to 16, with higher scores indicating greater commitment. No items required reverse scoring. Internal consistency was acceptable, Cronbach's alpha = .74.

Work-Life Balance

WLB was assessed using the 3-item scale reported by Abdulaziz et al. (2022), adapted from Brough et al. (2014). The items assessed perceived balance between work demands and non-work activities. Responses ranged from 0 (strongly disagree) to 4 (strongly agree). Item scores were summed, with higher scores indicating greater WLB. Internal consistency was good, Cronbach's alpha = .86.

Work Flexibility

WF was measured using the 2-item Perceived Workplace Flexibility scale adapted from Jones et al. (2008). The scale assessed teachers' perceived control over when and where they work. Responses were recorded on a 4-point Likert scale, with higher scores indicating greater perceived WF. The scale showed good internal consistency, Cronbach's alpha = .82.

Emotional Exhaustion

EE was measured using the 3-item emotional exhaustion measure developed by Riley et al. (2018), which assesses the frequency of work-related emotional fatigue. Responses ranged from 0 (never) to 6 (every day). Item scores were summed, with higher scores indicating greater EE. Internal consistency was excellent, Cronbach's alpha = .90.

Social Desirability

Social desirability (SD) was measured using the 6-item Social Desirability-Gamma Short Scale (KSE-G) developed by Niessen et al. (2019). Responses ranged from 1 (does not apply at all) to 5 (applies completely). The

last three items were reverse-scored, and item scores were summed, with higher scores indicating stronger socially desirable responding. The scale showed good internal consistency, McDonald's omega = .87.

Statistical Analysis

Analyses were conducted in SPSS 27, PROCESS macro version 4.2, and Mplus 8.3. Confirmatory factor analysis (CFA) was used to examine whether WO, WLB, WF, EE, OC, and SD were empirically distinguishable constructs. Competing models were compared with chi-square, comparative fit index (CFI), Tucker-Lewis index (TLI), standardized root means square residual (SRMR), and root mean square error of approximation (RMSEA).

Descriptive statistics and correlations were calculated. Partial correlations among the main study variables controlled for gender, age category, marital status, monthly income, years of teaching experience, and SD. Correlations involving control variables were reported as zero-order correlations.

Hypotheses 1-3 were tested using PROCESS Model 4 with 5,000 bootstrap samples and 95% confidence intervals. WO was entered as the predictor, OC as the outcome variable, and WF and EE as parallel statistical indirect pathways. Hypothesis 4 was tested separately using PROCESS Model 1, with WLB entered as the moderator of the WO-OC association. WO and WLB were mean-centered before creating the interaction term. Gender, age category, marital status, monthly income, years of teaching experience, and SD were included as covariates in the PROCESS models. Age, monthly income, and teaching experience were treated as ordered categorical covariates; this coding assumes monotonic associations and is acknowledged as a limitation. Statistical tests were two-sided with alpha = .05.

Results

Measurement Model and Common Method Bias

The hypothesized six-factor model included WO, WLB, WF, EE, OC, and SD as separate constructs. As shown in Table 1,

Table 1

Confirmatory Factor Analyses in the Study

Model	χ^2 (df)	$\Delta\chi^2$ (Δ df)	CFI	TLI	SRMR	RMSEA (90% CI)
Six-factor model (WO, WLB, WF, EE, OC, SD)	416.07 (188) ***	–	0.92	0.90	0.07	0.08 (0.07 - 0.09)
Five-factor model (WO&WLB, WF, EE, OC, SD)	681.88 (193) ***	265.81 (5) ***	0.83	0.80	0.16	0.11 (0.10 - 0.12)
Four-factor model (WO&WLB&WF, EE, OC, SD)	881.22 (197) ***	465.15 (9) ***	0.76	0.72	0.19	0.13 (0.12 - 0.14)
Three-factor model (WO&WLB&WF&EE, OC, SD)	1130.48 (200) ***	714.41 (12) ***	0.68	0.63	0.21	0.15 (0.14 - 0.16)
Two-factor model (WO&WLB&WF&EE, OC+SD)	1129.05 (202) ***	712.98 (14) ***	0.68	0.63	0.13	0.15 (0.14 - 0.16)
Single-factor model (WO&WLB&WF&EE&OC&SD)	1673.44 (203) ***	1257.37 (15) ***	0.49	0.42	0.18	0.19 (0.18 - 0.20)

Note. *** $p < .001$, WO means work overload, WLB means work-life balance, WF means work flexibility, EE means emotional exhaustion, OC means organizational commitment, and SD means social desirability.

The six-factor model showed acceptable fit to the data, chi-square (188) = 416.07, $p < .001$, CFI = .92, TLI = .90, RMSEA = .08, and SRMR = .07. Alternative models in which theoretically related constructs were combined

showed poorer fit. The single-factor model showed poor fit, chi-square (203) = 1673.44, $p < .001$, CFI = .49, TLI = .42, RMSEA = .19, and SRMR = .18. These findings suggest that the constructs were empirically distinguishable in this sample.

Because all substantive variables were assessed using self-report questionnaires at a single time point, common method variance remains a concern. The poor fit of the single-factor model indicates that one general factor did not adequately reproduce the observed covariance structure; however, it does not rule out common method variance. Procedural remedies, including anonymity, voluntary participation, separation of scale sections, and the use of previously developed measures, were used to reduce potential method-related bias. SD was also included as a covariate in the main analyses.

Descriptive Statistics and Correlations

Descriptive statistics and correlations are presented in Table 2 below.

Table 2

Descriptive Results and Partial Correlations between Study Variables

Variable	M	SD	1	2	3	4	5
1. Work Overload	11.72	2.36	1				
2. Work-Life Balance	7.31	1.90	−0.62***	1			
3. Work Flexibility	3.41	1.23	−0.62***	0.77***	1		
4. Emotional Exhaustion	9.52	3.62	0.53***	−0.62***	−0.56***	1	
5. Organizational commitment	11.63	1.01	−0.23**	0.43***	0.52***	−0.38***	1
6. Age	31.17	8.20	0.13 [†]	−0.12 [†]	−0.09 ^{ns}	0.11 ^{ns}	−0.06 ^{ns}
7. Gender ^a			0.12 [†]	−0.17**	−0.08 ^{ns}	0.06 ^{ns}	−0.10 ^{ns}
8. Total experience	0.38	0.66	−0.04 ^{ns}	0.01 ^{ns}	0.06 ^{ns}	−0.05 ^{ns}	0.07 ^{ns}
9. Social Desirability	15.70	1.35	0.08 ^{ns}	−0.05 ^{ns}	−0.10 ^{ns}	0.08 ^{ns}	0.03 ^{ns}

Note. a. 0 = male, 1 = female; Correlations between work overload, organizational commitment, work-life

balance, work flexibility, emotional exhaustion are the partial ones after controlling for, age, gender, total

experience and social desirability. The rest of the correlations are zero-order ones. ^{ns} $p > .1$, [†] $p < .1$, ** $p < .01$, *** $p < .001$.

After controlling for demographic variables and SD, WO was significantly and negatively correlated with OC ($r = -.23$, $p = .001$), indicating that teachers reporting higher WO tended to report lower OC. WO was also negatively correlated with WLB ($r = -.62$, $p < .001$) and WF ($r = -.62$, $p < .001$), and positively correlated with EE ($r = .53$, $p < .001$). OC was positively correlated with WLB ($r = .42$, $p < .001$) and WF ($r = .51$, $p < .001$), and negatively correlated with EE ($r = -.38$, $p < .001$).

WLB and WF showed a strong positive correlation ($r = .77$). Conceptually, however, they represent distinct constructs: WF reflects perceived control over when and where work is performed, whereas WLB reflects perceived compatibility between work responsibilities and personal life demands. The strong association is theoretically plausible but indicates that discriminant validity should be interpreted cautiously and examined further in future research using CFA-based criteria such as average variance extracted and heterotrait-monotrait ratios.

Statistical Indirect-Effect Analysis

Hypotheses 1, 2, and 3 were tested using PROCESS Model 4 with 5,000 bootstrap samples. Gender, age category, marital status, monthly income, years of experience, and SD were included as covariates. The total effect

of WO on OC was negative and significant ($B = -0.10$, $SE = 0.03$, $t = -3.24$, $p = .001$, 95% CI $[-0.16, -0.04]$), supporting H1 at the total-effect level. As shown in Table 3 below

Table 3

Mediation Analysis of Work Overload on OC via WF and EE

Outcome Variable	Predictor	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>β</i>
WF	WO	-0.33	0.03	-10.90	<.001	-0.63
EE	WO	0.82	0.09	8.68	<.001	0.53
OC	WO	0.09	0.04	2.45	.015	0.20
OC	WF	0.44	0.07	6.39	<.001	0.53
OC	EE	-0.05	0.02	-2.41	.017	-0.19

Note. WO = Work Overload, WF = Work Flexibility, EE = Emotional Exhaustion, OC = Organizational Commitment.

WO was statistically associated with lower WF ($B = -0.33$, $SE = 0.03$, $t = -10.90$, $p < .001$, 95% CI $[-0.39, -0.27]$, $\beta = -.63$) and higher EE ($B = 0.82$, $SE = 0.09$, $t = 8.68$, $p < .001$, 95% CI $[0.63, 1.00]$, $\beta = .53$). In turn, WF was positively associated with OC ($B = 0.44$, $SE = 0.07$, $t = 6.39$, $p < .001$, 95% CI $[0.30, 0.57]$, $\beta = .53$), whereas EE was negatively associated with OC ($B = -0.05$, $SE = 0.02$, $t = -2.41$, $p = .017$, 95% CI $[-0.10, -0.01]$, $\beta = -.19$). The model explained 33% of the variance in OC, $R^2 = .33$, $F(9, 190) = 10.31$, $p < .001$.

The bootstrapped indirect effect of WO on OC through WF was significant ($B = -0.14$, $BootSE = 0.03$, 95% CI $[-0.22, -0.08]$), supporting H2 as a statistical indirect association. The indirect effect through EE was also significant ($B = -0.04$, $BootSE = 0.02$, 95% CI $[-0.08, -0.01]$), supporting H3 as a statistical indirect association. The total indirect effect was significant ($B = -0.19$, $BootSE = 0.04$, 95% CI $[-0.28, -0.11]$; See Table 4 below).

Table 4

Direct, Indirect, and Total Effects of Work Overload on OC Through WF and EE

Effect Type	Effect	BootSE	<i>t</i>	95% CI	
				Lower	Upper
Total Effect	-0.10	0.03	-3.24	-0.16	-0.04
Direct Effect	0.09	0.04	2.45	0.02	0.16
Indirect via WF	-0.14	0.04	/	-0.22	-0.08
Indirect via EE	-0.04	0.02	/	-0.08	-0.01
Total Indirect	-0.18	0.04	/	-0.28	-0.11

Note. WF = Work Flexibility, EE = Emotional Exhaustion.

After WF and EE were included in the model, the direct effect of WO on OC became positive and significant ($B = 0.09$, $SE = 0.04$, $t = 2.45$, $p = .015$, 95% CI $[0.02, 0.16]$, $\beta = .20$). This pattern indicates inconsistent mediation or statistical suppression. Although the total effect of WO on OC was negative, the indirect effects through WF and EE were also negative and significant, leaving a positive residual direct association after the indirect pathways were controlled. This residual association should not be interpreted as evidence that WO is beneficial.

Moderation Analysis

Hypothesis 4 was tested using PROCESS Model 1. WO was entered as the predictor, OC as the outcome variable, and WLB as the moderator. Gender, age category, marital status, monthly income, years of experience, and SD were included as covariates. The overall moderation model was significant, $R^2 = .27$, $F(9, 190) = 7.77$, $p < .001$.

As shown in Table 5, the WO x WLB interaction was significant ($B = 0.06$, $SE = 0.02$, $t = 3.62$, $p < .001$, 95% CI [0.03, 0.09]). The interaction explained an additional 5% of the variance in OC, $\Delta R^2 = .05$, $F(1, 190) = 13.13$, $p < .001$. These results indicate that the WO-OC association varied across levels of WLB.

Table 5

Summary of Moderated Regression Analysis predicting OC.

Predictor	<i>B</i>	<i>t</i>	<i>p</i>	95% CI	
				Lower	Upper
Constant	11.72	30.73	.000	10.97	12.47
Work overload (A)	-0.02	-0.63	.532	-0.01	0.05
Work-life balance (B)	0.18	3.67	.000	0.08	0.28
A × B	0.06	3.62	.000	0.03	0.09

Conditional effects are presented in Table 6 and Figure 2. At low WLB (-1 SD), WO was negatively associated with OC ($B = -0.14$, $SE = 0.06$, $t = -2.42$, $p = .017$, 95% CI [-0.25, -0.03]). At mean WLB, the association was nonsignificant ($B = -0.02$, $SE = 0.04$, $t = -0.63$, $p = .532$, 95% CI [-0.10, 0.05]). At high WLB (+1 SD), WO was positively associated with OC ($B = 0.09$, $SE = 0.04$, $t = 2.30$, $p = .023$, 95% CI [0.01, 0.17]). The interaction was significant and consistent with attenuation of the negative association at higher WLB; however, the positive slope at high WLB was unexpected. Thus, H4 received partial rather than unequivocal support.

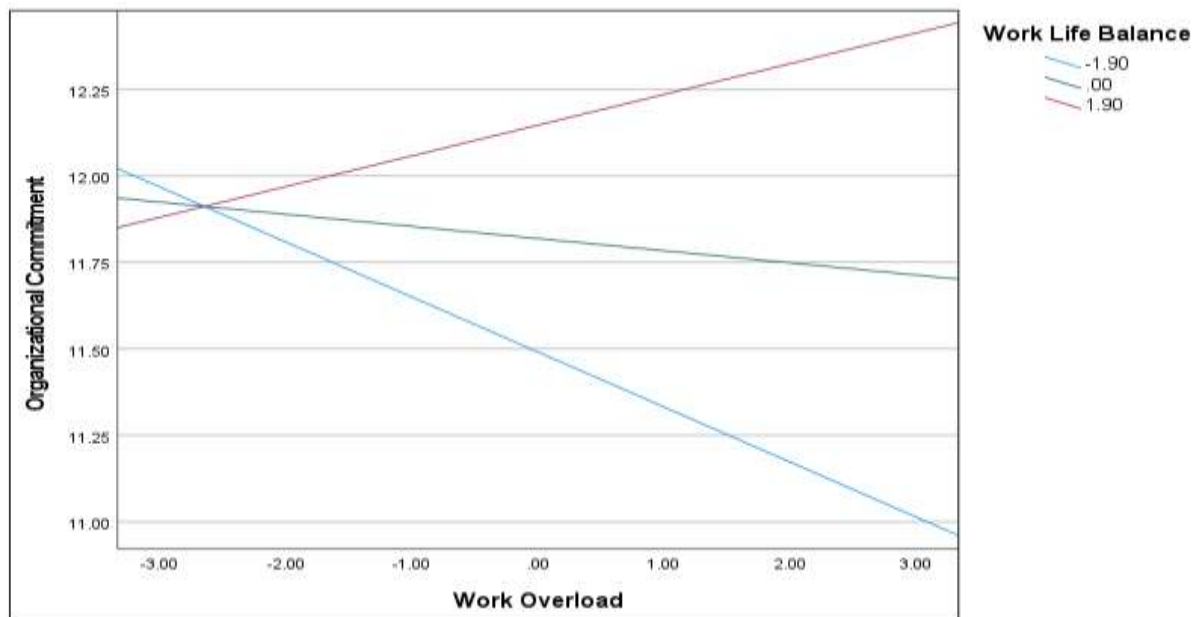
Table 6

Conditional Effects of Work-Life Balance

WLB	Effect	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
-1 SD	-0.15	0.06	-2.42	.017	-0.25	-0.03
Mean	-0.02	0.04	-0.63	.532	-0.01	0.05
+1 SD	0.09	0.04	2.30	.023	0.01	0.17

Figure 2

Simple Slopes Plot: Work Overload × Work-Life Balance Interaction Effect on Organizational Commitment



Overall, H1 was supported at the total-effect level, H2 and H3 were supported as statistical indirect associations, and H4 received partial support. Because the indirect-effect and moderation analyses were estimated using separate PROCESS models, no single integrated conditional process model was tested.

Discussion

This study examined the association between WO and OC among teachers in GB, Pakistan. Drawing on COR theory and the JD-R model, it tested whether WF and EE functioned as statistical indirect pathways and whether WLB moderated the WO-OC association. WO was negatively associated with OC at the total-effect level. Significant indirect associations were observed through lower WF and higher EE. WLB also moderated the WO-OC association: WO was negatively associated with OC when WLB was low, unrelated to OC when WLB was average, and positively associated with OC when WLB was high.

The negative total association between WO and OC is consistent with the view that excessive job demands are linked with weaker organizational attachment. From a COR perspective, WO may be experienced as a threat to valued resources such as time, energy, and emotional capacity (Hobfoll, 1989; Halbesleben et al., 2014). From the JD-R perspective, sustained demands are associated with strain processes that can weaken positive work attitudes (Bakker & Demerouti, 2017; Schaufeli, 2017). Teachers who reported higher WO also tended to report lower OC, suggesting that workload pressure is relevant to understanding commitment in educational settings.

The findings also highlight two statistical pathways. First, WO was associated with lower WF, and lower WF was associated with lower OC. This suggests that perceived control over work timing and location may be relevant for sustaining commitment when teachers face demanding workloads. Second, WO was associated with higher EE, and higher EE was associated with lower OC. This pattern is consistent with burnout research and the health-impairment pathway of the JD-R model (Bakker et al., 2023; Lee & Ashforth, 1996).

The estimated indirect association through WF ($B = -0.14$) was numerically larger than the indirect association through EE ($B = -0.04$). However, because a bootstrapped contrast between the two specific indirect effects was not reported, the present results do not establish that one pathway was significantly stronger than the other. The pattern nevertheless suggests that perceived flexibility may be important in the WO-OC association and should be examined further in longitudinal and locally validated studies.

The positive direct effect of WO after WF and EE were controlled indicates inconsistent mediation or statistical suppression. This result should not be interpreted as evidence that WO is generally beneficial. One tentative explanation is that, after the resource-loss and exhaustion pathways are statistically accounted for, some teachers may interpret high workload as a sign of responsibility, importance, or organizational trust. This possibility is consistent with the challenge-hindrance framework (Crawford et al., 2010), but it was not directly measured and remains speculative.

The moderation results showed that WLB conditioned the WO-OC association. The negative association between WO and OC was evident at low WLB but was not evident at mean WLB. At high WLB, the association became positive, producing an unanticipated crossover pattern. This finding should be interpreted cautiously. It may indicate that teachers who maintain strong WLB can preserve social and emotional resources even under high workload, but it may also reflect suppression, unmeasured contextual factors, or instability at high levels of both WO and WLB. Replication with larger samples and longitudinal designs is needed before drawing strong theoretical conclusions.

Practical Implications

The findings suggest that school leaders and education administrators should consider workload distribution when trying to sustain teachers' commitment. Excessive or poorly managed workload may be associated with lower commitment, especially when it limits perceived flexibility or coincides with emotional exhaustion.

Preserving WF may be particularly important in resource-constrained settings. Even when formal flexible work arrangements are difficult to implement, institutions may support teachers by allowing reasonable control over task sequencing, lesson planning time, administrative deadlines, and break schedules. Such flexibility may help teachers manage demands without weakening organizational attachment.

The findings also point to the importance of addressing EE. Individual-level strategies such as peer support and stress-management training may be useful, but structural interventions are also needed. Reducing unnecessary paperwork, clarifying role expectations, and providing administrative support during high-demand periods may help reduce exhaustion.

Finally, WLB should be treated as a resource rather than a purely personal issue. In GB, where family, community, and religious responsibilities are valued, culturally sensitive workload expectations and respect for non-work obligations may help teachers maintain commitment under demanding conditions.

Limitations and Future Research

Several limitations should be noted. First, the cross-sectional design limits causal inference. Although the theoretical model proposes indirect pathways from WO to OC through WF and EE, the data do not establish temporal order. Future research should use longitudinal or cross-lagged designs to examine changes in WO, WF, EE, WLB, and OC over time.

Second, the study used an online convenience sample of 200 teachers from GB. The findings should not be generalized to all teachers in GB or to teachers in other regions without caution. Participants were recruited through professional networks and online teacher communities, which may have excluded teachers with limited internet access or lower engagement with online platforms.

Third, formal institutional ethics committee approval was not obtained. Although the survey was anonymous, voluntary, and based on electronic informed consent, the absence of formal ethics approval may limit acceptability for some journals and should be considered when selecting a target journal.

Fourth, all substantive variables were measured using self-report questionnaires at a single time point. Although anonymity, scale separation, and adjustment for SD were used, common method bias cannot be ruled out. The poor fit of a single-factor model does not eliminate common method variance. Future studies should use multi-source or objective data, including administrative workload indicators, supervisor ratings, or longitudinal measurements.

Fifth, the English versions of the scales were administered without local translation or formal local validation. Although the measures were previously developed and showed acceptable internal consistency in the present sample, their measurement properties among teachers in GB require further evaluation. The modest sample size also limits the strength of CFA-based conclusions.

Sixth, WLB and WF were strongly correlated. They are conceptually distinct, but future studies should examine discriminant validity using CFA-based approaches, average variance extracted, and heterotrait-monotrait criteria. WF was also measured using only two items, which may not capture broader dimensions such as schedule flexibility, task autonomy, decision latitude, or location flexibility.

Seventh, age, monthly income, and years of experience were treated as ordered covariates in the PROCESS models. This approach assumes monotonic associations across categories. Future analyses with larger samples should use dummy-coded categorical covariates or alternative models that do not assume equal category spacing.

Finally, the mediation and moderation hypotheses were tested in separate PROCESS models. Future research could use structural equation modeling or a full conditional process model to examine whether WLB also moderates the indirect pathways through WF and EE. Future studies should also formally contrast the specific indirect effects and test the robustness of the unexpected crossover interaction.

Conclusion

This pre-registered cross-sectional study found that WO was negatively associated with OC at the total-effect level among participating teachers in GB, Pakistan. Significant statistical indirect associations were observed through lower WF and higher EE. WLB also moderated the WO-OC association. The negative association was evident at low WLB, absent at mean WLB, and positive at high WLB, producing an unanticipated crossover pattern. The findings suggest that managing excessive workload, preserving perceived flexibility, reducing emotional exhaustion, and supporting WLB may be relevant to sustaining teachers' commitment. Because the study used cross-sectional self-report data from a convenience sample and did not obtain formal ethics committee approval, the findings should be interpreted cautiously and replicated in longitudinal, locally validated, and ethically reviewed studies.

Declarations

Ethical Considerations and Consent

Formal institutional ethics committee approval was not obtained. Participation was voluntary, anonymous, and based on electronic informed consent. Participants were informed about the study purpose, confidentiality protections, and their right to withdraw before submitting the survey.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to privacy and ethical considerations.

Conflict of Interest

The authors declare no conflict of interest.

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