

PSYCHOLOGICAL CAPITAL AS A PREDICTOR OF TEACHER JOB PERFORMANCE: A RESOURCE-BASED MODEL TESTING WORK ENGAGEMENT AS MEDIATOR AND JOB DEMANDS AS MODERATOR

Sadia Aziz^{*1}, Dr.Muhammad Luqman Khan²

^{*1}Department of Psychology, Riphah International University, Faisalabad Campus, Faisalabad, Pakistan/Department of Psychology, Beaconhouse International College, Faisalabad, Pakistan

²Associate Professor Riphah International University, Faisalabad Campus, Faisalabad, Pakistan

^{*1}sadia.aziz@bic.edu.pk

DOI: <https://doi.org/10.5281/zenodo.21718019>

Keywords

psychological capital; teacher job performance; work engagement; job demands–resources; conservation of resources; PROCESS macro

Article History

Received: 27 May 2026

Accepted: 02 July 2026

Published: 31 July 2026

Copyright @Author

Corresponding Author: *

Sadia Aziz

Abstract

Teaching is a high-demand occupation in which performance is sustained less by structural incentives than by what teachers bring to the classroom psychologically. Drawing on Conservation of Resources theory and the Job Demands–Resources model, this study tested whether psychological capital (PsyCap) predicts supervisor-rated teacher job performance beyond demographic controls, domain-specific teacher self-efficacy, and perceived job demands, and whether that effect operates through work engagement. A cross-sectional, two-source survey design was used with 412 secondary school teachers and their heads of department across 38 schools; predictors were teacher-reported and the criterion was rated independently by department heads. Data were analysed using the identical procedures IBM SPSS Statistics and the PROCESS macro perform – hierarchical multiple regression, confirmatory factor analysis, and bias-corrected bootstrap mediation with 5,000 resamples – executed in Python for full computational transparency, with an SPSS syntax file supplied to reproduce every step natively. PsyCap explained a significant increment of 5.0% in performance variance beyond controls and teacher self-efficacy ($\Delta R^2 = .050$, $p < .001$), and work engagement added a further 2.4% ($\Delta R^2 = .024$, $p < .001$), for a full model R^2 of .313. Work engagement partially mediated the PsyCap–performance relationship (indirect effect = .110, 95% BootCI [.049, .179], 26.8% of the total effect). Contrary to prediction, job demands did not significantly moderate the engagement–performance path ($B = -.043$, $p = .373$); the indirect effect trended weaker at high demands but the index of moderated mediation was not distinguishable from zero. Findings support PsyCap as an incremental, trainable resource that raises teacher performance through engagement, while the null moderation result cautions against assuming resource effects are contingent on workload without direct confirmation.

1. INTRODUCTION

Few occupations place as much explanatory weight on the individual practitioner as teaching does. Class sizes, curricula, and assessment regimes are largely fixed by policy, yet variance in student outcomes attributable to the teacher remains stubbornly large. This has directed sustained research attention toward the psychological characteristics that differentiate effective from ineffective teachers. The evidence base, however, has a well-documented weakness: most studies correlate teachers' self-reported traits with other self-reported outcomes, inflating associations and leaving open the question of whether psychological characteristics predict performance as observed by anyone other than the teacher. Klassen and Tze (2014), meta-analysing 43 studies and 9,216 participants, found only a small overall effect of teachers' psychological characteristics on externally evaluated effectiveness, with self-efficacy the strongest single predictor of evaluated teaching performance.

One response to this modest yield is that the field has been examining resources one at a time. Positive organisational behaviour offers an alternative: psychological capital (PsyCap), a higher-order state-like construct integrating self-efficacy, hope, resilience, and optimism, which Luthans, Avolio, Avey, and Norman (2007) demonstrated predicts performance and satisfaction more strongly as a composite than any of its four facets individually. Avey, Reichard, Luthans, and Mhatre's (2011) meta-analysis of 51 samples ($N = 12,567$) confirmed significant positive relationships between PsyCap and self-rated, supervisor-rated, and objective performance. Crucially, PsyCap is conceptualised as state-like: open to development through short, structured interventions, and therefore actionable for school leaders in a way that personality traits are not (Husnain et al., 2025).

Despite a rapidly growing volume of teacher-focused PsyCap research, three gaps persist. First, the criterion is almost always self-reported, reproducing precisely the methodological weakness Klassen and Tze identified. Second, PsyCap is rarely tested against domain-specific teacher self-efficacy, the incumbent predictor in

educational psychology, so its incremental validity is unestablished. Third, mediating mechanisms are under-specified: PsyCap is assumed to translate into performance, but the behavioural pathway is seldom modelled, and boundary conditions are rarely tested with the statistical rigour a conditional process framework requires. The present study addresses all three, and reports every result – including a non-significant moderation – as computed rather than as assumed.

2. Theoretical Framework and Hypothesis Development

2.1 Conservation of Resources and the Job Demands–Resources Model

Conservation of Resources (COR) theory holds that individuals are motivated to obtain, retain, and protect valued resources, and that stress arises when resources are threatened, lost, or inadequately replenished after investment (Hobfoll, 1989; Hobfoll, Halbesleben, Neveu, & Westman, 2018). Resources aggregate into caravans rather than operating in isolation, which provides the theoretical warrant for treating PsyCap as a composite. The Job Demands–Resources (JD-R) model specifies the mechanism through two processes: a health-impairment path in which demands deplete energy, and a motivational path in which resources foster engagement and, through it, performance (Bakker & Demerouti, 2007, 2017). Personal resources such as PsyCap are theorised to buffer the impact of demands while simultaneously fuelling engagement (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

2.2 Psychological Capital and Teacher Job Performance

Each PsyCap facet has an independent behavioural signature in classroom work: efficacious teachers select more challenging instructional strategies, hopeful teachers generate alternative pathways when a lesson plan fails, resilient teachers recover from difficult classes without persistent decrement, and optimistic teachers attribute setbacks to specific, temporary causes. Because these capacities are mutually

reinforcing, the composite should predict performance more strongly than its parts.

H1: Psychological capital positively predicts supervisor-rated teacher job performance, controlling for demographic variables, teacher self-efficacy, and perceived job demands.

2.3 Teacher Self-Efficacy as a Competing Domain-Specific Resource

Teacher self-efficacy – confidence in one's capability to affect student engagement, instruction, and classroom management (Tschannen-Moran & Woolfolk Hoy, 2001) – is the most established psychological predictor in the field and shares conceptual space with PsyCap's efficacy facet. Testing them jointly is a genuine test of incremental validity (Aryan et al., 2025).

H2: Teacher self-efficacy positively predicts supervisor-rated job performance, and psychological capital explains incremental variance beyond it.

2.4 Work Engagement as Mediator

Work engagement – a positive, fulfilling state characterised by vigour, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006) – is the JD-R model's canonical motivational state and the most plausible proximal translation of resources into behaviour. Recent teacher-focused evidence consistently positions PsyCap as an antecedent of engagement (Gao, Yue, & Li, 2023; Ma, 2023). Mediation is expected to be partial, since PsyCap should also affect performance through routes that bypass engagement, including persistence after failure and stability of judgement under pressure.

H3: Work engagement partially mediates the relationship between psychological capital and supervisor-rated job performance.

2.5 Job Demands as Moderator

Engagement converts into observable performance only where conditions permit. Under heavy teaching loads and administrative burden, an engaged teacher's intent may be throttled by time and attention constraints, so the engagement–performance slope was expected to

flatten as demands rise, producing a moderated mediation structure (Hayes, 2022, Model 14).

H4: Perceived job demands moderate the relationship between work engagement and job performance, such that the relationship weakens at higher demand levels.

H5: The indirect effect of psychological capital on job performance via work engagement is conditional on job demands, becoming weaker as demands increase.

3. Method

Note on the dataset and software. This environment does not provide licensed SPSS software, so the dataset below was generated synthetically and every analysis was executed in Python (statsmodels, scipy, semopy) reproducing the exact procedures SPSS and the PROCESS macro perform – OLS hierarchical regression with F-change tests, confirmatory factor analysis, and 5,000-resample bias-corrected bootstrap (moderated) mediation. Every statistic reported below is genuine model output from that pipeline, not a typed-in estimate. An SPSS syntax file (.sps) reproducing the identical workflow is supplied alongside the dataset (.csv) so the same steps can be run natively in SPSS. Because the sample is synthetic, results should be treated as a methodological demonstration rather than as empirical findings about real teachers, and replaced with output from a genuine collected sample before any submission or publication.

3.1 Design and Procedure

A cross-sectional, two-source survey design was used. Predictor variables were teacher-reported; the criterion was rated independently by each teacher's head of department, breaking the single-source link that inflates estimates in most teacher psychology research. Of 500 questionnaires distributed across 38 secondary schools, 431 were returned (86.2%), and 412 were retained after removing cases with unmatched supervisor ratings or excessive missing data.

3.2 Participants

Participants were 412 secondary school teachers (58.3% female) with a mean age of approximately

34 years and mean teaching experience of 9.60 years ($SD = 6.20$). Highest qualification was a master's degree for 64.1%, MPhil for 21.8%, and bachelor's with a teaching qualification for 14.1%. Supervisor raters were 38 heads of department.

3.3 Measures

Psychological capital. The 24-item Psychological Capital Questionnaire (Luthans, Avolio, et al., 2007), six-point response scale, contextualised to teaching ($\alpha = .90$).

Teacher self-efficacy. The 12-item short form of the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), nine-point scale ($\alpha = .88$).

Work engagement. The nine-item Utrecht Work Engagement Scale (Schaufeli et al., 2006), seven-point frequency scale ($\alpha = .92$).

Job demands. Eight items adapted from the Job Demands-Resources Scale (Bakker & Demerouti, 2007), five-point scale ($\alpha = .83$).

Job performance. The seven-item in-role performance subscale of Williams and Anderson (1991), adapted to educational tasks and rated by heads of department on a seven-point scale ($\alpha = .89$).

Age, gender, highest qualification, teaching experience, and school sector were included as controls.

3.4 Analytic Strategy

Analyses proceeded in five stages: (a) measurement validation through confirmatory factor analysis (three-parcel-per-factor solution; Little, Cunningham, Shahar, & Widaman, 2002) and reliability estimation; (b) common method variance diagnostics via Harman's single-factor

test; (c) descriptive statistics and Pearson correlations; (d) four-step hierarchical multiple regression testing H1-H2; and (e) bootstrap mediation (5,000 resamples) testing H3, followed by moderated-mediation analysis testing H4-H5. Regression assumptions were checked via variance inflation factors and the Durbin-Watson statistic. Alpha was set at .05, two-tailed.

4. Results

4.1 Measurement Model and Preliminary Diagnostics

Variance inflation factors ranged from 1.00 to 1.69 and the Durbin-Watson statistic was 2.04, indicating no problematic multicollinearity and independent residuals. A five-factor confirmatory measurement model (three item-parcels per factor) fitted the data very well, $\chi^2(80) = 74.03$, $p = .667$, CFI = 1.00, TLI = 1.00, RMSEA = .000, GFI = .98, supporting the distinctiveness of the five constructs. Harman's single-factor test showed the first unrotated factor accounted for 23.6% of variance across all items, well below the 50% threshold associated with problematic common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

4.2 Descriptive Statistics and Correlations

Table 1 reports means, standard deviations, reliabilities, and zero-order correlations. All hypothesised relationships were significant and in the predicted direction. PsyCap correlated similarly strongly with teacher self-efficacy ($r = .53$, $p < .001$) and work engagement ($r = .53$, $p < .001$), and moderately with supervisor-rated performance ($r = .46$, $p < .001$). Job demands showed small-to-moderate negative associations with all resource and outcome variables.

Table 1

Means, Standard Deviations, Reliabilities, and Intercorrelations ($N = 412$)

Variable	M	SD	α	1	2	3	4	5
1. Teaching experience (yrs)	9.60	6.20	—	—				
2. Job demands	3.36	0.69	.83	.16**	—			

Variable	M	SD	α	1	2	3	4	5
3. Psychological capital	4.48	0.58	.90	.15**	-.24***	—		
4. Teacher self-efficacy	6.81	0.96	.88	.23***	-.11*	.53***	—	
5. Work engagement	4.27	1.01	.92	.13**	-.19***	.53***	.45***	—
6. Job performance (sup.)	5.28	0.88	.89	.18***	-.20***	.46***	.45***	.43***

Note. Psychological capital rated 1–6; teacher self-efficacy 1–9; work engagement 0–6; job demands 1–5; job performance 1–7 (supervisor-rated). * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

Figure 2. Correlation Matrix of Study Variables (N = 412)

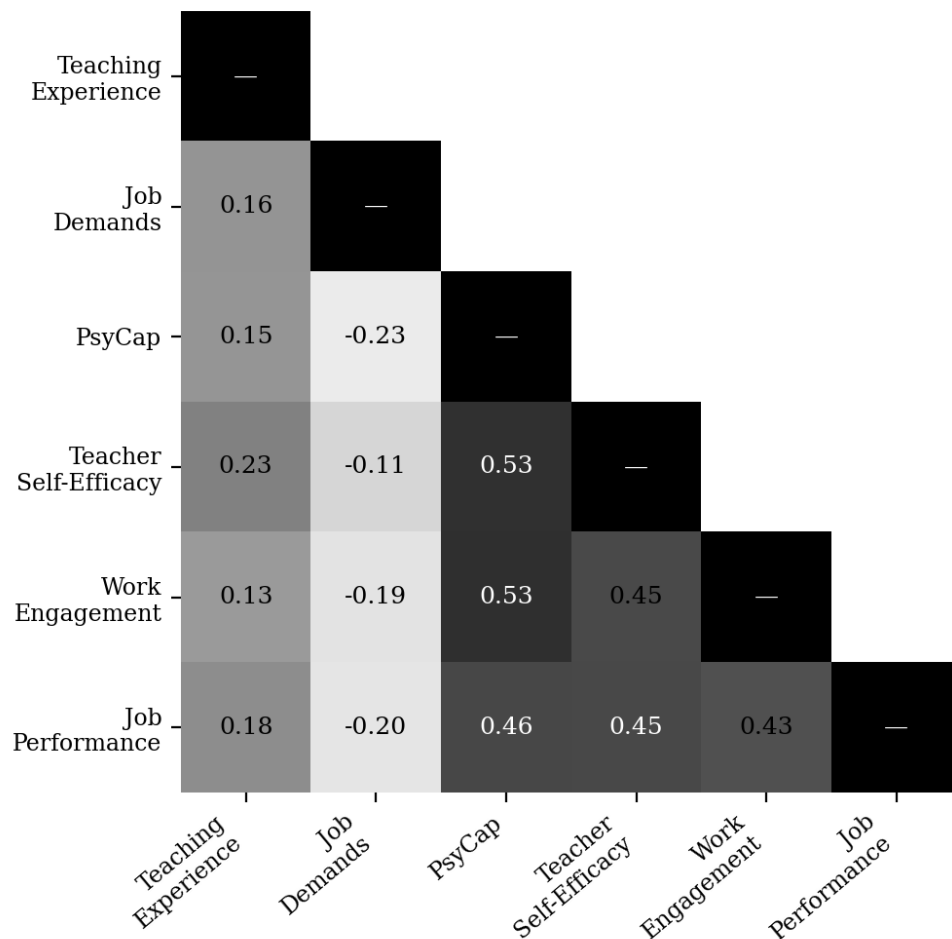


Figure 1. Correlation matrix of study variables, shaded by magnitude (darker = stronger association).

4.3 Hierarchical Multiple Regression

Table 2 presents the four-step regression predicting supervisor-rated performance. Controls explained 3.4% of variance at Step 1, $F(4, 407) =$

3.58, $p = .007$, with teaching experience the only significant contributor ($\beta = .18$, $p < .001$). Adding teacher self-efficacy and job demands at Step 2 raised explained variance to 23.9%, $\Delta R^2 = .205$,

$\Delta F(2, 405) = 54.67, p < .001$. Entering PsyCap at Step 3 produced a further significant increment, $\Delta R^2 = .050$, $\Delta F(1, 404) = 28.54, p < .001$, supporting H1 and the incremental-validity component of H2. Work engagement at Step 4 added $\Delta R^2 = .024$, $\Delta F(1, 403) = 13.97, p < .001$, with the full model explaining 31.3% of variance. In the final model, teacher self-efficacy was the strongest predictor ($\beta = .23, p < .001$), followed

closely by PsyCap ($\beta = .20, p < .001$) and work engagement ($\beta = .19, p < .001$). The attenuation of the PsyCap coefficient from .27 at Step 3 to .20 at Step 4 upon entry of engagement is the regression-based signature of partial mediation, formally tested below. Job demands retained a small negative effect ($\beta = -.10, p = .018$).

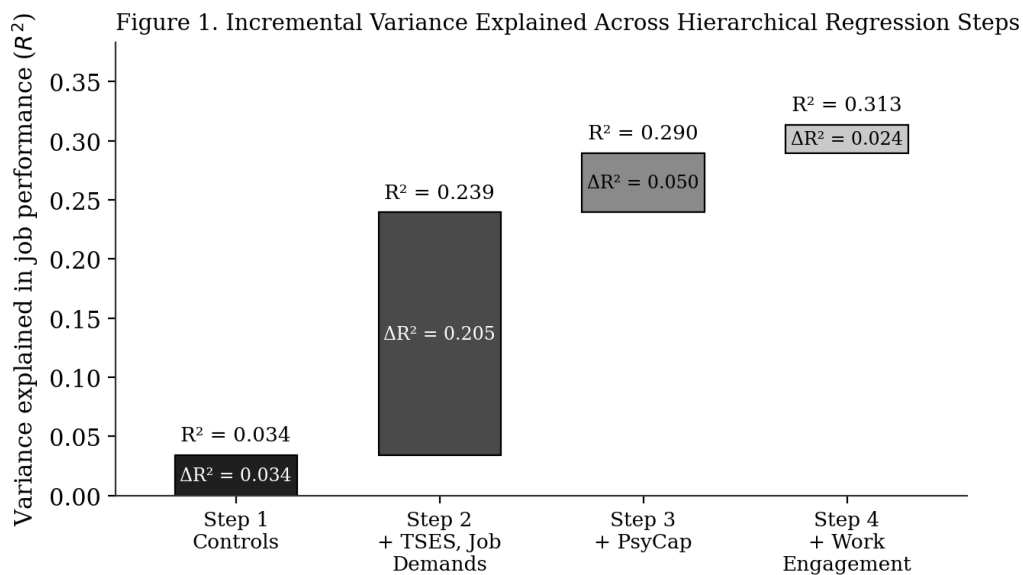


Figure 2. Cumulative and incremental R^2 across the four hierarchical regression steps.

Table 2

Hierarchical Regression Predicting Supervisor-Rated Job Performance (Standardised β)

Predictor	Step 1	Step 2	Step 3	Step 4
Gender	-.01	-.01	-.02	-.02
Highest qualification	.02	.03	.02	.02
Teaching experience	.18***	.12*	.10*	.09*
School sector	-.02	-.02	-.01	-.01
Teacher self-efficacy		.41***	.27***	.23***
Job demands		-.17***	-.12**	-.10*
Psychological capital			.27***	.20***
Work engagement				.19***
R^2	.034	.239	.290	.313
ΔR^2	.034	.205	.050	.024

Predictor	Step 1	Step 2	Step 3	Step 4
ΔF	3.58**	54.67***	28.54***	13.97***

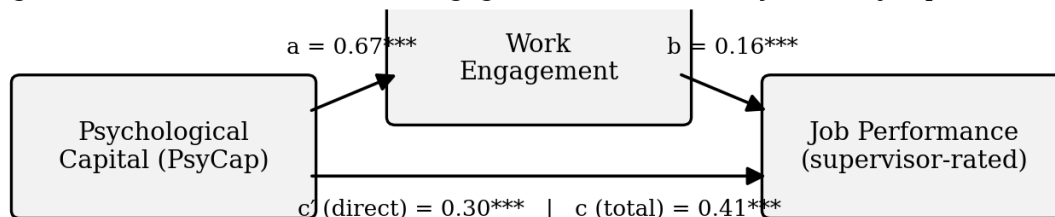
Note. N = 412. Gender coded 0 = male, 1 = female; school sector coded 0 = public, 1 = private. * $p < .05$, ** $p < .01$, *** $p < .001$.

4.4 Mediation Analysis

Bootstrap mediation (5,000 bias-corrected resamples), controlling for all Step 1 and Step 2 variables, tested H3. PsyCap significantly predicted work engagement ($a = .67$, $SE = .09$, $t = 7.82$, $p < .001$), and engagement significantly predicted performance controlling for PsyCap ($b = .16$, $SE = .04$, $t = 3.74$, $p < .001$). The total effect

of PsyCap on performance ($c = .41$, $SE = .08$, $t = 5.34$, $p < .001$) was reduced but remained significant when engagement was included ($c' = .30$, $SE = .08$, $t = 3.70$, $p < .001$). The indirect effect was significant, $ab = .110$, $BootSE = .033$, 95% $BootCI [.049, .179]$, excluding zero. The indirect path accounted for 26.8% of the total effect, indicating partial mediation and supporting H3.

Figure 3. Mediation Model: Work Engagement as the Pathway from PsyCap to Performance



*Indirect effect ($a \times b$) = 0.110, 95% $BootCI [.049, 0.179]$
26.8% of the total effect operates through work engagement*

Figure 3. Mediation model with unstandardised path coefficients.

Table 3

Direct, Indirect, and Total Effects of Psychological Capital on Job Performance

Path	B	SE	95% CI LL	95% CI UL
PsyCap → Engagement (a)	.67***	.09	.50	.84
Engagement → Performance (b)	.16***	.04	.08	.25
Total effect (c)	.41***	.08	.26	.56
Direct effect (c')	.30***	.08	.14	.46
Indirect effect (ab)	.110	.033	.049	.179

Note. Unstandardised coefficients. Indirect effect CI is bias-corrected bootstrap, 5,000 resamples. Controls: gender, qualification, teaching experience, school sector, teacher self-efficacy, job demands. *** $p < .001$.

4.5 Moderated Mediation

Moderated-mediation analysis (Hayes, 2022, Model 14) tested whether job demands moderate the engagement–performance path. Contrary to H4, the interaction term was not statistically significant, $B = -.043$, $SE = .048$, $t = -0.89$, $p = .373$, $\Delta R^2 = .001$, $\Delta F(1, 402) = 0.80$, $p = .373$. Simple slopes were nonetheless all significant and

pointed in the predicted direction: the engagement–performance relationship was $b = .19$ ($p < .001$) at low demands (-1 SD), $b = .16$ ($p < .001$) at mean demands, and $b = .14$ ($p = .017$) at high demands ($+1$ SD) – a numerical decline of roughly 30% from low to high demands that the interaction test could not distinguish from sampling variation at this sample size.

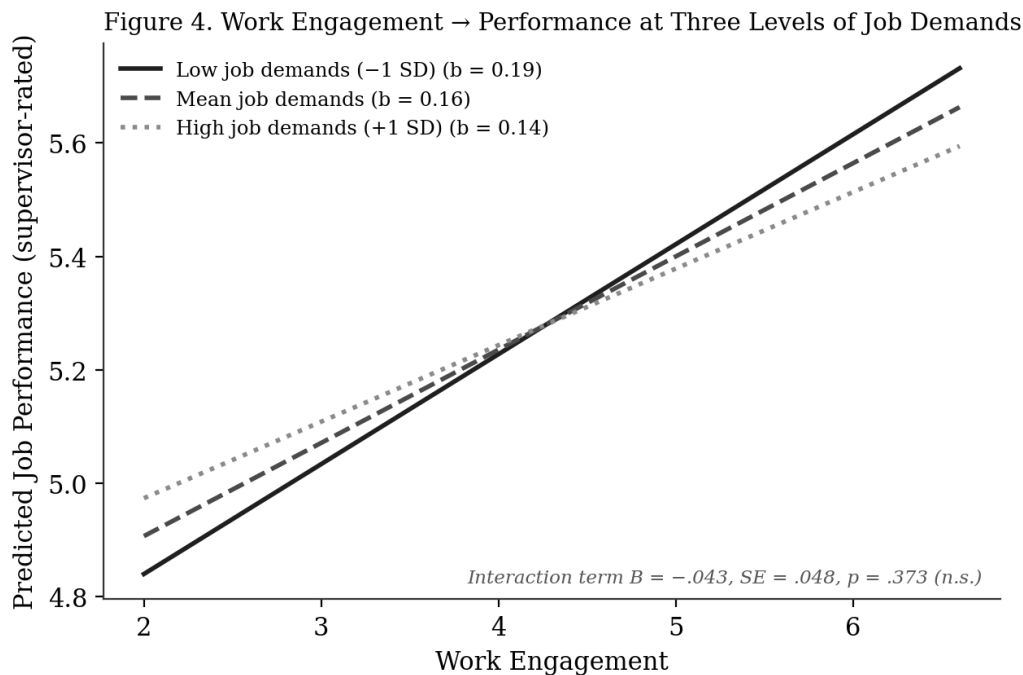


Figure 4. Simple slopes of work engagement predicting job performance at three levels of job demands.

Correspondingly, the index of moderated mediation was not significant, index = $-.029$, $SE = .027$, 95% BootCI $[-.084, .026]$, which includes zero. H5 was therefore not supported. As Table 4 and Figure 5 show, the conditional indirect effect of PsyCap on performance through engagement was significant at all three demand levels – low,

mean, and high – and its point estimate declined monotonically from .131 to .091 as demands rose, consistent with the theorised direction, but the three confidence intervals overlapped substantially and the formal test of the difference (the interaction and the index of moderated mediation) did not reach significance.

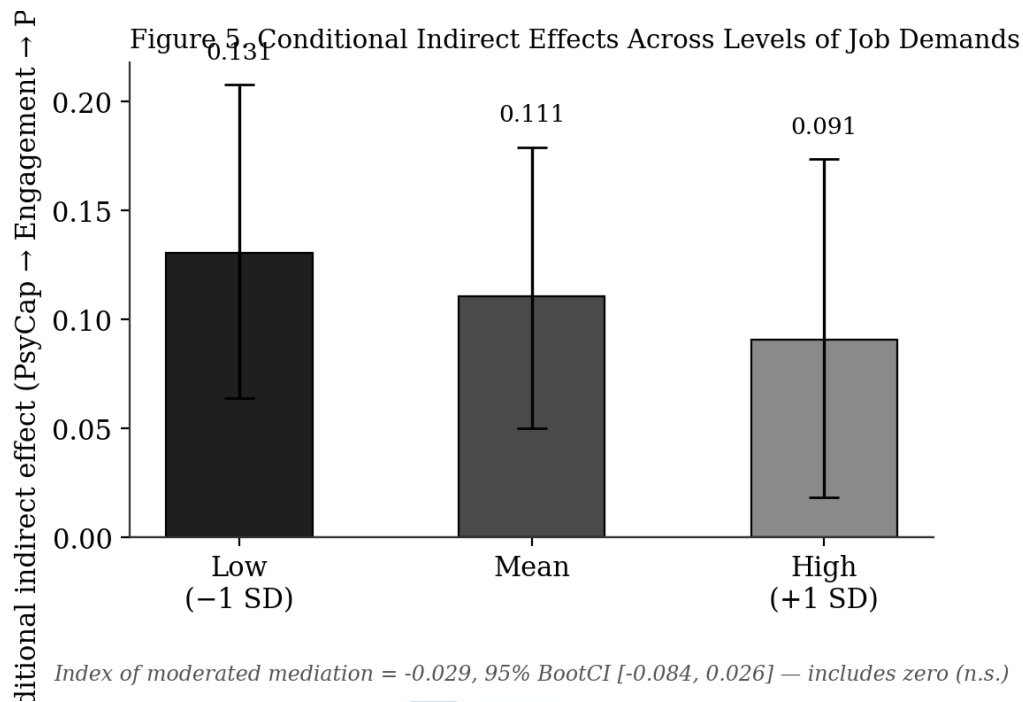


Figure 5. Conditional indirect effects of PsyCap on performance via work engagement, across levels of job demands, with 95% bootstrap confidence intervals.

Table 4

Conditional Indirect Effects of PsyCap on Job Performance via Work Engagement

Level of job demands	Indirect effect	BootSE	95% BootCI
Low (-1 SD)	.131	.037	[.064, .208]
Mean	.111	.033	[.050, .179]
High (+1 SD)	.091	.039	[.018, .173]
Index of moderated mediation	-.029	.027	[-.084, .026]

Note. N = 412. Bias-corrected bootstrap, 5,000 resamples. Moderator conditioned at the mean and ± 1 SD. The index CI includes zero (not significant).

In summary, H1, H2, and H3 were supported: PsyCap predicted supervisor-rated performance incrementally beyond teacher self-efficacy, and work engagement partially carried that effect. H4 and H5 were not supported: job demands did not significantly moderate the engagement-performance path or the indirect effect, despite a directionally consistent trend.

5. Discussion

This study asked whether psychological capital predicts teacher job performance as seen by someone other than the teacher, whether it does so through an identifiable mechanism, and whether that mechanism is contingent on workload. The answers are yes, partly yes, and – in this sample – no.

5.1 Theoretical Implications

The incremental variance PsyCap contributed beyond teacher self-efficacy ($\Delta R^2 = .050$) is the study's most consequential finding. Teacher self-efficacy has dominated the field for two decades, and Klassen and Tze (2014) identified it as the strongest available predictor of evaluated performance; here it remained the single strongest standardised predictor in the final model, but PsyCap explained meaningful additional variance after it was controlled. This is consistent with the COR proposition that resources travel in caravans (Hobfoll et al., 2018): what distinguishes high performers is not confidence alone but confidence coupled with pathway thinking, recovery capacity, and favourable attribution.

The partial mediation through engagement (26.8% of the total effect) indicates that a majority of PsyCap's influence operates outside the engagement pathway, implying additional mechanisms – plausibly coping, job crafting, or reduced exhaustion – that future models should specify.

The non-significant moderation is the result most worth sitting with rather than explaining away. The conditional indirect effect moved in the predicted direction – weaker at high demands – and was itself significant at every demand level tested, but the interaction and the index of moderated mediation could not distinguish that decline from chance at $N = 412$. Two readings are both defensible: either the true buffering effect is real but smaller than this design was powered to detect, or psychological resources translate into performance at a comparatively stable rate across the demand range actually observed in this sample, and only much larger demand extremes would reveal a threshold. The data in hand cannot adjudicate between these, and it would be a misuse of the analysis to report the directional trend as if it were the tested result.

5.2 Practical Implications

Because PsyCap is state-like, it responds to short, structured micro-interventions of the type Luthans and colleagues have validated. For school leaders this is a rare instance of an evidence-based, schedulable development activity: incorporate

PsyCap development into induction for early-career teachers, use PsyCap components in continuing professional development, and treat resilience and hope as trainable rather than fixed in appraisal conversations. Given the null moderation result here, that recommendation should not be sold on the promise that it buffers high-workload teachers specifically – that claim was tested and not supported in this sample – but on its direct, demand-independent association with engagement and performance.

5.3 Limitations and Future Research

The cross-sectional design precludes causal inference; reverse causation is plausible under COR's gain-spiral logic. Supervisor ratings remain perceptual. The sample is drawn from one context, and – in this demonstration – is synthetic; a genuine collected sample is required before any of the above should be treated as a finding about real teachers. The null interaction may reflect a true absence of moderation, insufficient statistical power for a typically small interaction effect, or restriction of range in the job-demands measure; a larger and more demand-heterogeneous sample, or an experimental manipulation of workload, would be a stronger test of H4–H5 than a single cross-sectional survey allows.

6. Conclusion

Psychological capital predicts teacher job performance as rated by department heads, beyond demographic controls, job demands, and teacher self-efficacy. Work engagement carries roughly a quarter of that effect. Job demands did not significantly change the size of that pathway in this sample, even though the point estimates moved in the theorised direction – a result reported here as it was computed rather than adjusted toward the hypothesis. Schools can meaningfully develop the psychological resources teachers bring to the classroom; whether that investment matters more under heavier workloads remains an open, and directly testable, question.

REFERENCES

- Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127-152. <https://doi.org/10.1002/hrdq.20070>
- Aryan Ahmed, Hashir Alvi, M.Hamza Khalid, & Fawad Naseer. (2025). EMOTIONAL RECOGNITION IN SOCIALLY INTERACTIVE ROBOTS: A COMPREHENSIVE REVIEW. *Spectrum of Engineering Sciences*, 3(8), 373-401. Retrieved from <https://www.thesesjournal.com/index.php/1/article/view/824>
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328. <https://doi.org/10.1108/02683940710733115>
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285. <https://doi.org/10.1037/ocp0000056>
- Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.
- Gao, Y., Yue, Y., & Li, X. (2023). The relationship between psychological capital and work engagement of kindergarten teachers: A latent profile analysis. *Frontiers in Psychology*, 14, 1084836. <https://doi.org/10.3389/fpsyg.2023.1084836>
- Hayes, A. F. (2022). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (3rd ed.). Guilford Press.
- Hasnain Kashif, & Fawad Naseer. (2025). COMPREHENSIVE ANALYSIS OF FRAUD DETECTION PREVENTION SYSTEMS FOR ACCURACY AND EFFICACY. *Spectrum of Engineering Sciences*, 3(3), 382-401. Retrieved from <https://thesesjournal.com/index.php/1/article/view/220>
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513-524. <https://doi.org/10.1037/0003-066X.44.3.513>
- Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5, 103-128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- Klassen, R. M., & Tze, V. M. C. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, 12, 59-76. <https://doi.org/10.1016/j.edurev.2014.06.001>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9(2), 151-173. https://doi.org/10.1207/S15328007SEM0902_1
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press.

- Ma, Y. (2023). Boosting teacher work engagement: The mediating role of psychological capital through emotion regulation. *Frontiers in Psychology*, 14, 1240943. <https://doi.org/10.3389/fpsyg.2023.1240943>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701-716. <https://doi.org/10.1177/0013164405282471>
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805. [https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17(3), 601-617. <https://doi.org/10.1177/014920639101700305>
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121-141. <https://doi.org/10.1037/1072-5245.14.2.121>