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How shared instructional leadership is associated with teacher job satisfaction: the role of self-efficacy and professional resilience

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Abstract

Leadership is consistently identified as a significant correlate of teacher learning, school capacity, and organizational development. However, the relational processes linking shared instructional leadership to teachers' work-related outcomes remain insufficiently examined. This study examines the association between shared instructional leadership and teachers' job satisfaction and examines the mediating roles of teacher self-efficacy and professional resilience. Using a correlational design, data were collected from 593 teachers across Türkiye's seven geographical regions within a centralized and hierarchical educational context. A parallel multiple mediation model (PROCESS Macro Model 4; 5,000 bootstrap resamples) was employed to examine the proposed associations among variables. Results indicated that shared instructional leadership was positively associated with teachers' job satisfaction. Significant indirect effects emerged through teacher self-efficacy and professional resilience, suggesting that higher perceptions of collaborative instructional leadership correspond with stronger psychological resources and higher job satisfaction. These findings highlight the relevance of shared instructional leadership as a contextual factor associated with teachers' self-efficacy, resilience, and satisfaction. Given the cross-sectional correlational design, the findings should be interpreted as evidence of association rather than causation.

Keywords Shared instructional leadership, Teacher self-efficacy, Professional resilience, Job satisfaction

Introduction

The sustainability of high-quality education relies not only on meeting the quantitative demand for teachers but also on ensuring a professionally competent workforce that experiences high job satisfaction and receives continuous organizational support. Enhancing teacher quality, strengthening job satisfaction, and promoting sustained professional development are therefore critical components of school improvement. Teacher job satisfaction plays a central role in shaping work engagement and productivity; teachers who are dissatisfied tend to exhibit reduced performance, ultimately undermining school effectiveness [1]. Prior research identifies several factors influencing teacher job satisfaction, including school climate, school size, professional status, stress, personality traits, and leadership style [2], with leadership consistently emerging as one of the most influential elements. Leadership practices shape teachers' attitudes, professional motivation, and instructional efforts, and thereby exert a significant effect on student learning outcomes [3, 4].

Understanding how leadership influences teacher satisfaction requires attention to the cultural and

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organizational contexts in which leadership unfolds [5]. In Türkiye, the education system is characterized by a centralized and hierarchical bureaucratic structure. Although this traditional model remains dominant, recent policy initiatives have increasingly emphasized shared decision-making and collaborative professional practices among school personnel. Such developments are expected to foster positive change in teachers' instructional approaches and overall teaching quality. Accordingly, defining the Turkish context as centralized and hierarchical requires a precise delineation of where shared instructional leadership is operationally feasible. In this context, shared instructional leadership does not imply a formal transfer of bureaucratic authority or policy-making power, which remains strictly controlled by the Ministry of National Education in core areas such as curriculum design, teacher recruitment, and budgeting [6, 7]. Instead, shared instructional leadership operates within specific 'zones of influence' related to instructional processes. While the "what" of education (curriculum standards) is centrally determined, the "how", including instructional delivery, peer collaboration, and school-based professional learning, offers space for shared agency [8, 9]. Therefore, shared instructional leadership in Türkiye functions not as a tool for administrative decentralization but as a collaborative mechanism for improving pedagogical practices, strengthening a supportive school climate, and organizing professional learning communities within the boundaries of centralized regulations [10, 11]. This clarification also helps situate the shift from principal-centric conceptions of instructional leadership toward more collaborative, distributed approaches in teaching and learning domains.

Historically, conceptualizations of instructional leadership have centered on a principal-driven, paternalistic framework that placed responsibility for instructional quality primarily on school leaders [12, 13]. However, contemporary scholarship highlights the value of distributed and shared instructional leadership models, in which teacher leaders assume more active roles in instructional decision-making and collective capacity-building [14]. This shift underscores the importance of collaborative leadership practices that enhance teachers' leadership agency, strengthen collective responsibility, and contribute to sustainable instructional improvement.

Existing research generally supports the positive influence of shared instructional leadership on instructional practices and student outcomes [14, 15]. However, important gaps persist. Although numerous studies document the ways in which leadership shapes teachers' beliefs and classroom practices [16–18], less attention has been devoted to understanding how specific psychological factors- particularly teacher self-efficacy and professional resilience- mediate the relationship between shared instructional leadership and job satisfaction. These constructs are central to teachers' professional motivation, adaptive capacity, and well-being, yet their mediating roles remain underexplored in the context of shared instructional leadership. Addressing this gap is essential for generating deeper insight into the mechanisms through which leadership practices are related to teacher satisfaction and for informing strategic decisions in school management.

While prior research has established links between instructional leadership and teacher outcomes [19–22], the theoretical contribution of this study lies in integrating shared instructional leadership within the specific sociostructural constraints of a centralized educational system. Unlike traditional principal-centric models, shared instructional leadership is conceptualized here as an instructionally focused leadership approach that incorporates collaborative elements, while remaining conceptually distinct from broader frameworks such as distributed leadership [23, 24]. The conceptual novelty of this research is the application of Bandura's [25, 26] distinction between "imposed" and "constructed" environments to explain how shared instructional leadership operates in Türkiye. This research proposes that shared instructional leadership may be associated with job satisfaction not only directly but also indirectly; rather than exerting a causal influence, it can be understood as an agency-enabling context through which teachers may experience a shift from a rigid, centrally controlled work setting (imposed environment) toward a more supportive school-level micro-climate (constructed environment), in ways that are associated with personal agency resources (self-efficacy and resilience).

This study is grounded in Social Cognitive Theory, which conceptualizes human functioning as shaped by reciprocal interactions among personal factors (cognitive, affective, and biological events), behavioral patterns, and environmental influences [25, 27]. Within this framework, shared instructional leadership is conceptualized as an environmental factor structuring teachers' working conditions, professional interactions, and access to instructional supports, while teacher self-efficacy and professional resilience are treated as personal factors reflecting belief systems and adaptive capacities, and job satisfaction as an affective work-related outcome. In line with Social Cognitive Theory, leadership-related environmental inputs are understood to be associated with job satisfaction primarily through self-referent processes and adaptive resources, rather than solely through direct associations. This perspective provides a focused explanation of the psychological pathways through which shared instructional leadership is associated with teacher well-being and professional functioning. Against this background, the present study examines the

interrelationships among school administrators' shared instructional leadership behaviors, teacher self-efficacy, professional resilience, and job satisfaction. By integrating these variables within a unified analytical framework, this study seeks to advance theoretical and empirical understanding of how shared instructional leadership is linked to teacher well-being and professional functioning. Specifically, this study tests a parallel mediation model in which shared instructional leadership is associated with teachers' job satisfaction indirectly through teacher self-efficacy and teacher professional resilience. Accordingly, the study addresses the following research questions:

1. What are the relationships among school administrators' shared instructional leadership behaviors, teacher self-efficacy, professional resilience and job satisfaction?
2. Do teachers' self-efficacy and professional resilience mediate the relationship between shared instructional leadership and teacher job satisfaction?

Conceptual framework

In this study, shared instructional leadership is conceptualized as a school-level leadership approach that generates social and organizational resources (e.g., collaboration, trust, instructional support, and collective work routines). These resources are theorized to be positively associated with teachers' psychological resources such as teacher self-efficacy and teacher professional resilience, which, in turn, are associated with higher job satisfaction [28–31]. Accordingly, the study proposes a parallel mediation mechanism in which shared instructional leadership is linked to job satisfaction indirectly through teacher self-efficacy and teacher professional resilience (Fig. 1).

It should be noted that the directional assumptions underlying the present model are grounded in theory rather than established empirically. An alternative and equally plausible interpretation is that teachers who already possess higher levels of self-efficacy and professional resilience may be more likely to perceive their school leadership as collaborative and supportive. From this perspective, perceptions of shared instructional leadership may, at least in part, reflect teachers' existing psychological resources rather than being solely associated with them. Given the cross-sectional correlational nature of the study, it is not possible to disentangle these competing explanations. Accordingly, the proposed model should be interpreted as a theoretically informed account of the observed associations rather than as evidence of a single directional process.

A parallel mediation specification is theoretically warranted because teacher self-efficacy and teacher professional resilience represent related yet distinct psychological resources that can be strengthened concurrently by the same leadership-generated school resources. Shared instructional leadership may be associated with teachers' efficacy beliefs through processes such as shared instructional problem-solving, peer feedback, and mastery opportunities, while also being related

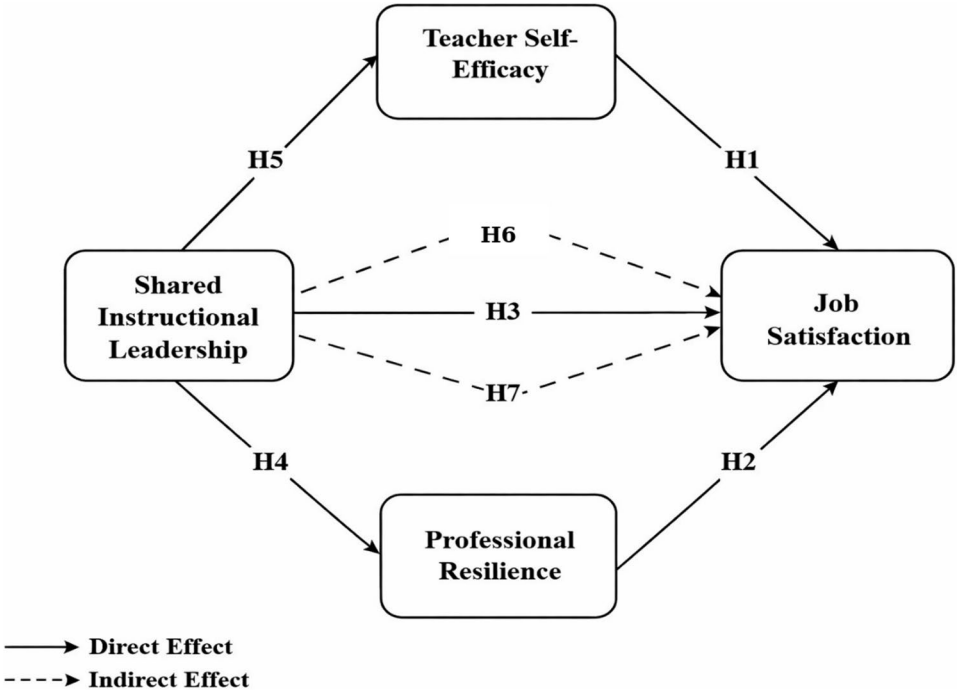


Fig. 1 Conceptual map of the study

to professional resilience through a climate of collegial support, adaptive coping resources, and collective capacity to manage instructional demands. Importantly, the present framework does not presume a causal ordering between teacher self-efficacy and teacher professional resilience. Instead, it tests whether each pathway uniquely and independently transmits the association between shared instructional leadership and job satisfaction, which aligns with the rationale for a parallel mediation model.

This rationale is further supported by Social Cognitive Theory, which provides a coherent basis for conceptualizing how leadership-generated school resources shape teachers' personal psychological resources and, in turn, translate into attitudinal outcomes such as job satisfaction. Social Cognitive Theory posits that human functioning is the product of a reciprocal interplay between environmental events, personal factors, and behavior [27]. An important aspect of Social Cognitive Theory is the differentiation of the environment. Bandura [25, 26] argues that while the "imposed environment" is thrust upon individuals, the "constructed environment" is created through their generative efforts. For the most part, the environment is only a potentiality whose rewarding aspects do not come into being until they are selectively activated by appropriate courses of action. In this study's theoretical model, shared instructional leadership can be conceptualized as a school-level condition that may help teachers experience a more "constructed environment". By offering collaboration and shared decision-making within instructional domains, shared instructional leadership may be associated with teachers' positioning not only as passive recipients of administrative mandates but also as "producers as well as products" of their social systems. This active involvement is expected to activate teachers' self-system, specifically their self-efficacy and professional resilience, enabling them to exercise agency even within a restrictive macro-system. Thus, teacher self-efficacy and teacher professional resilience are posited not merely as correlates but as the key psychological pathways through which the leadership-driven school environment is translated into the attitudinal outcome of job satisfaction.

Job satisfaction

Job satisfaction is conceptualized in this study as an affective and cognitive evaluation of teachers' work experiences and well-being within the school context [32, 33]. As a multidimensional and context-dependent construct [34], it reflects the interaction between individual expectations and organizational conditions, including leadership-shaped working environments and job resources such as collegial support, collaborative norms, and instructional autonomy [33, 35–38]. Prior research has linked job satisfaction to key outcomes such as motivation, performance, retention, and turnover intentions [36, 37, 39–41]. Drawing on Social Cognitive Theory, the present study proposes that these contextual factors are associated with job satisfaction primarily through teachers' psychological resources, namely self-efficacy and professional resilience, which shape how teachers interpret and respond to instructional demands [25, 38].

Teacher job satisfaction has long been a central focus in educational research due to its associations with teacher performance and retention [36, 37]. It is commonly defined as teachers' affective and cognitive evaluations of their profession and work environment, reflecting their attitudes toward working conditions and professional experiences [33, 42, 43]. This construct encompasses both internal dimensions (e.g., fulfilment and self-actualization) and external conditions (e.g., workplace environment and interpersonal relationships) [44]. Higher levels of job satisfaction are associated with greater professional engagement, improved job performance, stronger participation in instructional processes, and more positive teacher–student relationships [41, 45–49].

Key determinants of teacher job satisfaction include professional autonomy, social support, and a collaborative school culture characterized by shared norms and values [38, 50–52]. These factors are closely associated with school leadership, as leadership practices shape the organizational conditions in which teachers work. Accordingly, leadership is conceptualized as a multidimensional influence on teachers' professional experiences [53, 54], operating through mechanisms such as clarifying expectations, supporting professional growth, and enabling teachers to assume broader responsibilities [55].

Teacher self-efficacy

Self-efficacy is defined as "an individual's belief in his/her capacity to organize and execute the action processes necessary to achieve a certain success" [26]. As a belief system reflecting individuals' confidence in their ability to perform actions that lead to desired outcomes, self-efficacy shapes how people perceive challenges, regulate effort, and persist in the face of difficulties [56]. In educational contexts, teacher self-efficacy refers to teachers' beliefs in their capability to plan, manage, and implement instructional activities effectively, as well as to achieve intended learning goals [57]. As a foundational element of the teaching process, teacher self-efficacy is a critical predictor of instructional quality, encompassing effective classroom management, the creation of supportive learning environments, and the promotion of cognitive activation among students [58]. A substantial body of research [59–61] demonstrates that teachers with high self-efficacy deliver higher-quality instruction, provide stronger

student support, and actively engage with instructional challenges by setting ambitious goals and employing innovative pedagogical strategies. Such teachers plan lessons more effectively, facilitate greater student engagement, and ultimately contribute to improved academic outcomes. Through its positive influence on instructional effectiveness, teacher self-efficacy has been consistently associated with enhanced student performance [62–65].

Empirical research demonstrates that teacher self-efficacy is closely associated with several professional variables, including perceived workload, work-related stress, resilience, and burnout [66–68]. Teachers with higher levels of self-efficacy are typically better equipped to manage occupational challenges, perceive their workload as more manageable, and exhibit lower susceptibility to burnout. Self-efficacy thus functions not only as a protective factor that supports teachers' capacity to cope with workplace stress but also as a motivational resource that strengthens professional engagement [65] and enhances job satisfaction. Consistent with this view, a substantial body of evidence indicates that teacher self-efficacy has a positive and significant association with job satisfaction [28–30, 63, 69, 70]. Grounded in this theoretical and empirical foundation, the present study posits that teacher self-efficacy is positively and significantly associated with teacher job satisfaction (Hypothesis 1).

Professional resilience

Resilience is commonly defined as an individual's capacity to function effectively and thrive under challenging conditions [71] and is often conceptualized in terms of internal coping skills and adaptive capabilities [72]. Bryan et al. [73] further conceptualize resilience as "a dynamic process that involves the capacity to maintain normal functioning against various challenges or to recover by using facilitating resources" (p. 8), highlighting its evolving and context-dependent nature. Within educational settings, resilience constitutes a crucial component of teachers' professional competence and overall instructional quality [74]. Contemporary classrooms require teachers to respond to increasingly diverse student needs including variations in learning styles, academic readiness, and cultural backgrounds [75] while simultaneously managing heavy workloads, time pressures, behavioral challenges, and external accountability demands [76]. Teachers who demonstrate professional resilience tend to approach these demands with flexibility, adaptability, and a readiness to employ innovative pedagogical strategies. As emphasized by Gu and Day [77] and Tait [78], resilient teachers are able to sustain constructive engagement with students even in high-stress school environments, thereby exemplifying high levels of professional resilience.

Resilience encompasses more than the ability to recover from difficult or adverse circumstances; it also functions as a critical resource that supports teachers' professional and personal growth. By strengthening psychological well-being and reinforcing commitment to the profession, resilience contributes meaningfully to teachers' job satisfaction [79]. Resilient teachers also play an important role in cultivating a positive school climate. Through their adaptive and persistent behaviors, they serve as role models for students, helping them develop problem-solving skills and motivating them to confront academic and personal challenges with determination [80]. The literature consistently highlights the positive effects of teacher resilience on key professional outcomes, including job satisfaction, teaching quality, and overall instructional effectiveness [81]. In this regard, resilience is associated not only with improvements in teacher effectiveness and student achievement [82, 83], but also with teachers' subjective well-being, job satisfaction, and positive emotional functioning [79, 84]. Empirical research further indicates that teachers with higher levels of resilience manage daily instructional challenges more effectively, which contributes to increased job satisfaction [31]. Drawing on this evidence, the present study hypothesizes that teachers' professional resilience is positively and significantly associated with their job satisfaction (Hypothesis 2).

Shared instructional leadership

In response to critiques that traditional models of instructional leadership place disproportionate emphasis on the authority of school principals and overlook the collective contributions of other stakeholders, shared instructional leadership has emerged as a reconceptualized approach that redistributes leadership across the school community [14]. This model redefines the principal's role from that of a sole instructional authority to a facilitator who provides expert guidance, supports teachers' professional work, and engages collaboratively in efforts to improve teaching and learning [10, 85–87]. Shared instructional leadership underscores the importance of teacher participation in the coordination and enactment of instructional practices [11] and promotes the establishment of participatory structures that enhance collective decision-making within schools [88]. Conceptually, this leadership model encompasses four key components. The first, shared vision, entails collaboratively developing a coherent mission for the school and articulating how the shared vision guides instructional priorities. The second component, focus on teaching, involves principal–teacher collaboration to strengthen curriculum development, school culture, parental involvement, professional learning, and evaluation processes. The third, monitoring progress, refers to the joint

efforts of school leaders and teachers to assess progress toward instructional and organizational goals. Finally, broad collaboration emphasizes the integration of collaborative practices and shared responsibility into instructional decision-making, ensuring that teaching strategies are informed by collective expertise and aligned with the school's overarching mission [89, 90].

While shared instructional leadership is conceptually related to broader leadership constructs such as distributed leadership and shared leadership, it is important to distinguish these frameworks. Distributed leadership typically refers to the dispersion of leadership roles and responsibilities across multiple actors within an organization, often without a specific focus on instructional processes. Shared leadership, in turn, emphasizes collaborative influence and collective responsibility among organizational members. In contrast, shared instructional leadership represents a more domain-specific construct that is explicitly centered on teaching and learning processes, including curriculum, instruction, and assessment. Accordingly, the present study adopts a focused conceptualization of shared instructional leadership as a collaborative, instructionally oriented form of leadership, rather than as a general form of distributed or shared leadership.

Shared instructional leadership is characterized by collaborative work between principals and teachers on matters directly related to curriculum, instruction, and assessment, rather than administrative concerns such as budgeting, facilities management, or security [23]. Principals who adopt this leadership model engage teachers and other school personnel in developing a shared vision for school improvement, facilitate collaborative analysis of student learning data, and support the implementation of instructional strategies aimed at enhancing teaching and learning [91]. In schools where shared leadership is deeply embedded, principals empower teachers, actively support their professional learning, and work alongside them in fulfilling instructional responsibilities [92]. Such shared instructional leadership practices have been linked to strengthened perceptions of collective teacher efficacy and improvements in student academic achievement [93]. The social interactions that occur during the co-design and implementation of curriculum further enhance teachers' sense of belonging within their school communities, which, in turn, fosters greater teacher engagement [92]. In this regard, shared instructional leadership not only facilitates teachers' professional empowerment but also contributes to more holistic and sustainable improvements in school functioning. From this perspective, shared leadership holds substantial potential to drive positive transformation at both individual and organizational levels.

Within broader shared leadership approaches, interactions between principals and teachers, particularly in relation to instructional processes, have been associated with patterns that correspond with overall organizational quality; however, shared instructional leadership focuses more specifically on instructional domains [14, 94]. This leadership model reduces hierarchical distance, cultivates a sense of collective responsibility, and emphasizes the value of each individual's contribution to instructional improvement. When teachers are provided opportunities to exercise influence and leadership, they contribute to expanding the school's organizational capacity by offering personal resources, professional expertise, and instructional knowledge that support their colleagues [95]. Shared instructional leadership is also situated within the broader social and situational contexts of schools and is enacted through the collaborative efforts of principals and staff who work toward continuous improvement [96, 97]. Principals who actively encourage teacher leadership have been found to enhance teachers' sense of autonomy, which, in turn, supports higher levels of job satisfaction [98]. Empirical evidence from the broader shared leadership literature suggests that collaborative leadership approaches are associated with teaching quality, teacher collaboration, and job satisfaction [70, 99, 100]. Given that teacher job satisfaction has been linked to leadership opportunities and autonomy afforded by principals [94, 101], shared leadership has been recognized as a contributor to teacher satisfaction in the broader literature [102, 103]; however, shared instructional leadership, as examined in the present study, is more specifically focused on instructional processes and practices. Consistent with the Social Cognitive Theory framework [25, 26] outlined above, shared instructional leadership is expected to enhance teachers' opportunities to enact agency within a restrictive sociostructural context, thereby fostering more positive affective work experiences reflected in higher job satisfaction. In light of this evidence, the present study proposes that shared instructional leadership is positively associated with teachers' job satisfaction (Hypothesis 3).

From a Social Cognitive Theory perspective, leadership practices constitute salient environmental inputs that shape teachers' personal beliefs through efficacy-building processes operating within reciprocal determinism. Social Cognitive Theory specifies that self-efficacy is developed through four primary sources such as mastery experiences, vicarious experiences, verbal (social) persuasion, and physiological/affective states [26, 27, 104]. In this respect, shared instructional leadership is expected to create a collaborative school environment in which teachers can (a) accumulate mastery experiences by taking on meaningful instructional roles and successfully completing shared instructional tasks, (b)

gain vicarious experiences through frequent observation of colleagues' effective instructional practices within collective routines, and (c) receive verbal persuasion through constructive feedback, encouragement, and performance-related information provided via ongoing interactions with school leaders and peers [105]. At the same time, supportive professional conditions cultivated through shared instructional leadership may help buffer adverse physiological and affective responses under occupational demands, thereby strengthening teachers' capacity to adapt to setbacks. Consistent with Social Cognitive Theory, these environmental inputs are theorized to be cognitively processed into stronger teacher self-efficacy beliefs and enhanced professional resilience, thereby motivating Hypotheses 4 and 5.

School leaders who cultivate positive working environments, respond to teachers' professional needs, and support their career development play a crucial role in strengthening teachers' professional resilience, which subsequently enhances teaching effectiveness and student outcomes [106]. Consistent with this perspective, previous research demonstrates that teachers with higher levels of professional resilience manage stress more effectively, work more successfully with challenging student groups, and report higher levels of job satisfaction [77, 78]. Collaborative relationships between school leaders and teachers, together with the availability of professional development opportunities, have likewise been shown to be critical in fostering teachers' resilience [107, 108]. Within this context, shared instructional leadership incorporates the core elements that underpin and strengthen professional resilience. Central to this model are shared responsibility, collaboration, and supportive social relationships- all of which enhance teachers' motivation, adaptive capacity, and resilience. By promoting teachers' active involvement in instructional decision-making and encouraging more egalitarian relationships between principals and teachers, shared instructional leadership enables teachers to feel valued, trusted, and professionally empowered. Drawing on this body of evidence, the present study hypothesizes that shared instructional leadership is positively and significantly associated with teachers' professional resilience (Hypothesis 4).

Principals' instructional leadership behaviors are widely recognized as influencing teachers' self-efficacy at both the individual and school levels. At the individual level, principals who communicate high expectations for instructional quality, conduct classroom observations, and provide constructive feedback help strengthen teachers' beliefs in their instructional competence [109]. At the school level, leadership practices that cultivate a positive instructional climate and establish clear direction and standards have also been shown to enhance teachers' perceptions of self-efficacy [110]. Additionally, practical and emotional support offered by school organizations facilitates teachers' professional growth by enabling them to develop their potential and expand their collective capacities [111]. Such processes of professional development motivate teachers to exert greater effort, thereby reinforcing their sense of competence [112]. Within this framework, shared instructional leadership represents an approach through which school leaders purposefully engage teachers' expertise, foster collaborative involvement in instructional processes, and strengthen collective professional development. Consistent with empirical evidence demonstrating positive associations between shared leadership and teacher self-efficacy [102, 103, 113–115], the present study hypothesizes that shared instructional leadership is positively and significantly associated with teacher self-efficacy (Hypothesis 5). Grounded in Bandura's model of triadic reciprocal causation, sociostructural influences in schools (e.g., leadership practices) are expected to shape work-related outcomes primarily through self-system processes rather than through direct effects alone [27]. Within this triadic interplay, shared instructional leadership can be conceptualized as an environmental input that activates teachers' cognitive and self-regulatory resources, most notably their self-efficacy beliefs and professional resilience. These personal factors, in turn, are likely to influence how teachers appraise occupational demands and regulate their affective reactions to work experiences, which is reflected in higher job satisfaction as an affective work-related outcome. Accordingly, self-efficacy and professional resilience are theorized to function as proximal psychological mechanisms linking a collaborative leadership environment to teachers' professional well-being. Building on the preceding hypotheses (Hypotheses 1, 2, 4, and 5) and the theoretical framework of Social Cognitive Theory, the study further proposes that shared instructional leadership is associated with teachers' job satisfaction not only directly (Hypothesis 3) but also indirectly, through statistical associations involving teacher self-efficacy and professional resilience (Hypotheses 6 and 7).

Method

Research design

This study employed a correlational research design, which is used to examine the extent to which one or more variables account for variance in a criterion variable [116]. Within this framework, the study investigated the association between shared instructional leadership and teachers' job satisfaction, while simultaneously testing the mediating roles of teacher self-efficacy and professional resilience. This design was adopted to provide a comprehensive understanding of both the direct and

indirect pathways through which shared instructional leadership associated with teachers' job satisfaction. The cross-sectional nature of the study does not allow for causal inference or directional conclusions. Accordingly, all hypothesized relations and indirect effects were interpreted as statistical associations within the tested model rather than as evidence of temporal or causal ordering.

Sample

The study sample consisted of 593 teachers who were recruited through convenience sampling [117]. Convenience sampling is a cost-effective and practical approach [118], particularly suitable when time, resources, and access to participants are limited, as it enables researchers to collect data efficiently. This sampling strategy was therefore deemed appropriate for the present study. The participating teachers worked in various cities across Türkiye, representing all seven geographical regions. Including teachers from geographically and socio-economically diverse settings allowed the study to capture a broad range of professional experiences and contextual conditions.

Although convenience sampling was used, the sample's demographic comparability to the national teacher population was examined using official statistics from the Turkish Ministry of National Education for the 2024–2025 academic year [119]. Overall, the sample closely approximated national distributions across several key variables: female teachers accounted for 63.4% of the sample versus 61.7% nationally (+ 1.7% points), and male teachers 36.6% versus 38.3% (– 1.7% points). Similarly, 88.0% of participants worked in public schools and 12.0% in private schools, aligning with national proportions (~ 90% public; ~10% private; deviations within ± 2% points). By school level, preschool (8.9% vs. ~10%) and high school teachers (25.0% vs. ~27%) were broadly consistent with national figures; however, primary school teachers were underrepresented (20.9% vs. ~30%) and middle school teachers overrepresented (45.2% vs. ~33%), likely reflecting differential accessibility and participation typical of convenience sampling. These imbalances suggest caution in interpreting school-level-specific patterns and highlight the need for probability-based or stratified sampling in future research [119].

Measures

Shared instructional leadership scale

The Shared Instructional Leadership Scale was originally developed by Zhan et al. [90] to measure teachers' perceptions of the extent to which principals, assistant principals, and teachers collaboratively engage in instructional leadership practices. The scale was adapted to the Turkish cultural context by Dilekçi [120], following formal permission obtained from the original authors in 2020. The unidimensional scale consists of seven items rated on a 6-point Likert-type format ranging from "Strongly disagree (1)" to "Strongly agree (6)." Dilekçi [120] established the psychometric soundness of the scale through exploratory and confirmatory factor analyses and reported satisfactory internal consistency reliability. A sample item is: *"In this school, the principal, assistant principals, and teachers work collaboratively to develop an instructional vision."* In the present study, the factor structure of the scale was reassessed using confirmatory factor analysis. The results demonstrated good model fit (Cmin/df = 4.45, $p < .001$; CFI = 0.99; TLI = 0.98; GFI = 0.98; AGFI = 0.94; RMSEA = 0.08; SRMR = 0.02), with standardized factor loadings ranging from 0.91 (SIL3) to 0.71 (SIL6), all statistically significant at $p < .01$ [121]. The internal consistency of the scale was high, with a Cronbach's alpha coefficient of α = 0.94, indicating strong reliability [122].

The teacher self-efficacy scale

The Teacher Self-Efficacy Scale-Short Form developed by Tschannen-Moran and Woolfolk Hoy [56] was used to assess teachers' perceptions of their instructional efficacy. The scale was adapted to the Turkish cultural context by Erdoğan [123]. It consists of three dimensions- classroom management, student engagement, and instructional strategies- each measured by four items. Responses are recorded on a 9-point Likert scale ranging from "(1) Not at all" to "(9) Completely." Erdoğan [123] confirmed the scale's construct validity and reliability through confirmatory factor analysis and Cronbach's alpha, reporting satisfactory psychometric properties. A sample item is: *"To what extent can you control student behaviors that negatively affect the course?"* In the present study, confirmatory factor analysis was conducted to assess the compatibility of Erdoğan's factor structure with the current dataset. The model demonstrated acceptable fit (Cmin/df = 4.81, $p < .001$; CFI = 0.96; TLI = 0.94; GFI = 0.94; AGFI = 0.90; RMSEA = 0.08; SRMR = 0.04), with standardized factor loadings ranging from 0.82 (SE8) to 0.59 (SE1), all statistically significant at $p < .01$ [121]. The internal consistency of the scale was strong, with a Cronbach's alpha coefficient of α = 0.92, indicating high reliability [122].

Teacher professional resilience scale

The Teacher Professional Resilience Scale was originally developed by Näswall et al. [124] to assess employees' capacity to adapt to and manage changing and challenging work conditions. The scale was adapted to the Turkish cultural context by Limon [125] using a teacher sample. The unidimensional instrument consists of nine items rated on a 5-point Likert scale ranging from "(1) Almost never" to "(5) Almost always." Limon [125] confirmed the construct validity of the scale through

confirmatory factor analysis and reported high internal consistency reliability. A sample item is: *"I can successfully handle excessive workload (course load, additional responsibilities, etc.) for a long time."* In the present study, confirmatory factor analysis was conducted to examine the compatibility of the factor structure with the current dataset. The model showed acceptable fit (Cmin/df = 4.20, $p < .001$; CFI = 0.96; TLI = 0.93; GFI = 0.97; AGFI = 0.93; RMSEA = 0.07; SRMR = 0.04), with standardized factor loadings ranging from 0.69 (TPR9) to 0.48 (TPR2), all statistically significant at $p < .01$ [121]. Although TPR2 demonstrated a comparatively lower loading, the overall factor structure was supported. The internal consistency of the scale was satisfactory [122], with a Cronbach's alpha coefficient of α = 0.83.

Job satisfaction scale

The Job Satisfaction Scale was originally developed by Brayfield and Rothe [126] as an 18-item instrument and later revised into a five-item unidimensional short form by Judge et al. [127]. The scale was adapted to Turkish by Başol and Çömlekçi [128], who confirmed its construct validity through confirmatory factor analysis and reported satisfactory internal consistency reliability. The short form uses a 5-point Likert-type response format ranging from "(1) Strongly disagree" to "(5) Strongly agree." A sample item is: *"I find happiness in my job."* In the present study, confirmatory factor analysis was performed to evaluate the fit of the scale's factor structure to the current data. The model demonstrated excellent fit (Cmin/df = 1.44, $p = .22$; CFI = 0.99; TLI = 0.99; GFI = 0.99; AGFI = 0.99; RMSEA = 0.03; SRMR = 0.01), with standardized factor loadings ranging from 0.92 (JS4) to 0.76 (JS1), all statistically significant at $p < .01$ [121]. The internal consistency of the scale was high, as indicated by a Cronbach's alpha coefficient of α = 0.90 [122], demonstrating strong reliability.

Control variables

Teacher-level demographic characteristics including gender, educational status, teaching experience, and age were controlled for. Among the school-level variables available in our dataset, school type (public versus private) and school level (preschool, primary, secondary, and high school) were included as covariates. Prior research suggests that these characteristics are associated with teachers' well-being, work-related attitudes, and occupational outcomes [129, 130].

Data collection

Data were collected through an online survey administered via Google Forms. In designing and implementing the online data collection process, the methodological recommendations of Evans and Mathur [131] regarding online survey administration were followed to ensure clarity, accessibility, and ease of participation. Prior to data collection, ethical approval was obtained from the Ethics Committee of Batman University for Social and Human Sciences Research (decision dated 05.09.2024, no 2024/06 – 01), and informed consent was obtained from all participants. The researchers prepared an online questionnaire containing the data collection instruments, and the survey link was distributed to school administrators and teachers known to the researchers. School administrators were requested to share the link with teachers working in their institutions, thereby facilitating access to educators from different school types and regions. This recruitment strategy enabled the researchers to reach a diverse group of teachers across Türkiye, while also acknowledging the possibility of sampling bias inherent in convenience-based online recruitment.

Data analysis

Data analysis was conducted in several steps. Although the original developers of the scales reported evidence of validity and reliability, confirmatory factor analyses (CFA) were performed for each instrument in the present study to evaluate the compatibility of their factor structures with the current dataset [132]. Internal consistency reliability was assessed using Cronbach's alpha coefficients. Prior to the main analyses, the distributional properties of the data were examined. Skewness and kurtosis values for all variables were within the acceptable range of ± 1.96, indicating that the data met the assumptions of normality [133]. Given that all measures were self-reported and collected at the same time, the potential for common method bias was considered [134]. To assess this, Harman's single-factor test was conducted using principal components analysis including all study variables. The first factor accounted for 31.91% of the total variance, which is below the critical threshold, indicating that common method variance was not a significant concern [135]. To provide a more rigorous assessment of common method variance, an unmeasured latent method factor was incorporated into the measurement model [136]. The inclusion of the latent method factor resulted in noticeable loadings across items, particularly for the teacher self-efficacy scale, indicating the presence of common method variance. However, the substantive measurement model remained stable, and all theoretical constructs retained acceptable levels of factorial validity, with no substantial deterioration in model fit. These results suggest that, although common method variance is present in the data, it does not fully account for the observed associations among the study variables, and the primary relationships remain substantively meaningful. Multicollinearity among the independent variables—teacher self-efficacy, professional resilience,

Table 1 Multicollinearity statistics

Dependent variable	Independent Variables	Tolerance	VIF	CI
Job satisfaction	Shared instructional leadership	,87	1,14	13,34
	Self-efficacy	,68	1,48	20,19
	Professional resilience	,64	1,56	24,20
Job satisfaction	Self-efficacy	,68	1,47	17,26
	Professional resilience	,68	1,47	20,95

and shared instructional leadership in relation to job satisfaction, and, in a separate model, professional resilience and self-efficacy in relation to job satisfaction—was examined by calculating Variance Inflation Factor (VIF), Tolerance, and Condition Index values [137]. As shown in Table 1, all indices fell within acceptable limits, indicating that multicollinearity did not pose a problem in the regression-based analyses.

To test the proposed hypotheses, a parallel multiple mediation model was employed. In this model, shared instructional leadership was specified as the independent variable, teachers' job satisfaction as the dependent variable, and teacher self-efficacy and professional resilience as parallel mediators. Gender, experience, educational status, age, school type, and school level were included as control variables. The analyses were conducted using PROCESS Macro (Model 4) developed by Hayes [138]. Indirect effects were estimated using the bootstrap resampling procedure with 5,000 samples and a 95% bias-corrected confidence interval [138, 139]. This approach provides a robust estimation of mediation effects by reducing the potential biases associated with normal-theory-based tests.

Findings

This section reports the empirical findings of the study. First, descriptive statistics and the results of the correlation analysis are presented to provide an overview of the relationships among the study variables. Following this, the results of the model tested through the parallel multiple mediation analysis and the bootstrapped indirect effects are reported.

Table 2 presents the descriptive statistics and correlations among the study variables. The results show that teachers reported moderate level of shared instructional leadership (M = 3.06, SD=0.56) on a 6-point scale, where higher scores indicate greater perceived shared instructional leadership. The mean levels of self-efficacy (M = 6.78, SD=0.97) on a 9-point scale, professional resilience (M = 4.04, SD=0.49) on a 5-point scale, and job satisfaction (M = 4.15, SD=0.65) on a 5-point scale were also above the scale midpoints, indicating positive perceptions.

Regarding the associations among variables, shared instructional leadership was positively and significantly correlated with teacher self-efficacy (r = .26, p < .001), professional resilience (r = .35, p < .001), and job satisfaction (r = .26, p < .001). Teacher self-efficacy also demonstrated significant positive correlations with professional resilience (r = .56, p < .001) and job satisfaction (r = .39, p < .001). Finally, professional resilience was positively and significantly associated with job satisfaction (r = .41, p < .001). Overall, the correlations ranged from small to moderate in magnitude.

As shown in Table 3, shared instructional leadership is significantly associated with both mediators and job satisfaction. Specifically, it is positively related to teacher

Table 2 Descriptive statistics and correlations

Descriptive						Correlations			
Variables	***N***	**Mean**	**SD**	**Skewness**	**Kurtosis**	**(1)**	**(2)**	**(3)**	**(4)**
(1) SIL	593	3.06	0.56	0.04	−0.44	-	0.26**	0.35**	0.26**
(2) TSE	593	6.78	0.97	0.04	−0.42		-	0.56**	0.39**
(3) TPR	593	4.04	0.49	0.15	−0.62			-	0.41**
(4) JS	593	4.15	0.65	−0.35	−0.60				-

(*SIL* Shared Instructional Leadership, *TSE* Teacher Self-Efficacy, *TPR* Teacher Professional Resilience, *JS* Job Satisfaction)

**p<0.001

Table 3 Model coefficients (completely standardized direct effects)

Antecedent	Consequent	β	BootSE	t	*p*	BootLLCI	BootUCLI
X (SIL)	M_1 (TSE)	0.24	0.07	6.03	< 0.001	0.27	0.54
X (SIL)	M_2 (TPR)	0.34	0.03	8.72	< 0.001	0.23	0.37
X (SIL)	Y (JS)	0.12	0.05	2.94	0.003	0.04	0.22
M_1 (TSE)	Y (JS)	0.24	0.03	5.18	< 0.001	0.10	0.22
M_2 (TPR)	Y (JS)	0.25	0.06	5.41	< 0.001	0.20	0.44

Model fit (JS): R^2=0.25, $F_{(9,583)}$ = 21.72, p < .001

Values are completely standardized regression coefficients (β) reported by PROCESS. (PROCESS Model 4, with covariates gender, experience, educational status, age, school type and school level)

Table 4 Bootstrapped completely standardized indirect effects of SIL on JS

Effects	β	BootSE	BootLLCI	BootUCLI
SIL→TSE →JS	0.06	0.01	0.03	0.09
SIL→TPR →JS	0.08	0.02	0.05	0.12
Total indirect effect	0.14	0.02	0.10	0.18

Indirect effects were estimated using bootstrapping with 5,000 resamples. Confidence intervals that do not include zero indicate statistically significant indirect effects. All effects are completely standardized. Covariates were included in the model

self-efficacy (β = 0.24, t = 6.03, p < .001, BootSE = 0.07, 95% CI [0.27, 0.54]) and teacher professional resilience (β = 0.34, t = 8.72, p < .001, BootSE = 0.03, 95% CI [0.23, 0.37]). Shared instructional leadership is also significantly associated with job satisfaction (β = 0.12, t = 2.94, p = .003, BootSE = 0.05, 95% CI [0.04, 0.22]).

In addition, both mediators show significant associations with job satisfaction after controlling for covariates, namely teacher self-efficacy (β = 0.24, t = 5.18, p < .001, BootSE = 0.03, 95% CI [0.10, 0.22]) and teacher professional resilience (β = 0.25, t = 5.41, p < .001, BootSE = 0.06, 95% CI [0.20, 0.44]). The full model, including covariates, accounts for 25% of the variance in job satisfaction (R^2 = 0.25, $F_{(9, 583)}$ = 21.72, p < .001).

Table 4 presents the indirect effects and total indirect effect estimated in the mediation model. Bootstrapping analyses indicated that shared instructional leadership showed significant indirect associations with job satisfaction through both mediators in the tested model. Specifically, the indirect effect of shared instructional leadership on job satisfaction via teacher self-efficacy was statistically significant (β = 0.06, BootSE = 0.01, 95% CI [0.03, 0.09]), as the bootstrap confidence interval did not include zero, and the indirect effect via teacher professional resilience was statistically significant (β = 0.08, BootSE = 0.02, 95% CI [0.05, 0.12]), with a bootstrap confidence interval not including zero. The total indirect effect of shared instructional leadership on job satisfaction was also significant (β = 0.14, BootSE = 0.02, 95% CI [0.10, 0.18]), with a bootstrap confidence interval that did not include zero, indicating that teacher self-efficacy and professional resilience were involved in significant indirect associations between shared instructional leadership and job satisfaction in the tested model, controlling for covariates.

As shown in Table 5, shared instructional leadership had a significant total effect on job satisfaction (β = 0.29, SE=0.05, t = 6.33, p<.001, 95% CI [0.20, 0.39]). When the mediators were included in the model, the direct effect of SIL on job satisfaction remained significant, although reduced in magnitude (β = 0.13, SE= 0.05, t = 2.94, p=.003, 95% CI [0.04, 0.22]). This pattern is consistent with partial statistical mediation between shared instructional leadership and job satisfaction in the tested model (Fig. 2).

Discussion

Examining the associations between school administrators' shared instructional leadership behaviors and teachers' job satisfaction, particularly through the mediating roles of teacher self-efficacy and professional resilience, provides valuable theoretical and practical insights for the field of educational leadership. Adopting a holistic perspective, the present study explores how leadership practices are related to teachers' professional development, psychological strengths, and overall workplace satisfaction. By emphasizing the role of shared instructional leadership in relation to teachers' self-efficacy and resilience, the study offers evidence that can guide school leaders in designing leadership practices and policies that may support teachers' professional experiences. The findings of this study extend the leadership literature beyond its predominantly Western focus by elucidating the distinctive function of shared instructional leadership in centralized education systems [9]. Although prior research has established that instructional leadership relates to teacher attitudes [140, 141], the conceptual novelty of the present study lies in suggesting that shared instructional leadership may be interpreted as a contextual resource associated with buffering patterns in high power-distance contexts such as Türkiye. Research results indicate that, by granting teachers voice in instructional decision-making [142, 143], shared instructional leadership may provide a more autonomous instructional space (a constructed environment) within the rigid hierarchy of the centralized system (an imposed environment). This constructed environment appears to be associated with higher teacher resilience [144] and self-efficacy [27], such that the association between leadership and job satisfaction appears to be reflected not primarily in direct associations, but in indirect associations involving these psychological resources. In doing so, this research extends Leithwood et al.'s [145] "emotional path" model, which emphasizes the indirect nature of leadership effects, by integrating it with Social Cognitive Theory's emphasis on agency.

Consistent with the first hypothesis, the findings indicate that teacher self-efficacy is positively and

Table 5 Standardized direct and total effects of SIL on JS

Effect	β	SE	t	*p*	BootLLCI	BootUCLI
Direct effect (c')	0.13	0.05	2.94	0.003	0.04	0.22
Total effect (c)	0.29	0.05	6.33	< 0.001	0.20	0.39

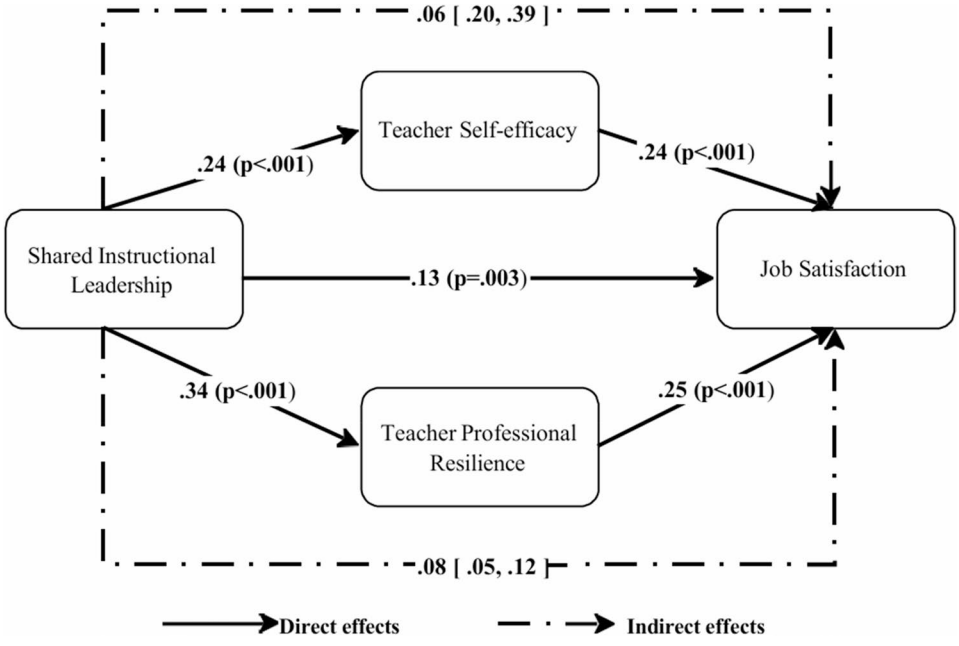


Fig. 2 A statistical diagram of the model

significantly associated with job satisfaction. This result aligns with extensive prior research demonstrating positive associations between self-efficacy and job satisfaction [28, 29, 69, 70, 146]. Bandura [25] posits that efficacy beliefs and satisfaction reinforce one another; teachers who perceive themselves as capable tend to experience higher job satisfaction, while positive professional experiences further strengthen their sense of efficacy. When teachers view themselves as competent in their instructional roles, they may also report higher levels of professional motivation, which are in turn associated with higher job satisfaction [147]. Importantly, teacher self-efficacy encompasses multiple domains beyond classroom instruction, including collaboration with colleagues and parents [148], contributions to school-wide goals [149], and the creation of a positive classroom climate [150]. Given this multidimensionality, efforts to enhance teachers' self-efficacy across these varied domains are essential for cultivating sustained professional engagement and satisfaction.

The second hypothesis proposed that teachers' professional resilience is associated with their job satisfaction, and the findings of the present study provide evidence consistent with this expectation. This result is consistent with prior research demonstrating that resilience is positively associated with teachers' job satisfaction [31, 151, 152]. Earlier studies have shown that teachers' levels of professional resilience are closely linked to their overall well-being [153, 154]. Given that well-being is a critical determinant of job satisfaction, the role of professional resilience extends beyond its contribution to psychological adjustment. Resilience has also been associated with other key occupational outcomes, including professional commitment, work engagement, and job satisfaction [79], highlighting its broader implications for teachers' professional functioning. Teachers with higher levels of professional resilience appear better equipped to manage the challenges inherent in school environments. Such teachers may be more likely to demonstrate stronger critical thinking skills, maintain more positive and stable work attitudes, and report a more proactive orientation toward problem solving, all of which are associated with higher levels of job satisfaction. These findings underscore the importance of fostering professional resilience as a strategic component of leadership practices aimed at supporting teachers' long-term engagement and satisfaction.

The third hypothesis, which posited that shared instructional leadership is associated with teachers' job satisfaction, was supported by the study's findings. Importantly, these results indicate that shared instructional leadership is positively associated with job satisfaction overall, and this association remains statistically significant, though attenuated, after accounting for teacher self-efficacy and professional resilience, indicating partial mediation. This result is consistent with a growing body of research suggesting that leadership practices grounded in active teacher participation, rather than authority concentrated in a single administrator, are positively associated with teacher job satisfaction [99, 100, 102]. Prior studies identify teacher autonomy, administrative support, and professional solidarity between school leaders and staff as key determinants of job satisfaction [155–157]. In this regard, instructional leadership is considered an important factor associated with

collaborative learning cultures, mutual respect, and teachers' beliefs in their professional competence, all of which are related to higher levels of job satisfaction [158]. Furthermore, shared instructional leadership may also be associated with the development of social capital by involving individuals with diverse expertise in leadership processes. Such distributed leadership arrangements not only improve the collective instructional capacity of the school but also support the emergence of a teaching workforce with higher levels of job satisfaction [70, 103, 113, 159]. By distributing leadership responsibilities and encouraging teachers' meaningful participation in school development efforts, shared leadership practices are associated with teachers' sense of agency and belonging, which in turn are related to higher levels of job satisfaction [160]. In Türkiye's centralized and hierarchical system, the persistence of this direct association may reflect the benefits of distributing instructional implementation and coordination, rather than formal authority, thereby affording teachers greater voice in everyday pedagogical work despite macro-level constraints.

The fourth hypothesis proposed that shared instructional leadership was positively associated with teachers' professional resilience, and the findings of the present study support this assumption. Professional teacher resilience comprises multiple dimensions related to instructional practice, including student engagement, effective time management, instructional competence, reflective thinking, flexibility, and adaptability [161]. Prior research underscores that supportive work environments are essential for sustaining and developing resilience, as they provide the social and material resources necessary for teachers to fulfil their professional responsibilities [124] and reflect the broader quality of school leadership [162]. Administrative support plays a particularly influential role; as Boyd et al. [163] note, school leaders who facilitate teachers' work contribute to improvements in instructional quality, while Skaalvik and Skaalvik [38] highlight the importance of supportive relationships with both colleagues and school leaders as key sources of teacher resilience. Within this framework, shared instructional leadership may be related to teachers' professional development and resilience by encouraging their involvement in instructional decision-making and fostering collaboration among colleagues. By distributing leadership responsibilities, this model may provide teachers with greater opportunities to take initiative, assume greater ownership of their work, and respond more constructively to challenges. These processes are associated with the development of a positive and supportive school climate in which professional resilience among teachers is more likely to be reported. Taken together, the findings suggest that shared instructional leadership may be interpreted as a meaningful organizational resource associated with teachers' capacity to cope effectively with the complex demands of their profession. Beyond corroborating prior research, this study demonstrates that, within a centralized and high power-distance setting, school-level collaborative instructional routines can operate as resilience-enhancing resources, implying that professional resilience is not merely a personal disposition but may be associated with leadership-generated collegial supports that are conducive to its development.

The fifth hypothesis proposed that shared instructional leadership was positively associated with teachers' self-efficacy, and the findings of this study confirm this expectation. This result aligns with previous research documenting a positive relationship between shared instructional leadership and teacher self-efficacy [142, 164]. Prior studies highlight that school leadership is widely recognized as an important factor associated with instructional improvement, teacher efficacy beliefs, and student achievement [165]. Within this framework, shared leadership may be understood as a contextual condition associated with an inclusive school climate in which teachers report active participation in decision-making, engagement in professional learning, and collaboration on instructional practices [166]. Such collaborative environments are associated with teachers' tendency to assume individual and collective responsibility, which in turn is related to their sense of self-efficacy. Tschannen-Moran et al. [57] argue that higher levels of self-efficacy enhance teachers' motivation to implement transformative instructional strategies, ultimately supporting improved student learning outcomes. The broader literature similarly demonstrates that collaborative leadership between administrators and teachers contributes positively to instructional processes and student achievement [14, 15]. Taken together, these findings suggest that shared instructional leadership is associated not only with the organizational functioning of schools but also with teacher self-efficacy, which in turn is related to instructional practices. Notably, the present findings extend this relationship to the Turkish context by showing that, even when formal instructional authority is centrally bounded, shared instructional leadership may be associated with efficacy-building opportunities that correspond with stronger efficacy beliefs.

The sixth and seventh hypotheses proposed that teacher self-efficacy and professional resilience mediate the relationship between shared instructional leadership and teachers' job satisfaction. The findings of the present study provide empirical support for both hypotheses. Specifically, shared instructional leadership was found to show positive indirect associations with job satisfaction through teacher self-efficacy and professional resilience in the tested model. This pattern of results is consistent with broader research suggesting that the association

between school leadership and teacher job satisfaction is often reflected in indirect statistical associations involving individual, organizational, and psychological factors rather than direct associations alone [70, 102, 159, 167, 168]. Crucially, the parallel mediation design indicates that teacher self-efficacy and professional resilience each uniquely transmit the shared instructional leadership-job satisfaction association, rather than implying a causal ordering between the two resources. Consistent with the bootstrapped estimates reported in this study, the indirect pathway via professional resilience is stronger than the pathway via teacher self-efficacy, underscoring the salience of adaptive coping resources in demanding, centralized school systems. Teacher self-efficacy represents teachers' confidence in their capacity to effectively manage professional demands [56, 59, 61], whereas professional resilience reflects their ability to adapt, persevere, and maintain effectiveness in the face of challenges [72]. The mediating roles of these two constructs offer a valuable theoretical lens for understanding how teachers interpret and respond to leadership practices within their schools, and how these responses shape their levels of job satisfaction. Shared instructional leadership is associated with teacher participation in decision-making processes and with active involvement in instructional improvement efforts [11, 90]. Such inclusive and participatory practices are associated with teachers feeling valued, trusted, and competent, which in turn is related to their self-efficacy. At the same time, leadership practices that support teachers' capacity to cope with professional challenges may also be associated with higher professional resilience. Together, these psychological resources are associated with teachers' motivation and organizational commitment, which in turn are related to higher job satisfaction through indirect statistical associations. These findings underscore the importance of shared instructional leadership as a mechanism that not only enhances school functioning but also nurtures the psychological strengths that underpin teachers' professional well-being.

Although the indirect associations observed in the present study reached statistical significance, their magnitude ($\beta = 0.06$ and $\beta = 0.08$) remains relatively modest. This indicates that, while teacher self-efficacy and professional resilience are relevant for understanding the association between shared instructional leadership and job satisfaction, they account for only a limited portion of this relationship. From a practical standpoint, the findings suggest that variations in shared instructional leadership are associated with comparatively small differences in job satisfaction through these psychological resources. Accordingly, the results are better interpreted as reflecting incremental rather than substantial explanatory contributions.

In addition, the overall model accounted for 25% of the variance in job satisfaction ($R^2 = 0.25$), indicating that a substantial proportion of variance remains unexplained. This highlights the complexity of teacher job satisfaction as an outcome and suggests that additional factors beyond shared instructional leadership, self-efficacy, and resilience are likely to play a role. Variables such as school climate, organizational support, workload, and individual differences may contribute meaningfully to teachers' job satisfaction and should be considered in future research.

An important alternative interpretation that merits careful consideration is the possibility of reverse or reciprocal associations. While the present study is theoretically framed in a directional manner, it is equally plausible that teachers who already possess higher levels of self-efficacy and professional resilience may be more likely to perceive their school leadership as collaborative, supportive, and participatory. From this perspective, perceptions of shared instructional leadership may, at least in part, reflect teachers' pre-existing psychological resources, including their tendency to interpret organizational environments more positively. This alternative account aligns with Social Cognitive Theory, which highlights the reciprocal interplay between personal factors and environmental perceptions. Given the cross-sectional nature of the data, the study cannot establish temporal precedence or determine the directionality of these associations. Accordingly, the findings should be interpreted as reflecting patterns of association that are consistent with multiple explanatory pathways, including reverse and reciprocal relationships.

Interpreting these results through the lens of Social Cognitive Theory allows the Turkish educational setting to be treated not merely as background, but as a theoretically meaningful environmental layer shaping teachers' opportunities for agency and self-regulation. Drawing on Bandura's [26] distinction between imposed, selected, and constructed environments, centrally regulated educational systems may be experienced at the school level as relatively strong sociostructural constraints on professional discretion. In Türkiye, the education system is widely described as highly centralized and bureaucratically hierarchical, with key domains such as curricula, teacher appointments, and policy implementation primarily coordinated through the Ministry of National Education [169], in Social Cognitive Theory terms, these structural features can be interpreted as constituting a comparatively imposed environment for schools. Under such conditions, teachers may be positioned mainly as implementers of top-down directives, which can restrict professional agency and narrow opportunities for autonomous action [16, 170]. Within this broader context, shared instructional leadership can be conceptualized as a school-based practice associated with a more

constructed environment, reflected in the distribution of instructional decision-making and collaborative routines [8]. Consistent with Social Cognitive Theory, sociostructural influences are expected to affect work-related outcomes largely through self-system processes rather than through direct effects alone [171]. In line with this reasoning, the observed indirect associations are consistent with the possibility that shared instructional leadership is related to teachers' job satisfaction through proximal belief-based resources, namely self-efficacy and professional resilience, which are in turn associated with how occupational demands are appraised and regulated affectively. Accordingly, the mediation pattern identified in this study provides evidence consistent with Social Cognitive Theory, suggesting that collaborative leadership practices cultivate psychological resources that connect the school environment to teacher well-being.

Conclusion

This study highlights the relevance of shared instructional leadership in relation to teachers' job satisfaction, suggesting that its association is reflected not only directly but also through indirect statistical associations involving teacher self-efficacy and professional resilience. The findings suggest that when instructional leadership responsibilities are reported as more distributed among principals, vice principals, and teachers, educators also tend to report stronger beliefs in their professional capabilities and greater resilience in the face of workplace challenges, both of which are associated with higher levels of job satisfaction. These results emphasize the importance of cultivating collaborative leadership cultures in schools, where teachers are actively engaged, professionally supported, and empowered to participate meaningfully in instructional decision-making. Shared instructional leadership is associated with teachers' confidence and their capacity to navigate professional demands, which are in turn related to aspects of well-being and motivation. The findings carry important implications for educational leaders and policymakers, who are encouraged to design and support leadership structures that foster shared responsibility, promote professional learning, and reinforce teachers' psychological resources. Such leadership approaches hold significant potential for advancing teacher satisfaction and sustaining high-quality teaching and learning environments. These findings should be interpreted with caution given the cross-sectional design and the modest magnitude of the observed associations.

Implications

The findings of this study offer several important implications for educational leadership practice and policy. First, school leaders and policymakers are encouraged to actively promote and institutionalize shared instructional leadership across schools. However, given Türkiye's centralized and hierarchical education system, the implementation of such practices in a fully school-based and autonomous manner may be challenging. Therefore, it is important that shared instructional leadership practices be structured in alignment with existing regulations and centralized policy frameworks. Distributing instructional responsibilities and decision-making roles to teachers may be associated with their sense of professional autonomy and a more collaborative school culture. This distribution can be made practicable within the structural constraints of the centralized system by limiting it to areas such as in-school pedagogical decision-making, the planning of instructional strategies, and the operation of professional learning communities. Such environments are more likely to be associated with teachers' self-efficacy and professional resilience, both of which are associated with higher levels of job satisfaction. Second, professional development programs for school principals should incorporate explicit training on shared instructional leadership. Developing competencies related to co-constructing goals, facilitating participatory decision making, and providing constructive instructional feedback can significantly enhance school leaders' capacity to enact collaborative leadership practices. Designing such programs in alignment with the current policies and in-service training activities of the Turkish Ministry of National Education may support the scalability and sustainability of these practices. Policymakers may consider embedding these competencies into existing leadership certification and development frameworks to ensure systemic and sustainable implementation. Finally, school leaders should engage in ongoing self-assessment by gathering systematic feedback from teachers regarding leadership practices. Establishing open communication channels and cultivating a culture of continuous feedback are essential for fostering a reflective and improvement-oriented school climate. School-based feedback processes operating in conjunction with the centralized structure may both strengthen accountability and contribute to the development of leadership practices that are more responsive to teachers' professional needs. These mechanisms can also serve as diagnostic tools, helping leaders identify areas requiring targeted interventions to strengthen teachers' self-efficacy and professional resilience.

Limitations

This study has several limitations that should be considered when interpreting the findings. *First*, the use of a cross-sectional research design restricts the ability to draw causal conclusions about the relationships among the variables. Future research employing longitudinal

or experimental designs could provide deeper insights into the causal pathways underlying the observed associations. *Second*, an important limitation concerns the possibility of reverse or reciprocal associations among the study variables. Although the study was theoretically framed in a directional manner, the cross-sectional correlational design does not allow for establishing temporal precedence or ruling out alternative explanations. In particular, teachers with higher levels of self-efficacy and professional resilience may be more likely to perceive their school leadership as shared and collaborative. Accordingly, the observed associations may reflect multiple, potentially reciprocal, explanatory pathways rather than a single directional process. *Third*, another limitation concerns the potential clustering of teachers within schools. Although participants were drawn from multiple schools, the data structure did not allow for a stable multilevel modelling approach due to the limited and uneven number of teachers per school. As a result, the analyses were conducted at a single level. However, unmodelled clustering may have influenced standard errors, and future studies using clearly defined multilevel designs are needed to examine school-level effects more rigorously. *Fourth*, data were collected using convenience sampling through online distribution channels involving known administrators and teachers. This recruitment strategy may have introduced selection bias, as participation was voluntary and potentially more accessible to teachers who were more professionally engaged, digitally active, or positively inclined toward leadership practices. Consequently, the sample may not fully represent the broader population of teachers in Türkiye. Although participants were drawn from diverse geographical regions and educational levels, and key demographic characteristics were broadly aligned with national teacher statistics, the findings should be interpreted as reflecting the experiences of the participating teachers rather than all Turkish teachers or schools. Future research employing probability-based or stratified random sampling procedures would strengthen the generalizability and representativeness of the findings. *Fifth*, the study relied on self-reported data, which may introduce common method bias. While Harman's single-factor analysis indicated no significant threat, future studies could incorporate objective indicators, multi-source data, or mixed-method approaches to enhance methodological robustness. *Sixth*, the study was conducted within the Turkish cultural and educational context, which may limit the transferability of the findings to other contexts. Türkiye's centralized and hierarchical education management structure may constrain shared instructional leadership in decision-making processes, particularly with respect to administrative and policy-level practices. This structure can therefore be considered a structural factor that limits the scope of shared instructional leadership implementations. Replicating the model across different cultural and organizational settings would provide valuable opportunities to test its cross-cultural applicability. In addition, variables such as shared instructional leadership, teacher self-efficacy, and professional resilience are also shaped by school-specific dynamics. The absence of contextual data capturing these school-level characteristics in the present study limits the ability to offer more nuanced interpretations of how these constructs manifest across different school environments. Consequently, the findings primarily reflect general system-level trends rather than context-sensitive variations across schools. *Seventh*, one item of the Professional Resilience Scale (TPR2) demonstrated a comparatively lower factor loading (0.48) in the confirmatory factor analysis. Although the overall scale showed acceptable reliability and validity, future research may consider revising this item or employing an alternative instrument to further strengthen measurement precision. *Finally*, the sample included a disproportionately high number of teachers working in public schools (88%), potentially limiting the relevance of the findings for private school contexts. Despite these limitations, the study contributes important insights into the link between shared instructional leadership and teacher job satisfaction and underscores the value of fostering teacher self-efficacy and professional resilience. Continued research addressing these limitations will help validate and extend the current findings.

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Authors' contributions
İ. L.: Writing-review & editing, Writing-original draft, Supervision, Methodology, Conceptualization, Formal analysis, Data curation, Methodology. S. K.: Writing-review & editing, Writing-original draft, Supervision, Conceptualization, Data curation. Ü. D.: Writing-review & editing, Writing-original draft, Supervision, Conceptualization, Data curation.

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Data availability
The datasets generated during the current study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy or ethical restrictions.

Declarations

Ethics approval and consent to participate
All procedures performed in studies involving human participants were under the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. The study was approved by the Batman University Scientific Research and Ethical Review Board (2024/06–32; 09.05.2024).

Consent for publication
Not Applicable.

Competing interests
The authors declare no competing interests.

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References

1. Abdullah MM, Uli J, Parasuraman B. Job satisfaction among secondary school teachers. Jurnal Kemanusiaan. 2009;13:11–18. Retrieved from https://www.researchgate.net.
2. McNeill KM.. A study of factors that impact middle school teacher job satisfaction [Unpublished doctoral thesis]. University of Nevada, Reno. 2016
3. Goddard YL, Goddard RD, Bailes LP, Nichols R. From school leadership to differentiated instruction: A pathway to student learning in schools. Elementary School J. 2019;120(2):197–219. https://doi.org/10.1086/705827.
4. Thoonen EE, Sleegers PJ, Oort FJ, Peetsma TT, Geijsel FP. How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. Educational Adm Q. 2011;47(3):496–536. https://doi.org/10.1177/0013161X11400185.
5. Veletić J, Olsen RV. Exploring school leadership profiles across the world: a cluster analysis approach to TALIS 2018. Int J Leadersh Educ. 2024;27(5):1090–116. https://doi.org/10.1080/13603124.2021.1953612.
6. Cansoy R, Gümüş S, Walker A. Challenges in implementing instructional leadership: Insights from Turkish school principals. Educational Manage Adm Leadersh. 2025;53(5):991–1015. https://doi.org/10.1177/17411432241263915.
7. Şahin İ, Kesik F, Beycioğlu K. Chaotic process in the assignment of school administrators and its effects. Elementary Educ Online. 2017;16(3):1007–21. https://doi.org/10.17051/ilkonline.2017.330238.
8. Özdemir N, Kılınç AÇ, Polatcan M, Turan S, Bellibaş MŞ. Exploring teachers' instructional practice profiles: Do distributed leadership and teacher collaboration make a difference? Educational Adm Q. 2023;59(2):255–305. https://doi.org/10.1177/0013161X231159092.
9. Savaş G, Arslan K, Kılınç AÇ. Unveiling the association between principal learning-centered leadership and teacher collaboration: The mediating role of psychological safety. Leadersh Policy Schools. 2025;1–18. https://doi.org/10.1080/15700763.2025.2592759.
10. Printy SM, Marks HM, Bowers AJ. Integrated leadership: How principals and teachers share transformational and instructional influence. J School Leadersh. 2009;19(5):504–32. https://doi.org/10.1177/105268460901900501.
11. Burke PF, Aubusson P, Schuck S, Buchanan J, Prescott A. How do early career teachers value different types of support? A scale-adjusted latent class choice model. Teach Teacher Educ. 2015;47:241–53. https://doi.org/10.1016/j.tate.2015.01.005.
12. Blase J, Blase J. Principals' instructional leadership and teacher development: Teachers' perspectives. Educational Adm Q. 1999;35(3):349–78. https://doi.org/10.1177/0013161X99353003.
13. Hallinger P, Murphy J. Assessing the instructional management behavior of principals. Elementary School J. 1985;86(2):217–47. https://doi.org/10.1086/461445.
14. Marks HM, Printy SM. Principal leadership and school performance: An integration of transformational and instructional leadership. Educational Adm Q. 2003;39(3):370–97. https://doi.org/10.1177/0013161X03253412.
15. Lee M, Hallinger P, Walker A. A distributed perspective on instructional leadership in International Baccalaureate (IB) schools. Educational Adm Q. 2012;48(4):664–98. https://doi.org/10.1177/0013161X11436271.
16. Duyar I, Gumus S, Bellibas MŞ. Multilevel analysis of teacher work attitudes: The influence of principal leadership and teacher collaboration. Int J Educational Manage. 2013;27(7):700–19. https://doi.org/10.1108/IJEM-09-2012-0107.
17. Hallinger P, Bickman L, Davis K. School context, principal leadership, and student reading achievement. Elementary School J. 1996;96(5):527–49. https://doi.org/10.1086/461843.
18. Lijuan L, Hallinger P. Communication as a mediator between principal leadership and teacher professional learning in Hong Kong primary schools. Int J Educational Reform. 2016;25(2):192–212. https://doi.org/10.1177/105678791602500205.
19. Alanoglu M. The role of instructional leadership in increasing teacher self-efficacy: A meta-analytic review. Asia Pac Educ Rev. 2022;23(2):233–44. https://doi.org/10.1007/s12564-021-09726-5.
20. Bellibaş MŞ, Polatcan M, Alzouebi K. Instructional leadership and student achievement across UAE schools: Mediating role of professional development and cognitive activation in teaching. Educational Manage Adm Leadersh. 2025;0(0):1–23. https://doi.org/10.1177/17411432241305702.
21. Lazcano C, Guerrero P, Volante P. Influence of instructional leadership on teacher retention. Int J Leadersh Educ. 2025;28(5):1120–38. https://doi.org/10.1080/13603124.2022.2066187.
22. Liu P, Thien LM, Song H, Wang X. The effects of instructional leadership on teacher well-being: The mediating roles of professional learning community and teacher self-efficacy. Educational Stud. 2025;51(4):638–60. https://doi.org/10.1080/03055698.2024.2322947.
23. Urick A. Examining US principal perception of multiple leadership styles used to practice shared instructional leadership. J Educational Adm. 2016;54(2):152–72. https://doi.org/10.1108/JEA-07-2014-0088.
24. Urick A, Bowers AJ. What are the different types of principals across the United States? A latent class analysis of principal perception of leadership. Educational Adm Q. 2014;50(1):96–134. https://doi.org/10.1177/0013161X13489019.
25. Bandura A. Social cognitive theory: An agentic perspective. Asian J Soc Psychol. 1999;2(1):21–41. https://doi.org/10.1111/1467-839X.00024.
26. Bandura A. Self-efficacy: The exercise of control. Macmillan; 1997.
27. Bandura A. Social foundations of thought and action: A social cognitive theory. Prentice Hall; 1986.
28. Kasalak G, Dağyar M. The relationship between teacher self-efficacy and teacher job satisfaction: A meta-analysis of the Teaching and Learning International Survey (TALIS). Educational Sciences: Theory Pract. 2020;20(3):16–33. https://doi.org/10.12738/jestp.2020.3.002.
29. Skaalvik EM, Skaalvik S. Motivated for teaching? Associations with school goal structure, teacher self-efficacy, job satisfaction and emotional exhaustion. Teach Teacher Educ. 2017;67:152–60. https://doi.org/10.1016/j.tate.2017.06.006.
30. Wang H, Hall NC, Rahimi S. Self-efficacy and causal attributions in teachers: Effects on burnout, job satisfaction, illness, and quitting intentions. Teach Teacher Educ. 2015;47:120–30. https://doi.org/10.1016/j.tate.2014.12.005.
31. Hascher T, Beltman S, Mansfield C. Teacher wellbeing and resilience: Towards an integrative model. Educational Res. 2021;63(4):416–39. https://doi.org/10.1080/00131881.2021.1980416.
32. Locke EA. What is job satisfaction? Organizational Behav Hum Perform. 1969;4(4):309–36. https://doi.org/10.1016/0030-5073(69)90013-0.
33. Skaalvik EM, Skaalvik S. Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. Teach Teacher Educ. 2011;27(6):1029–38. https://doi.org/10.1016/j.tate.2011.04.001.
34. Banerjee N, Stearns E, Moller S, Mickelson RA. Teacher job satisfaction and studentachievement: The roles of teacher professional community and teacher collaboration in schools. Am J Educ. 2017;123(22):203–41. https://doi.org/10.1086/689932.
35. Zahari ASM, Salleh A, Azlan NNA, Syuhada N, Baniamin BRMR. The factors that influence job satisfaction among employees: a case study at Widad Education Sdn Bhd. Journal of Global Business and Social Entrepreneurship (GBSE). 2020;6(18):102–123. Retrieved from https://gbse.com.my/.
36. Judge TA, Thoresen CJ, Bono JE, Patton GK. The job satisfaction-job performance relationship: A qualitative and quantitative review. Psychol Bull. 2001;127(3):376–407. https://doi.org/10.1037/0033-2909.127.3.376.
37. Mahdi AF, Zin MZM, Nor MRM, Sakat AA, Naim ASA. The relationship between job satisfaction and turnover intention. Am J Appl Sci. 2012;9(9):1518–26. https://doi.org/10.3844/ajassp.2012.1518.1526.
38. Skaalvik EM, Skaalvik S. Job demands and job resources as predictors of teacher motivation and well-being. Soc Psychol Educ. 2018;21(5):1251–75. https://doi.org/10.1007/s11218-018-9464-8.
39. Skaalvik EM, Skaalvik S. Job satisfaction, stress and coping strategies in the teaching profession-what do teachers say? Int Educ Stud. 2015;8(3):181–92. https://doi.org/10.5539/ies.v8n3p181.
40. Spector PE. Job satisfaction: Application, assessment, causes, and consequences. Sage; 1997. https://doi.org/10.4135/9781452231549.
41. Li M, Pérez-Díaz PA, Mao Y, Petrides KV. A multilevel model of teachers' job performance: Understanding the effects of trait emotional intelligence, job satisfaction, and organizational trust. Front Psychol. 2018;9:2420. https://doi.org/10.3389/fpsyg.2018.02420.
42. Hongying S. Literature review of teacher job satisfaction. Chin Educ Soc. 2007;40(5):11–6. https://doi.org/10.2753/CED1061-1932400502.

43. Ainley J, Carstens R. Teaching and learning international survey (TALIS) 2018 conceptual framework, OECD Education Working Papers Series, No. 187, OECD Publishing. 2018. https://doi.org/10.1787/799337c2-en.
44. Kim JH, Jung SH, Seok BI, Choi HJ. The relationship among four lifestyles of workers amid the COVID-19 pandemic (Work-life balance, YOLO, minimal life, and staycation) and organizational effectiveness: With a focus on four countries. Sustainability. 2022;14(21):14059. https://doi.org/10.3390/su142114059.
45. Somech A, Drach-Zahavy A. Understanding extra-role behavior in schools: The relationships between job satisfaction, sense of efficacy, and teachers' extra-role behavior. Teach Teacher Educ. 2000;16(5–6):649–59. https://doi.org/10.1016/S0742-051X(00)00012-3.
46. Chen W. The structure of secondary school teacher job satisfaction and its relationship with attrition and work enthusiasm. Chin Educ Soc. 2007;40(5):17–31. https://doi.org/10.2753/CED1061-1932400503.
47. Dreer B. Teachers' well-being and job satisfaction: the important role of positive emotions in the workplace. Educational Stud. 2024;50(1):61–77. https://doi.org/10.1080/03055698.2021.1940872.
48. Toropova A, Myrberg E, Johansson S. Teacher job satisfaction: The importance of school working conditions and teacher characteristics. Educational Rev. 2021;73(1):71–97. https://doi.org/10.1080/00131911.2019.1705247.
49. Jin J, Mercer S, Babic S, Mairitsch A. Understanding the ecology of foreign language teacher wellbeing. In positive psychology in second and foreign language education. Springer. 2021. pp. 19–38. https://doi.org/10.1007/978-3-030-64444-4_2.
50. Xia J, Wang M, Zhang S. School culture and teacher job satisfaction in early childhood education in China: The mediating role of teaching autonomy. Asia Pac Educ Rev. 2023;24(1):101–11. https://doi.org/10.1007/s12564-021-09734-5.
51. Olsen AA, Huang FL. Teacher job satisfaction by principal support and teacher cooperation: Results from the schools and staffing survey. Educ Policy Anal Archives. 2019;27(11):1–31. https://doi.org/10.14507/epaa.27.4174.
52. Meredith C, Moolenaar N, Struyve C, Vandecandelaere M, Gielen S, Kyndt E. The importance of a collaborative culture for teachers' job satisfaction and affective commitment. Eur J Psychol Educ. 2023;38(1):43–62. https://doi.org/10.1007/s10212-022-00598-w.
53. Alonderiene R, Majauskaite M. Leadership style and job satisfaction in higher education institutions. Int J Educational Manage. 2016;30(1):140–64. https://doi.org/10.1108/IJEM-08-2014-0106.
54. Yohannes ME, Wasonga TA. Leadership styles and teacher job satisfaction in Ethiopian schools. Educational Manage Adm Leadersh. 2023;51(5):1200–18. https://doi.org/10.1177/17411432211041625.
55. Adams D, Namoco SO, Ng AYM, Cheah KSL. Leading schools during a pandemic and beyond: Insights from principals in the Philippines. Manage Educ. 2023;1–13. https://doi.org/10.1177/08920206231177375.
56. Tschannen-Moran M, Woolfolk Hoy A. Teacher efficacy: Capturing an elusive construct. Teach Teacher Educ. 2001;17(7):783–805. https://doi.org/10.1016/S0742-051X(01)00036-1.
57. Tschannen-Moran M, Hoy AW, Hoy WK. Teacher efficacy: Its meaning and measure. Rev Educ Res. 1998;68(2):202–48. https://doi.org/10.3102/00346543068002202.
58. Künsting J, Neuber V, Lipowsky F. Teacher self-efficacy as a long-term predictor of instructional quality in the classroom. Eur J Psychol Educ. 2016;31:299–322. https://doi.org/10.1007/s10212-015-0272-7.
59. Miller AD, Ramirez EM, Murdock TB. The influence of teachers' self-efficacy on perceptions: Perceived teacher competence and respect and student effort and achievement. Teach Teacher Educ. 2017;64:260–9. https://doi.org/10.1016/j.tate.2017.02.008.
60. Milner HR, Hoy AW. A case study of an African American teacher's self-efficacy, stereotype threat, and persistence. Teach Teacher Educ. 2003;19(2):263–76. https://doi.org/10.1016/S0742-051X(02)00099-9.
61. Ninković S, Florić OK, Đorđić D. The effect of teacher trust in colleagues on collective teacher efficacy: Examining the mediating role of the characteristics of professional learning communities. Teach Teacher Educ. 2022;119:103877. https://doi.org/10.1016/j.tate.2022.103877.
62. Caprara GV, Barbaranelli C, Steca P, Malone PS. Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. J Sch Psychol. 2006;44(6):473–90. https://doi.org/10.1016/j.jsp.2006.09.001.
63. Klassen RM, Chiu MM. Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. J Educ Psychol. 2010;102(3):741–56. https://doi.org/10.1037/a0019237.
64. Stephanou G, Oikonomou A. Teacher emotions in primary and secondary education: Effects of self-efficacy and collective-efficacy, and problem-solving appraisal as a moderating mechanism. Psychology. 2018;9:820–75. https://doi.org/10.4236/psych.2018.94053.
65. Zee M, Koomen HM. Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. Rev Educ Res. 2016;86(4):981–1015. https://doi.org/10.3102/0034654315626801.
66. Aloe AM, Amo LC, Shanahan ME. Classroom management self-efficacy and burnout: A multivariate meta-analysis. Educational Psychol Rev. 2014;26:101–26. https://doi.org/10.1007/s10648-013-9244-0.
67. Beltman S, Mansfield C, Price A. Thriving not just surviving: A review of research on teacher resilience. Educational Res Rev. 2011;6(3):185–207. https://doi.org/10.1016/j.edurev.2011.09.001.
68. Høigaard R, Giskeb R, Sundslic K. Newly qualified teachers' work engagement and teacher efficacy influences on job satisfaction, burnout, and the intention to quit. Eur J Teacher Educ. 2012;35(3):347–57. https://doi.org/10.1080/02619768.2011.633993.
69. Canrinus ET, Helms-Lorenz M, Beijaard D, Buitink J, Hofman A. Self-efficacy, job satisfaction, motivation and commitment: Exploring the relationships between indicators of teachers' professional identity. Eur J Psychol Educ. 2012;27:115–32. https://doi.org/10.1007/s10212-011-0069-2.
70. Katıtaş S, Yıldız S, Doğan S. The effect of shared leadership on job satisfaction: The mediating role of teacher self-efficacy. Educational Stud. 2025;51(3):275–94. https://doi.org/10.1080/03055698.2022.2133959.
71. Cyrulnik B. Manifesto for resilience. Spirale. 2001;18(2):77–82. https://doi.org/10.3917/spi.018.0077.
72. Raskauskas J, Huynh A. The process of coping with cyberbullying: A systematic review. Aggress Violent Beh. 2015;23:118–25. https://doi.org/10.1016/j.avb.2015.05.019.
73. Bryan C, O'Shea D, MacIntyre T. Stressing the relevance of resilience: A systematic review of resilience across the domains of sport and work. Int Rev Sport Exerc Psychol. 2019;12(1):70–111. https://doi.org/10.1080/1750984X.2017.1381140.
74. Paris LF. Reciprocal mentoring: Can it help prevent attrition for beginning teachers? Australian J Teacher Educ. 2013;38(6):136–58. https://doi.org/10.14221/ajte.2013v38n6.5.
75. Gaffar A, Rifqi Noval M, Hamdani SM, Hakim H, L. L., Hidayat H. The use of alpha brainwave in developing teacher resilience to manage classroom activities. Int J Recent Technol Eng. 2019;8:731–736. Retrieved from https://www.researchgate.net.
76. Lu J, Chen J, Li Z, Li X. A systematic review of teacher resilience: A perspective of the job demands and resources model. Teach Teacher Educ. 2024;151:104742. https://doi.org/10.1016/j.tate.2024.104742.
77. Gu Q, Day C. Teachers resilience: A necessary condition for effectiveness. Teach Teacher Educ. 2007;23(8):1302–16. https://doi.org/10.1016/j.tate.2006.06.006.
78. Tait M. Resilience as a contributor to novice teacher success, commitment, and retention. Teach Educ Q. 2008;35(4):57–75. Retrieved from https://files.eric.ed.gov.
79. Mansfield CF, Beltman S, Broadley T, Weatherby-Fell N. Building resilience in teacher education: An evidence informed framework. Teach Teacher Educ. 2016;54:77–87. https://doi.org/10.1016/j.tate.2015.11.016.
80. Vance A, Pendergast D, Garvis S. Teaching resilience: A narrative inquiry into the importance of teacher resilience. Pastoral Care Educ. 2015;33(4):195–204. https://doi.org/10.1080/02643944.2015.1074265.
81. Zhang S, Luo Y. Review on the conceptual framework of teacher resilience. Front Psychol. 2023;14:1179984. https://doi.org/10.3389/fpsyg.2023.1179984.
82. Collie RJ, Martin AJ. Teachers' sense of adaptability: Examining links with perceived autonomy support, teachers' psychological functioning, and students' numeracy achievement. Learn Individual Differences. 2017;55:29–39. https://doi.org/10.1016/j.lindif.2017.03.003.
83. Jennings PA, Brown JL, Frank JL, Doyle S, Oh Y, Davis R, Rasheed D, DeWeese A, DeMauro AA, Cham H, Greenberg MT. Impacts of the CARE for Teachers program on teachers' social and emotional competence and classroom interactions. J Educ Psychol. 2017;109(7):1010–28. https://doi.org/10.1037/edu0000187.

84. Pretsch J, Flunger B, Schmitt M. Resilience predicts well-being in teachers, but not innon-teaching employees. Soc Psychol Educ. 2012;15:321–36. https://doi.org/10.1007/s11218-012-9180-8.
85. Baker S, John D, Jana MW. Talk or walk: school principals and shared instructional leadership. School Leadership Review. 2020;15(1):1–25. Retrieved from https://scholarworks.sfasu.edu.
86. Goddard RD, Hoy WK, Hoy AW. Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. Educational Researcher. 2004;33(3):3–13. https://doi.org/10.3102/0013189X033003003.
87. Gedik S, Bellibas MS. Examining schools' distributed instructional leadership capacity: Comparison of elementary and secondary schools. J Educ Train Stud. 2015;3(6):101–10. https://doi.org/10.11114/jets.v3i6.1056.
88. Laursen R, Gümüş S, Walker AD. Navigating egalitarian culture and accountability pressures: shared instructional leadership practices of Danish school leaders. J Prof Capital Community. 2024. https://doi.org/10.1108/JPCC-01-2024-0014.
89. Demir M, Dilekçi Ü. The mediating role of collaborative climate in the relationship between shared ınstructional leadership and school effectiveness: A structural equation modeling. Bolu Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi. 2024;24(4). https://doi.org/10.17240/aibuefd.2024.-1426989.
90. Zhan X, Anthony AB, Goddard R, Beard KS. Development, factor structure, and reliability of the Shared Instructional Leadership Scale in public secondary schools. Educational Manage Adm Leadersh. 2023;51(1):75–94. https://doi.org/10.1177/1741143220963103.
91. Merrill C, Daugherty J. STEM education and leadership: a mathematics and science partnership approach. J Tech Educ. 2010;21(2):21–34. Retrieved from https://digitalcommons.usu.edu.
92. Heck RH, Hallinger P. Modeling the longitudinal effects of school leadership on teaching and learning. J Educational Adm. 2014;52(5):653–81. https://doi.org/10.1108/JEA-08-2013-0097.
93. Goddard R, Goddard Y, Kim ES, Miller R. A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning. Am J Educ. 2015;121(4):501–30. https://doi.org/10.1086/681925.
94. Price HE. Principal-teacher interactions: How affective relationships shape principal and teacher attitudes. Educational Adm Q. 2012;48(1):39–85. https://doi.org/10.1177/0013161X11417126.
95. Jackson KM, Marriott C. The interaction of principal and teacher instructional influence as a measure of leadership as an organizational quality. Educational Adm Q. 2012;48(2):230–58. https://doi.org/10.1177/0013161X11432925.
96. Spillane JP, Halverson R, Diamond JB. Investigating school leadership practice: A distributed perspective. Educational Researcher. 2001;30(3):23–8. https://doi.org/10.3102/0013189X030003023.
97. Harris A. Distributed leadership and school improvement: Leading or misleading? Educational Manage Adm Leadersh. 2004;32(1):11–24. https://doi.org/10.1177/1741143204039297.
98. Strong LEG, Yoshida RK. Teachers' autonomy in today's educational climate: Current perceptions from an acceptable instrument. Educational Stud. 2014;50(2):123–45. https://doi.org/10.1080/00131946.2014.880922.
99. Bellibaş MŞ, Polatcan M, Kılınç AÇ. Linking instructional leadership to teacher practices: The mediating effect of shared practice and agency in learning effectiveness. Educational Manage Adm Leadersh. 2022;50(5):812–31. https://doi.org/10.1177/1741143220945706.
100. Özek 89Y, B., Büyükgöze H. Examining the relationship of distributed leadership and job satisfaction: on the mediating roles of teacher self-efficacy and co-operation. Educ Sci. 2023;48(213):1–23. https://doi.org/10.15390/eb.2023.11759.
101. Stearns E, Banerjee N, Moller S, Mickelson RA. Collective pedagogical teacher culture and teacher satisfaction. Teachers Coll Record: Voice Scholarsh Educ. 2015;117(8):1–32. https://doi.org/10.1177/016146811511700803.
102. Liu Y, Bellibaş MŞ, Gümüş S. The effect of instructional leadership and distributed leadership on teacher self-efficacy and job satisfaction: Mediating roles of supportive school culture and teacher collaboration. Educational Manage Adm Leadersh. 2021;49(3):430–53. https://doi.org/10.1177/1741143220910438.
103. Sun A, Xia J. Teacher-perceived distributed leadership, teacher self-efficacy and job satisfaction: A multilevel SEM approach using the 2013 TALIS data. Int J Educational Res. 2018;92:86–97. https://doi.org/10.1016/j.ijer.2018.09.006.
104. Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. Psychol Rev. 1977;84(2):191–215. https://doi.org/10.1037/0033-295X.84.2.191.
105. Liu Y, Visone J, Mongillo MB, Lisi P. What matters to teachers if evaluation is meant to help them improve? Stud Educational Evaluation. 2019;61:41–54. https://doi.org/10.1016/j.stueduc.2019.01.006.
106. Day C. A passion for quality: Teachers who make a difference. Tijdschrift Voor Lerarenopleiders. 2009;30(3):4–13. Retrieved from https://www.edurama.be.
107. Papatraianou LH, Le Cornu R. Problematising the role of personal and professional relationships in early career teacher resilience. Australian J Teacher Educ. 2014;39(1):128–44. https://doi.org/10.14221/ajte.2014v39n1.7.
108. Peters J, Pearce J. Relationships and early career teacher resilience: A role for school principals. Teachers Teach. 2012;18(2):249–62. https://doi.org/10.1080/13540602.2012.632266.
109. Tschannen-Moran M, Woolfolk Hoy A. The diferential antecedents of self-efcacy beliefs of novice and experienced teachers. Teach Teacher Educ. 2007;23(6):944–56. https://doi.org/10.1016/j.tate.2006.05.003.
110. Fackler S, Malmberg LE. Teachers' self-efficacy in 14 OECD countries: Teacher, student group, school and leadership effects. Teach Teacher Educ. 2016;56:185–95. https://doi.org/10.1016/j.tate.2016.03.002.
111. Hobfoll SE, Halbesleben J, Neveu JP, Westman M. Conservation of resources in the organizational context: The reality of resources and their consequences. Annual Rev Organizational Psychol Organizational Behav. 2018;5(1):103–28. https://doi.org/10.1146/annurev-orgpsych-032117-104640.
112. Aron A, Lewandowski Jr GW, Mashek D, Aron EN. The self-expansion model of motivation and cognition in close relationships. In: Fletcher GJO, Clark MS, editors. Blackwell handbook of social psychology: Interpersonal processes. Blackwell; 2013. pp. 478–501.
113. Liu Y, Werblow J. The operation of distributed leadership and the relationship with organizational commitment and job satisfaction of principals and teachers: A multi-level model and meta-analysis using the 2013 TALIS data. Int J Educational Res. 2019;96:41–55. https://doi.org/10.1016/j.ijer.2019.05.005.
114. Zheng X, Yin H, Liu Y. The relationship between distributed leadership and teacher efficacy in China: The mediation of satisfaction and trust. Asia-Pacific Educ Researcher. 2019;28(6):509–18. https://doi.org/10.1007/s40299-019-00451-7.
115. Bellibaş MŞ, Polatcan M, Akyürek Mİ. Principal leadership typologies and their relationship with teacher self-efficacy and commitment: A latent profile mediation analysis. Educational Manage Adm Leadersh. 2024;52(6):1497–518. https://doi.org/10.1177/17411432221139932.
116. Gay LR, Mills GE, Airasian P. Educational research: Competencies for analysis and applications. Pearson; 2012.
117. Mertens DM. Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods. Sage; 2019.
118. Muijs D. Doing quantitative research in education with SPSS. Sage. 2010. https://doi.org/10.4135/9781849203241.
119. Ministry of National Education. National education statistics: formal education 2024–2025. 2024. https://sgb.meb.gov.tr/www/milli-egitim-istatistikleri-orgun-egitim-2024-2025/icerik/768.
120. Dilekçi Ü. Shared instructional leadership: scale adaptation study. İnönü University Journal of the Faculty of Education. 2021;22(3):2484–2508. https://doi.org/10.17679/inuefd.1016019.
121. Hair JF, Black WC, Babin BJ, Anderson RE. Multivariate data analysis. Cengage Learning EMEA; 2019.
122 Singh K. Quantitative social research methods. Sage Publications. 2007. https://doi.org/10.4135/9789351507741.
123. Erdoğan U. Adaptation of teacher sense of efficacy scale short form into Turkish and investigating of measurement invariance. *İnönü*. Univ J Fac Educ. 2023;24(2):1129–54. https://doi.org/10.17679/inuefd.1082325.
124. Näswall K, Malinen S, Kuntz J, Hodliffe M. Employee resilience: Development and validation of a measure. J Managerial Psychol. 2019;34(5):353–67. https://doi.org/10.1108/JMP-02-2018-0102.
125. Limon İ. The examination of teachers' professional resilience capacities in the context of various demographic variables. J Milli Eğitim. 2022;51(236):3253–74. https://doi.org/10.37669/milliegitim.953186.
126. Brayfield AH, Rothe HF. An index of job satisfaction. J Appl Psychol. 1951;35(5):307–11. https://doi.org/10.1037/h0055617.
127. Judge TA, Locke EA, Durham CC, Kluger AN. Dispositional effects on job and life satisfaction: The role of core evaluations. J Appl Psychol. 1998;83(1):17–34. https://doi.org/10.1037/0021-9010.83.1.17.
128. Başol O, Çömlekçi MF. Adaptation of the job satisfaction scale: Validity and reliability study. The Journal of Kırklareli University School of Social Sciences. 2020;1(2):17–31. Retrieved from https://dergipark.org.tr.

129. Nwoko JC, Adegboye OA, Malau-Aduli AEO, Anderson E, Malau-Aduli BS. The influence of school environment and demographics on teacher wellbeing. Sci Rep. 2025;15:34970. https://doi.org/10.1038/s41598-025-18970-3.
130. Zhang L, Chen J, Li X, Zhan Y. A scope review of the teacher wellbeing research between 1968 and 2021. Asia-Pacific Educ Researcher. 2024;33(1):171–86. https://doi.org/10.1007/s40299-023-00717-1.
131. Evans JR, Mathur A. The value of online surveys: A look back and a look ahead. Internet Res. 2018;28(4):854–87. https://doi.org/10.1108/intr-03-2018-0089.
132. Brown TA. Confirmatory factor analysis for applied research. The Guilford Press; 2015.
133. Dancey CP, Reidy J. Statistics without maths for psychology. Pearson Education; 2007.
134. Kock F, Berbekova A, Assaf AG. Understanding and managing the threat of common method bias: Detection, prevention and control. Tour Manag. 2021;86:104330. https://doi.org/10.1016/j.tourman.2021.104330.
135. Podsakoff PM, MacKenzie SB, Lee JY, Podsakoff NP. Common method biases in behavioral research: A critical review of the literature and recommended remedies. J Appl Psychol. 2003;88(5):879–903. https://doi.org/10.1037/0021-9010.88.5.879.
136. Karimi L, Meyer D. An evaluation of common method variance-bias in psychology. Int J Psychol Stud. 2019;11(3):83–94. https://doi.org/10.5539/ijps.v11n3p83.
137. Mertler CA, Vannatta RA, LaVenia KN. Advanced and multivariate statistical methods: Practical application and interpretation. Routledge; 2022. https://doi.org/10.4324/9781003047223.
138. Hayes AF. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Press; 2022.
139. Preacher KJ, Hayes AF. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behav Res Methods. 2008;40(3):879–91. https://doi.org/10.3758/BRM.40.3.879.
140. Bellibaş MŞ, Polatcan M, Kılınç AÇ. Linking instructional leadership to teacher practices: The mediating effect of shared practice and agency in learning effectiveness. Educational Manage Adm Leadersh. 2020;50(5):812–31. https://doi.org/10.1177/1741143220945706.
141. Wang C, Huang X, Xu P. From instructional leadership to instructional quality: the critical role of teacher academic optimism. Educational Stud. 2025;1–22. https://doi.org/10.1080/03055698.2025.2455608.
142. Liu Y, Li L, Huang C. To what extent is shared instructional leadership related to teacher self-efficacy and student academic performance in China? School Eff School Improv. 2022;33(3):381–402. https://doi.org/10.1080/09243453.2022.2029746.
143. Diamond JB, Spillane JP. School leadership and management from a distributed perspective: A 2016 retrospective and prospective: A 2016 retrospective and prospective. Manage Educ. 2016;30(4):147–54. https://doi.org/10.1177/0892020616665938.
144. Teng-Calleja M, Hechanova MRM, Sabile PR, Villasanta APVP. Building organization and employee resilience in disaster contexts. Int J Workplace Health Manage. 2020;13(4):393–411. https://doi.org/10.1108/IJWHM-09-2019-0122.
145. Leithwood K, Sun J, Schumacker R. How school leadership influences student learning: A test of The Four Paths Model. Educational Adm Q. 2020;56(4):570–99. https://doi.org/10.1177/0013161X19878772.
146. Chesnut SR, Burley H. Self-efficacy as a predictor of commitment to the teaching profession: A meta-analysis. Educational Res Rev. 2015;15:1–16. https://doi.org/10.1016/j.edurev.2015.02.001.
147. Nyarko K, Twumwaa DA, Adentwi KI. The influence of motivation on the job satisfaction of junior high school teachers in Ghana. J Educ Pract. 2014;5(5):202–209. Retrieved from https://core.ac.uk.
148. Skaalvik EM, Skaalvik S. Dimensions of teacher self-efficacy and relations with strainfactors, perceived collective teacher efficacy, and teacher burnout. J Educ Psychol. 2007;99(3):611–25. https://doi.org/10.1037/0022-0663.99.3.611.
149. Friedman IA, Kass E. Teacher self-efficacy: A classroom-organisation conceptualization. Teach Teacher Educ. 2002;18(6):675–86. https://doi.org/10.1016/S0742-051X(02)00027-6.
150. Veldman I, Admiraal W, Mainhard T, Wubbels T, Van Tartwijk J. Measuring teachers' interpersonal self-efficacy: Relationship with realized interpersonal aspirations, classroom management efficacy and age. Soc Psychol Educ. 2017;20(2):411–26. https://doi.org/10.1007/s11218-017-9374-1.
151. Asfahani AM. Nurturing the scientific mind: Resilience and job satisfaction among Saudi faculty. Front Psychol. 2024;15:1341888. https://doi.org/10.3389/fpsyg.2024.1341888.
152. Polat DD, İskender M. Exploring teachers' resilience in relation to job satisfaction, burnout, organizational commitment and perception of organizational climate. Int J Psychol Educational Stud. 2018;5(3):1–13. https://doi.org/10.17220/ijpes.2018.03.001.
153. Brouskeli V, Kaltsi V, Loumakou M. Resilience and occupational well-being of secondary education teachers in Greece. Issues in Educational Research. 2018;28(1):43–60. Retrieved from https://www.iier.org.au.
154. Svence G, Majors M. Correlation of well-being with resilience and age. Probl Psychol 21st Century. 2015;9(1):45–56. https://doi.org/10.33225/ppc/15.09.45.
155. Johnson SM, Kraft MA, Papay JP. How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. Teachers Coll Record. 2012;114(10):1–39. https://doi.org/10.1177/016146811211401004.
156. Skaalvik EM, Skaalvik S. Does school context matter? Relations with teacher burnout and job satisfaction. Teach Teacher Educ. 2009;25(3):518–24. https://doi.org/10.1016/j.tate.2008.12.006.
157. Tickle BR, Chang M, Kim S. Administrative support and its mediating effect on US public school teachers. Teach Teacher Educ. 2011;27(2):342–9. https://doi.org/10.1016/j.tate.2010.09.002.
158. Bellibas MS, Liu Y. Multilevel analysis of the relationship between principals' perceived practices of instructional leadership and teachers' self-efficacy perceptions. J Educational Adm. 2017;55(1):49–69. https://doi.org/10.1108/JEA-12-2015-0116.
159. Torres DG. Distributed leadership, professional collaboration, and teachers' job satisfaction in US schools. Teach Teacher Educ. 2019;79:111–23. https://doi.org/10.1016/j.tate.2018.12.001.
160. Hulpia H, Devos G, Rosseel Y. The relationship between the perception of distributed leadership in secondary schools and teachers' and teacher leaders' job satisfaction and organizational commitment. School Eff School Improv. 2009;20(3):291–317. https://doi.org/10.1080/09243450902909840.
161. Mansfield CF, Beltman S, Price A, McConney A. Don't sweat the small stuff: Understanding teacher resilience at the chalkface. Teach Teacher Educ. 2012;28(3):357–67. https://doi.org/10.1016/j.tate.2011.11.001.
162. Ainsworth S, Oldfield J. Quantifying teacher resilience: Context matters. Teach Teacher Educ. 2019;82:117–28. https://doi.org/10.1016/j.tate.2019.03.012.
163. Boyd D, Grossman P, Ing M, Lankford H, Loeb S, Wyckoff J. The influence of school administrators on teacher retention decisions. Am Educ Res J. 2011;48(2):303–33. https://doi.org/10.3102/0002831210380788.
164. Kılınç AÇ, Polatcan M, Çepni O. Exploring the association between distributed leadership and student achievement: The mediation role of teacher professional practices and teacher self-efficacy. J Curriculum Stud. 2023;55(3):352–68. https://doi.org/10.1080/00220272.2023.2216770.
165. Grissom JA, Egalite AJ, Lindsay CA. How principals affect students and schools: a systematic synthesis of two decades of research. The Wallace Foundation. 2021. Retrieved from https://www.wallacefoundation.org/principalsynthesis.
166. Liu Y, Bellibas MS, Printy S. How school context and educator characteristics predict distributed leadership: A hierarchical structural equation model with 2013 TALIS data. Educational Manage Adm Leadersh. 2018;46(3):401–23. https://doi.org/10.1177/1741143216665839.
167. Freire C, Bettencourt C. Impact of ethical leadership on job satisfaction: The mediating effect of work-family conflict. Leadersh Organ Dev J. 2020;41(2):319–30. https://doi.org/10.1108/LODJ-07-2019-0338.
168. Saleem H. The impact of leadership styles on job satisfaction and mediating role of perceived organizational politics. Procedia-Social Behav Sci. 2015;172:563–9. https://doi.org/10.1016/j.sbspro.2015.01.403.
169. Gümüş S, Hallinger P, Cansoy R, Bellibaş MŞ. Instructional leadership in a centralized and competitive educational system: A qualitative meta-synthesis of research from Turkey. J Educational Adm. 2021;59(6):702–20. https://doi.org/10.1108/JEA-04-2021-0073.
170. Anuk B, Katıtaş S. The role of professional autonomy in the professional development of teachers. Nevşehir Hacı Bektaş Veli Univ J ISS. 2025;15(3):1647–66. https://doi.org/10.30783/nevsosbilen.1725639.
171. Bandura A. Social cognitive theory in cultural context. Appl Psychol. 2002;51(2):269–90. https://doi.org/10.1111/1464-0597.00092.

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