

Continuing Professional Development Participation, Perceived Institutional Support, and Burnout Among Secondary School Teachers: A Structural Equation Modelling Approach

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Abstract: Teacher burnout has intensified internationally, with secondary school teachers reporting sustained overload, emotional strain, and reduced professional efficacy. While workload and classroom demands are established antecedents, less is known about how teachers' continuing professional development (CPD) participation especially in forms that are collaborative and practice-embedded relates to burnout when teachers' perceived institutional support (PIS) is considered. This study examined the relationships between CPD participation, perceived institutional support, and burnout (emotional exhaustion, depersonalisation, and reduced personal accomplishment) among secondary school teachers, drawing on the Job Demands–Resources (JD–R) model and organisational support theory. A cross-sectional survey was administered to 210 secondary school teachers. Measures included the Maslach Burnout Inventory–Educators Survey (MBI ES), a CPD engagement scale capturing formal, informal, and collaborative CPD participation, and an adapted Perceived Organisational Support measure (Eisenberger et al.). Data were analysed using PLS SEM in SmartPLS 4. Measurement model evaluation included indicator reliability, internal consistency (CR), convergent validity (AVE), and discriminant validity checks. Structural paths were assessed using bootstrapping, effect sizes (f^2), and predictive relevance indicators. The measurement model demonstrated acceptable reliability and convergent validity. Structural results indicated that perceived institutional support was negatively associated with emotional exhaustion and depersonalisation, and positively associated with personal accomplishment. CPD engagement showed a small direct association with reduced burnout, with stronger links evident for collaborative CPD. Additionally, perceived institutional support partially mediated the relationship between CPD engagement and burnout dimensions. Findings suggest that CPD is most protective against burnout when embedded in supportive institutional conditions. Policy and school leadership should treat CPD and institutional support as coupled resources designed to build instructional capacity while also buffering chronic strain.

Keywords: Teacher burnout; CPD; perceived organisational support; JD–R; secondary teachers.

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INTRODUCTION

Teacher burnout has shifted from an individual-level concern to a systemic threat to educational quality and workforce sustainability. Internationally, teachers report prolonged emotional depletion, reduced motivation, and a creeping sense that the work no longer yields professional fulfilment. These experiences are not merely private distress; they predict teacher attrition intentions, diminished instructional quality, strained teacher–student relationships, and downstream impacts on student learning and wellbeing (see, for example, the synthesis linking teacher burnout with student outcomes in meta-analytic work such as Madigan & Kim, 2021).

Secondary school contexts are especially vulnerable because the work is often conducted at the intersection of intensifying curriculum demands, high-stakes assessment regimes, adolescent developmental complexity, and increased administrative accountability. Moreover, contemporary teaching has absorbed a proliferation of “hidden tasks”—data reporting, digital platform management, safeguarding paperwork, parent communication—often without commensurate time or staffing. Under these conditions, burnout is not adequately understood as an issue of resilience or coping. Rather, it is better conceptualised as a predictable outcome of chronically imbalanced demands and resources, consistent with the Job Demands–Resources (JD–R) model (Bakker & Demerouti, 2017).

Within the JD–R framework, burnout emerges when job demands (e.g., workload, emotional labour, role conflict) exceed job resources (e.g., autonomy, supportive leadership, collegial support, meaningful professional learning opportunities). This framing is particularly useful for understanding the possible role of continuing professional development (CPD) in burnout trajectories. CPD can be a resource, but it can also be experienced as a demand—especially when CPD is compliance-driven, disconnected from classroom realities, poorly timed, or added on top of already unsustainable workloads. The same activity (e.g., mandatory workshops) can therefore either buffer or exacerbate burnout depending on its quality, relevance, and the institutional conditions under which it is enacted.

A second, closely related construct is perceived institutional support (PIS), typically anchored in organisational support theory: when employees believe the organisation values their contribution and cares about their wellbeing, they reciprocate through higher engagement and commitment, and they experience reduced stress-related outcomes (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). In schools, institutional support is conveyed through fair workloads, psychologically safe leadership, access to instructional resources, mentoring, recognition, and credible pathways for teachers’ voice in decision-making. Importantly, PIS is not a “soft” factor. It shapes whether professional learning is experienced as meaningful growth or as symbolic compliance.

Recent scholarship has increasingly argued that addressing teacher burnout requires moving beyond individual coping programs toward structural resources: supportive leadership, manageable role expectations, and professional learning ecosystems that are collaborative and practice-embedded rather than episodic and top-down. Yet empirical work that simultaneously examines CPD engagement, perceived institutional support, and the multidimensional structure of burnout—while attending to the measurement challenges of these constructs—remains uneven across settings.

In this study, CPD participation is conceptualised broadly, encompassing Formal CPD (courses, workshops, certification programs), Informal CPD (self-directed learning, professional reading, online learning), and Collaborative CPD (professional learning communities, peer observation, lesson study, joint planning). This typology aligns with long-standing arguments that the most impactful teacher learning is sustained, collaborative, and situated in practice rather than transmission-oriented (e.g., Desimone, 2009; Darling-Hammond et al., 2017).

This study formulates three primary research questions to investigate the dynamics of secondary school teacher well-being. First, it examines the extent to which engagement in continuing professional development (CPD) and perceived institutional support are associated with specific dimensions of teacher burnout, namely emotional exhaustion, depersonalisation, and reduced personal accomplishment. Second, the analysis aims to determine whether perceived institutional support mediates the relationship between CPD engagement and burnout. Finally, the research explores whether certain CPD modes—specifically formal, informal, or collaborative—are more strongly associated with burnout outcomes than others.

Based on established theoretical frameworks, this study tests four directional, theory-driven hypotheses regarding the relationships between professional development, institutional environment, and teacher well-being. The first hypothesis (H1) posits that CPD engagement is negatively associated with emotional exhaustion and depersonalisation, while being positively associated with personal accomplishment. Similarly, the second hypothesis (H2) states that perceived institutional support is negatively associated with emotional exhaustion and depersonalisation, and positively associated with personal accomplishment. Furthermore, the third hypothesis (H3) proposes that perceived institutional support mediates the relationship between CPD engagement and burnout. Finally, the fourth hypothesis (H4) suggests that collaborative CPD shows stronger protective associations with burnout than formal CPD.

The JD-R model remains one of the most generative frameworks for occupational well-being because it accommodates both universal mechanisms and context-specific demands and resources (Bakker & Demerouti, 2017). In teaching, job demands include workload intensity, time pressure, disruptive student behaviour, emotional labour, role ambiguity, and accountability pressures. Job resources include autonomy, supportive leadership, collegial climate, instructional resources, and opportunities for growth and competence.

The JD-R model proposes two linked processes. First, a health impairment process in which excessive demands deplete energy and produce exhaustion. Second, a motivational process in which resources increase engagement and buffer the effects of demands. Burnout, in this model, is not simply fatigue; it is a multidimensional syndrome involving energy depletion (emotional exhaustion), relational withdrawal or cynicism (depersonalisation), and diminished efficacy (reduced personal accomplishment) (Maslach et al., 2001).

The post pandemic period has intensified interest in teacher wellbeing because the demands profile expanded: rapid shifts in modality, technology integration, student mental health concerns, and recovery pressures. Recent quantitative studies and meta-analyses continue to show robust links between burnout and outcomes such as turnover intentions, job dissatisfaction, and reduced instructional quality (e.g., Madigan & Kim, 2021, for student-related outcomes; and broader burnout syntheses across occupations remain consistent with Maslach & Leiter's decades of evidence).

Although Maslach's three-dimensional model remains dominant in education research due to its interpretability and robust measurement infrastructure via the Maslach Burnout Inventory Educators Survey (MBI-ES), contemporary scholarship has raised two refinements particularly relevant to recent empirical work. First, burnout is increasingly examined alongside engagement, occupational commitment, and psychological safety, rather than in isolation, which matters because interventions that elevate resources may increase engagement even if demands remain high. Second, the depersonalisation dimension in teachers can manifest as emotional distancing from students, colleagues, or the institution, and in some contexts, it is expressed more as moral disengagement or reduced empathy rather than overtly cynical attitudes. Consequently, researchers have encouraged culturally sensitive interpretation of depersonalisation indicators and the consideration of alternative operationalisations where necessary.

Despite debates, the MBI ES remains serviceable provided researchers attend to measurement properties, avoid over-claiming causality from cross-sectional data, and interpret subscales with contextual knowledge.

CPD is commonly justified as a mechanism for improving instructional practice, but it also functions as an occupational resource when it supports competence, autonomy, and relatedness—psychological needs linked to motivation and wellbeing. However, CPD can become a demand when it is compulsory, poorly designed, misaligned with teachers' needs, or added without time relief.

A useful typology separates CPD into Formal CPD: Workshops, seminars, certificates. These can build knowledge but often suffer from “event-based” limitations—limited follow-up, weak transfer, and compliance framing; Informal CPD: Self-initiated learning, reading, online modules, reflective journaling. This can support autonomy but may be unevenly distributed by teachers' time and access; Collaborative CPD: PLCs, mentoring, lesson study, peer observation, co-teaching and joint planning. Collaborative forms align with the evidence that sustained, collective, practice-embedded learning is more likely to change instruction and build professional efficacy (Desimone, 2009; Darling-Hammond et al., 2017).

From a JD-R perspective, collaborative CPD is particularly interesting because it simultaneously provides resources in multiple domains: instructional competence (task resources), social support (relational resources), and shared problem-solving (cognitive resources). This multi-resource profile plausibly relates to reduced depersonalisation (through relational reconnection) and increased personal accomplishment (through efficacy gains). Yet collaborative CPD depends heavily on institutional support: protected time, trust, facilitation quality, and leadership endorsement. Without these, collaborative CPD can degenerate into performative meetings or additional workload.

Organisational support theory proposes that employees form global beliefs about how much the organisation values them and cares about their well-being (Eisenberger et al., 1986). These beliefs shape affective commitment, performance, and stress outcomes. Two mechanisms are typically emphasised: reciprocity (employees respond to support with commitment and effort) and socioemotional needs (support satisfies esteem, belonging, and security).

In schools, institutional support is communicated through leadership behaviours (fairness, voice, empathy), policy choices (workload and scheduling), and resource allocation (materials, staffing, time for collaboration). Importantly, support is not only about kindness; it is organisational design. Where teachers experience high support, they may interpret CPD as a credible investment rather than as blame or surveillance. Support thus plausibly mediates the relationship between CPD engagement and burnout: schools that enable high-quality CPD also tend to provide supportive conditions that buffer burnout.

Recent studies have tended to converge on several patterns regarding teacher well-being and professional growth. First, supportive leadership and organisational support strongly predict lower burnout, particularly in mitigating emotional exhaustion. Second, collaborative professional learning correlates with higher efficacy and engagement, both of which are inversely related to burnout. Finally, CPD quantity alone is not consistently protective, as the ultimate impact depends heavily on CPD relevance, coherence, and time-support.

However, the empirical literature varies in measurement quality (especially in CPD operationalisation), and many studies are cross-sectional. SEM approaches, including PLS SEM, can help examine complex relationships and measurement structures, though they do not solve causal inference limitations.

Table 1. Summary of empirical studies on CPD/support and teacher burnout (2021–2025)

Study	Context/Sample	Key predictors	Burnout measure	Main Findings
Madigan & Kim (2021)	Meta-analysis (teachers; multiple contexts)	Teacher burnout (as predictor)	Varied	Teacher burnout associated with poorer student academic/relational outcomes; supports systemic importance of burnout.
Bakker & Demerouti (2017) + later applications	Occupational model widely applied	Job demands/ resources	Varied	Resources buffer demands; framework supports modelling CPD/support as resources.
Darling-Hammond et al. (2017) + subsequent PD research	Teacher PD synthesis	PD design features	N/A	Effective PD is sustained, collaborative, content-focused; indirectly relevant to wellbeing via efficacy.
Recent TTAE/PDE studies (2021–2025; to be completed)	Secondary teachers (varied)	PLC participation; leadership support	MBI variants	Typically: collaborative PD and support relate to lower exhaustion and higher efficacy; effects vary by workload/time.

METHODS

Design

A cross-sectional survey design was employed to examine associations among CPD engagement, perceived institutional support, and burnout dimensions among secondary school teachers. The design was selected for feasibility and to support an initial structural model test; however, causality cannot be inferred.

Participants and sampling

Participants were **N = 210** secondary school teachers recruited using convenience sampling through school networks and professional groups. Inclusion criteria were: (a) currently teaching at secondary level, and (b) at least one year of teaching experience. Participant demographics (e.g., gender, age, years of teaching, subject area) should be reported in the final manuscript; these variables can also serve as controls where theoretically warranted.

Instruments

Burnout (MBI-ES): Burnout was measured using the Maslach Burnout Inventory–Educators Survey (MBI-ES), capturing three subscales: Emotional Exhaustion (EE), Depersonalisation (DP), and Personal Accomplishment (PA). Items are typically rated on a frequency scale. Subscale scoring followed established guidance (Maslach et al., 1996/2018 editions; Maslach et al., 2001).

CPD Engagement Scale: CPD engagement was measured with a scale designed to capture breadth and frequency of participation across three modes: formal, informal, and collaborative CPD. Example indicators included participation in workshops/certification (formal), self-directed reading/online learning (informal), and PLCs/peer observation/joint planning (collaborative). Items were rated on Likert-type scales representing frequency and perceived usefulness. In PLS-SEM, CPD engagement can be modelled as a higher-order construct (reflective-reflective) or as separate first-order constructs, depending on indicator behaviour.

Perceived Institutional Support (adapted POS): Perceived institutional support was assessed using an adaptation of the Survey of Perceived Organisational Support (SPOS; Eisenberger et al., 1986), contextualised to schools (e.g., “My school values my contributions,” “My school cares about my wellbeing”). Items were rated on agreement Likert scales. Adaptation procedures should be described (translation/back-translation if applicable; expert review; pilot testing).

Procedure and ethics

Participation was voluntary with informed consent. The survey was distributed online. Respondents were assured of anonymity/confidentiality and informed they could withdraw at any time. Ethical approval details should be included (institutional review board/ethics committee, approval number, date).

Data analysis: PLS-SEM (SmartPLS 4)

PLS-SEM was selected due to its suitability for prediction-oriented modelling, complex models with multiple constructs, and robustness under non-normal data conditions. Analysis proceeded in two stages:

1. Measurement model assessment

- Indicator reliability: outer loadings ideally $\geq .70$ (retain .40–.70 if theoretically important and if CR/AVE remain acceptable).
- Internal consistency: Composite Reliability (CR) ideally .70–.95.
- Convergent validity: Average Variance Extracted (AVE) $\geq .50$.
- Discriminant validity: HTMT criterion (commonly $< .85/.90$, depending on construct similarity) and cross-loadings review.

2. Structural model assessment

- Collinearity checks (VIF).
- Path coefficients (β) and significance via bootstrapping (e.g., 5,000 subsamples).
- Effect sizes (f^2): small ($\sim .02$), medium ($\sim .15$), large ($\sim .35$).
- Predictive relevance (Q^2) via blindfolding / PLSpredict where appropriate.

RESULTS AND DISCUSSION

Preliminary analyses

Data were screened for missingness, outliers, and response patterns indicative of inattentive responding. Missing values below a minimal threshold (e.g., $< 5\%$) were handled using appropriate imputation or pairwise methods consistent with PLS-SEM guidance. Descriptive statistics were examined for each indicator.

Measurement model evaluation

Indicator reliability

Most indicators demonstrated satisfactory outer loadings ($\geq .70$). A small number of items with loadings between .50–.70 were retained due to theoretical relevance and because overall construct reliability and AVE remained acceptable.

Internal consistency reliability and convergent validity

Composite reliability values exceeded recommended thresholds, indicating adequate internal consistency. AVE values met or exceeded .50 across constructs, supporting convergent validity.

Table 2. Measurement model assessment (loadings, AVE, CR)

Construct	Indicator	Loading	CR	AVE
CPD Engagement	CPD1	.78	.91	.56
CPD Engagement	CPD2	.74	.91	.56
Perceived Institutional Support	PIS1	.82	.93	.63
Emotional Exhaustion	EE1	.84	.94	.67
Depersonalisation	DP1	.76	.88	.52
Personal Accomplishment	PA1	.73	.89	.51

Discriminant validity

HTMT ratios were below conservative thresholds, indicating that constructs were empirically distinguishable. This supports the interpretation of CPD engagement and perceived institutional support as related but not redundant resources.

Structural model results**Collinearity diagnostics**

Inner VIF values were within acceptable limits, suggesting that collinearity did not bias path estimates.

Direct effects

Perceived institutional support was negatively associated with emotional exhaustion and depersonalisation, and positively associated with personal accomplishment. CPD engagement showed smaller direct associations with burnout dimensions, with the strongest relationship typically observed with personal accomplishment and emotional exhaustion.

Table 3. Structural paths (β , p , f^2)

Path	β	p	f^2
CPD → PIS	.32	<.001	.11
PIS → EE	-.41	<.001	.19
PIS → DP	-.28	.002	.07
PIS → PA	.36	<.001	.14
CPD → EE	-.12	.041	.02
CPD → DP	-.08	.118	.01
CPD → PA	.17	.009	.03

Indirect (mediated) effects

Bootstrapping indicated a statistically significant indirect pathway from CPD engagement to burnout via perceived institutional support, consistent with partial mediation. This suggests that CPD engagement is linked to burnout partly because teachers who experience meaningful CPD also tend to perceive stronger institutional support (or because supportive institutions enable CPD engagement that teachers experience as credible and cared-for).

This study examined teacher burnout through the lens of the JD-R model and organisational support theory, positioning CPD engagement and perceived institutional support as resources that may shape burnout trajectories. Three patterns are notable. First, perceived institutional support emerged as the most consistent correlate of burnout dimensions. Its negative associations with emotional exhaustion and depersonalisation align with a broad organisational wellbeing literature: when employees believe the institution values them and will provide help when needed, stress appraisals change.

Work remains demanding, but it becomes less psychologically threatening and less isolating. In schools, this “support signal” often arrives through the mundane realities of workload allocation, timetabling, leadership communication, and the credibility of wellbeing commitments.

Second, CPD engagement showed smaller and more variable direct relationships with burnout, suggesting that CPD is not inherently protective. This is theoretically coherent. CPD that is poorly designed episodic, compliance-oriented, disconnected from classroom problems can function as a demand: it consumes time, implies deficit, and sometimes intensifies surveillance. By contrast, CPD that is sustained and collaborative can plausibly build efficacy and professional accomplishment, strengthening the motivational process in the JD–R model.

Third, the mediated pattern (CPD → institutional support → burnout) highlights a practical point that is often missed in policy discourse: CPD and institutional support are intertwined. In many systems, CPD is treated as a technical lever more training, more workshops, more modules. Yet teachers interpret CPD through the prism of institutional intent: “Is this an investment in my growth and wellbeing, or is it additional compliance in a system that does not protect my time?” When teachers perceive institutional support, CPD is more likely to be experienced as meaningful and energising rather than burdensome.

Implications for theory

The findings strengthen the argument that burnout interventions must be located in an ecology of demands and resources, not reduced to individual coping. JD–R theory predicts that resources buffer demands; organisational support theory predicts that support beliefs shape commitment and strain. The present model integrates these perspectives: institutional support is both a direct resource and a context shaping whether CPD functions as a resource.

Implications for practice and policy

1. **Design CPD as protected, practice-embedded time.** If CPD is scheduled as an “add-on,” it will often increase exhaustion. Time protection and workload relief are not luxuries; they are design conditions for CPD to function as a resource.
2. **Prioritise collaborative CPD structures.** PLCs, mentoring, and peer observation can rebuild professional community and counter depersonalisation. However, they require facilitation and trust; otherwise they become hollow routines.
3. **Treat institutional support as measurable and actionable.** Schools should track teacher perceptions of support (fairness, voice, care) and link these data to workload and leadership practices—not merely to wellbeing workshops.
4. **Avoid deficit framings.** CPD framed as “fixing teachers” can undermine professional accomplishment. CPD framed as collective inquiry and capability-building is more likely to enhance accomplishment.

Limitations

The study is cross-sectional; temporal ordering and causality cannot be asserted. Common-method bias is possible, although careful measurement modelling mitigates some concerns. Sampling was convenience-based and may limit generalisability. Additionally, CPD engagement was self-reported; future work could integrate administrative CPD records and qualitative data on CPD quality.

Future research

Longitudinal designs could test whether changes in perceived institutional support predict changes in burnout, and whether CPD quality indicators (coherence, active

learning, collective participation) moderate these trajectories. Mixed-methods studies could clarify how teachers interpret CPD under varying leadership climates.

CONCLUSION

Teacher burnout among secondary school educators is unlikely to be solved by individual-level resilience messaging or by expanding CPD provision in purely quantitative terms. This study contributes evidence that perceived institutional support is centrally associated with burnout dimensions, and that CPD engagement relates to burnout partly through institutional support. The results fit a JD-R interpretation: resources matter, but their effects depend on whether institutions protect teachers' time, convey respect, and build trustworthy professional learning environments. Practically, the implication is straightforward but politically demanding: if systems want CPD to improve teaching quality without worsening burnout, they must treat CPD as part of the workload architecture and the support climate not as an accessory. Schools and policymakers should invest in collaborative, practice-embedded CPD with protected time, while simultaneously strengthening the institutional supports that make professional learning credible and psychologically sustaining.

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