

Transformational leadership and crisis resilience in K-12 schools: a review

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ABSTRACT

Global disruptions, particularly the COVID-19 pandemic, have intensified the need to understand how school leadership supports crisis response and organizational resilience. Although transformational leadership (TL) is widely associated with positive educational outcomes, its role in crisis contexts remains fragmented and requires clearer synthesis. This systematic literature review examined the relationship between TL, crisis response, and organizational resilience in K-12 schools. Guided by the PRISMA framework, searches were conducted in Scopus, Web of Science, and ERIC. A total of 251 records were identified, of which 21 empirical studies met the final inclusion criteria. Methodological quality was assessed using the mixed methods appraisal tool (2018), and the findings were synthesized thematically. The review found that TL supports crisis response by strengthening direction, trust, communication, teacher commitment, and collective mobilization. However, its influence is neither direct nor sufficient on its own. Rather, TL contributes to crisis resilience through psychological, organizational, and digital pathways, including teacher self-efficacy, emotional well-being, collective efficacy, organizational learning, relational coordination, and digital adaptation. The findings further indicate that leadership effectiveness is shaped by contextual conditions, including digital infrastructure, workload, organizational support, policy flexibility, and socio-cultural context. This review contributes a critical, mechanism-based explanation of how and under what conditions TL supports crisis resilience in K-12 schools.

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1. INTRODUCTION

The increasing frequency and intensity of global disruptions, particularly the COVID-19 pandemic, have fundamentally reshaped the operational landscape of educational systems worldwide. Schools were required to transition rapidly to remote learning, reorganize instructional practices, and sustain educational continuity under conditions of profound uncertainty. These disruptions exposed systemic vulnerabilities while simultaneously highlighting the central role of leadership in enabling organizational adaptation and resilience [1]–[4]. More broadly, crisis-management scholarship emphasizes that leadership is essential for coordinating institutional responses and maintaining organizational stability during periods of disruption [5].

Recent reviews of school leadership during COVID-19 show that school leaders were required not only to manage immediate operational disruption, but also to support teachers, sustain communication, build community trust, and develop adaptive leadership practices during prolonged uncertainty [4], [6], [7]. For example, a review of school leadership research during the early pandemic period highlighted the importance of leaders supporting and connecting school communities [6]. Similarly, Striepe and Kafa [7] emphasized that school leadership during COVID-19 required approaches specifically adapted to crisis conditions. These studies indicate that the relationship between leadership and crisis response has become an increasingly important field of inquiry, while also demonstrating the need for more focused synthesis of how specific leadership models contribute to crisis resilience. These studies indicate that the leadership–crisis relationship has become an increasingly important research area, but also that more focused synthesis is needed to explain how specific leadership models contribute to crisis resilience.

Within this context, leadership has emerged as a critical determinant of how effectively schools respond to crisis. Among the various leadership paradigms, transformational leadership (TL) has been widely recognized for its capacity to inspire, motivate, and foster adaptive organizational cultures [8]–[10]. Empirical research and meta-analytic evidence have consistently demonstrated its positive association with organizational performance, teacher commitment, and institutional effectiveness [11]–[13]. Within educational settings, TL has also been identified as an important driver of school improvement and student outcomes [14], [15].

Studies conducted during the COVID-19 pandemic suggest that TL played an important role in helping schools navigate disruption by enhancing teacher capacity, fostering collaboration, and supporting digital transformation [1], [16], [17]. These findings align with broader organizational research that positions TL as a driver of resilience through its influence on collective efficacy, adaptive learning, and innovation [18], [19]. At the same time, resilience theory suggests that organizations must develop the capacity to absorb disruption, adapt to changing conditions, and reorganize their core functions in response to external shocks [20]. This reinforces the importance of leadership in enabling schools to sustain and transform their practices during crisis.

In parallel, the rapid shift to digitally mediated teaching has foregrounded the importance of technological competence and pedagogical adaptation, suggesting that leadership effectiveness is increasingly intertwined with digital capability. The technological pedagogical content knowledge (TPACK) framework provides a useful lens for understanding this integration, emphasizing the alignment between technology, pedagogy, and content knowledge in effective teaching [21], [22]. Furthermore, research on technology integration highlights the role of teacher beliefs, institutional culture, and leadership support in shaping digital adoption [23], [24], while meta-analytic evidence underscores the importance of technological readiness in influencing educational outcomes [25].

Despite these developments, research remains fragmented. Many studies examine isolated outcomes such as instructional quality, teacher well-being, or digital competence, without integrating them into a coherent explanatory framework. The mechanisms through which TL influences crisis response and organizational resilience, including mediating and moderating factors, also remain insufficiently synthesized. Contextual conditions such as infrastructure disparities, institutional constraints, and socio-cultural dynamics are often treated as peripheral rather than central to leadership effectiveness.

The novelty of this review lies in its mechanism-based synthesis of TL in crisis contexts. It explains how TL supports crisis resilience through teacher capacity, organizational adaptation, and digital adaptation pathways, while clarifying boundary conditions such as infrastructure, workload, policy flexibility, school culture, and socio-cultural context. Addressing this gap is important for advancing theory and informing leadership practice and policy in increasingly uncertain and digitally mediated K–12 educational environments.

Accordingly, this study conducts a systematic literature review to synthesize empirical evidence on the influence of TL on crisis response and organizational resilience in K–12 schools. The review is guided by the following research questions (RQ):

- What is the relationship between TL and crisis response in K–12 schools? (RQ1)
- How does TL influence organizational resilience in crisis contexts? (RQ2)
- What mediating and moderating factors explain this relationship? (RQ3)
- How do contextual conditions shape leadership effectiveness in crisis situations? (RQ4)

By addressing these questions, this study aims to develop a more integrated and mechanism-based understanding of TL in crisis contexts, contributing to both theoretical advancement and practical application in educational leadership.

2. CONCEPTUAL FRAMEWORK

This review is guided by a conceptual framework that integrates TL theory with organizational resilience theory to explain how school leadership contributes to crisis resilience in K–12 educational

contexts. TL theory argues that leaders influence followers through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration [8]–[10]. These dimensions are relevant in crisis contexts because they enable leaders to create shared direction, sustain motivation, stimulate problem-solving, and provide emotional support during uncertainty. Resilience theory, meanwhile, conceptualizes organizations as systems that must absorb disruption, adapt to changing conditions, and reorganize to sustain core functions [18]–[20]. In schools, resilience is therefore not only an outcome of formal crisis planning, but also a collective capacity shaped by teacher readiness, trust, collaboration, organizational learning, and digital adaptability.

The framework assumes that TL contributes to crisis resilience through three interconnected pathways: teacher capacity, organizational adaptation, and digital adaptation. At the teacher level, TL strengthens self-efficacy, well-being, commitment, and professional agency to sustain instruction during disruption. At the organizational level, it promotes trust, collective efficacy, collaboration, and organizational learning to support collective adaptation. At the digital level, it enhances digital competence, communication, and instructional continuity in technology-mediated crises. These pathways are shaped by contextual conditions such as infrastructure, workload, school culture, policy flexibility, and socio-cultural setting. Thus, TL functions as an enabling force that activates human, organizational, and digital capacities for crisis resilience. Figure 1 summarizes the proposed relationships between TL, teacher capacity, organizational adaptation, digital adaptation, contextual conditions, crisis response, and organizational resilience.

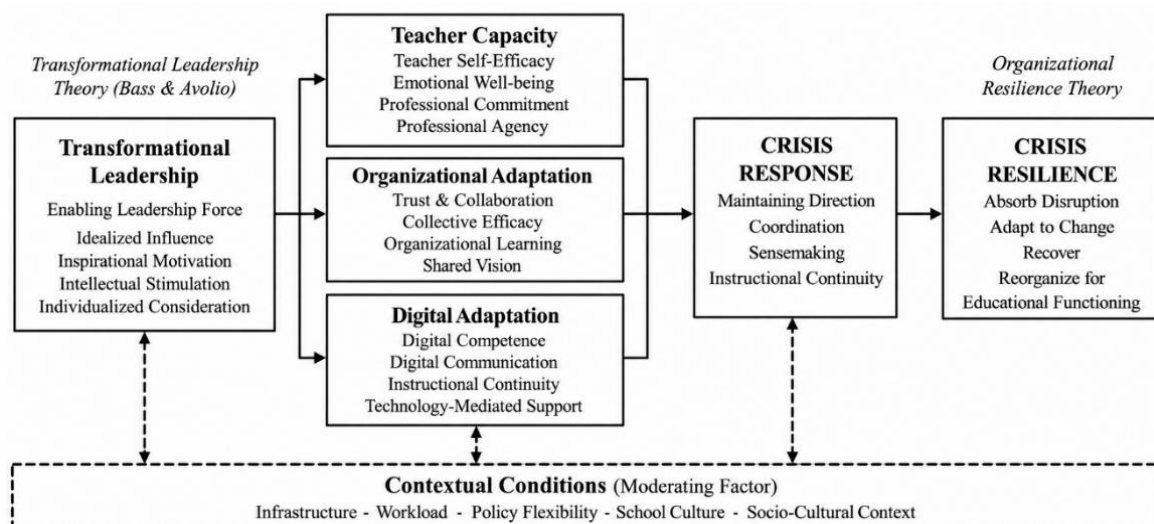


Figure 1. Conceptual framework linking transformational leadership theory and crisis resilience in K–12 schools

3. METHOD

This study adopts a systematic literature review (SLR) approach to synthesize empirical evidence on the role of TL in crisis contexts. The SLR methodology is particularly appropriate for consolidating fragmented research findings and generating evidence-based insights through a transparent and replicable process [26], [27]. Unlike traditional narrative reviews, the SLR approach follows a structured protocol that minimizes bias and enhances the reliability of conclusions.

The review process was guided by the preferred reporting items for systematic reviews and meta-analyses (PRISMA) framework, which provides a standardized approach for identifying, screening, and selecting relevant studies [28], [29]. The PRISMA framework ensures methodological transparency and allows for clear documentation of inclusion and exclusion decisions throughout the review process. The use of PRISMA is widely recognized as best practice in systematic review research across social sciences and education. The protocol was not externally registered. However, a predefined internal protocol specified the databases, search terms, eligibility criteria, screening, appraisal, and thematic-synthesis procedures before screening began.

3.1. Identification

The identification phase involved systematic searches across four sources: Scopus, Web of Science (WoS), ERIC, and Google Scholar. Scopus, WoS, and ERIC were selected as the primary databases due to their extensive coverage of peer-reviewed educational leadership, organizational, and educational technology research. Google Scholar was used as a supplementary retrieval source to enhance search comprehensiveness and minimize the possibility of overlooking relevant studies.

The database search was conducted on 3 April 2026 using combinations of keywords and Boolean operators related to TL, crisis management, resilience, digital adaptation, and educational settings. Searches were performed within titles, abstracts, and keywords to maximize retrieval sensitivity while maintaining conceptual relevance. Table 1 presents the search strings used in the primary databases.

The search was limited to studies published between 2015 and 2025, written in English, and published as peer-reviewed journal articles. These restrictions were applied to ensure the inclusion of contemporary and academically rigorous evidence aligned with the objectives of the review. The initial search process yielded a total of 251 records, comprising studies retrieved from Scopus, WoS, and ERIC. Additional searches conducted through Google Scholar and backward citation tracking were used to verify conceptual coverage and retrieval comprehensiveness. However, no additional eligible studies beyond the final dataset were identified through these supplementary procedures.

Table 1. The search strings and keywords used

Database	Search string
Scopus	TITLE-ABS-KEY ("transformational leadership" AND (education OR school* OR "educational setting*" OR teacher* OR principal*)) AND ("crisis management" OR "crisis leadership" OR "emergency management" OR "disaster management" OR "crisis response" OR resilience OR "organizational resilience" OR adaptability OR recovery OR pandemic OR COVID-19 OR disruption* OR "school closure"))
WoS	TS=("transformational leadership")AND TS=(crisis OR resilience OR disruption OR pandemic OR "COVID-19") AND TS=(education OR school OR "K-12" OR "primary school" OR "secondary school")
ERIC	("transformational leadership") AND (crisis OR resilience OR COVID-19 OR disruption) AND (school OR education OR K-12 OR teacher OR principal)

3.2. Screening

Following identification, 63 duplicate records were removed through title, DOI, and metadata matching, leaving 188 records for screening. Titles and abstracts were then screened against predefined inclusion and exclusion criteria by two independent reviewers, with disagreements resolved through consensus. The criteria, as presented in Table 2, ensured alignment with the review's theoretical focus, research phenomenon, and contextual scope.

Studies published outside 2015–2025 or not in peer-reviewed journals were excluded to ensure contemporary, high-quality evidence. Eligible studies examined TL in relation to crisis or organizational resilience in K–12 schools. Studies lacking a TL focus, crisis-related dimension, or school-level educational context were excluded. These criteria removed 152 studies, leaving 36 for full-text assessment.

Table 2. Inclusion and exclusion criteria in screening phase

Category	Inclusion criteria	Exclusion criteria
Publication criteria	2015–2025, peer-reviewed journals	Outside the time frame or not published as journal articles
Conceptual focus	Examines TL	No TL focus
Phenomenon of interest	Addresses crisis or resilience	No crisis/resilience context
Contextual scope	K–12 educational settings	Higher education or non-educational contexts

3.3. Eligibility

During eligibility, the remaining studies underwent full-text assessment to determine methodological suitability and conceptual alignment. Studies were retained only if TL was a central analytical construct and they substantively addressed crisis response, organizational resilience, digital adaptation, disruption management, or adaptive organizational processes in K–12 settings. Studies on unrelated leadership constructs, higher education, non-empirical discussions, or inaccessible full texts were excluded. Two reviewers independently assessed eligibility, with disagreements resolved through consensus. This process excluded 15 studies, leaving 21 studies for final synthesis.

3.4. Inclusion

A total of 21 empirical studies met all inclusion criteria and were included in the final synthesis. These studies collectively formed the evidence base for examining how TL influences crisis response and

organizational resilience in K–12 educational settings. The complete study selection process, including identification, screening, eligibility assessment, and final inclusion, is illustrated in the PRISMA flow diagram presented in Figure 2.

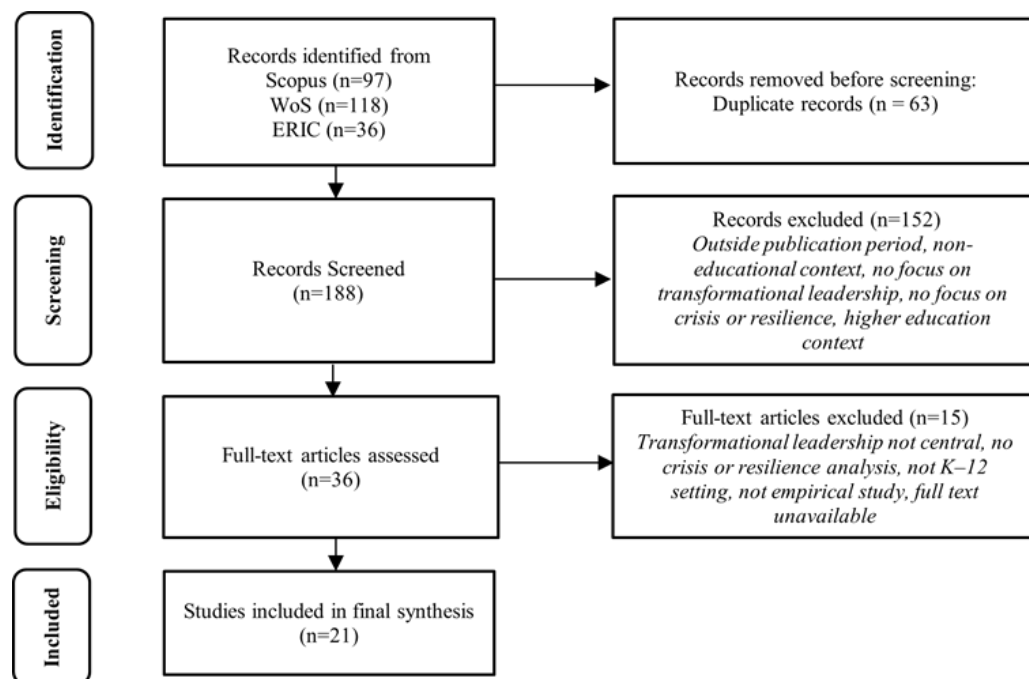


Figure 2. PRISMA 2020 flow diagram of study selection process

3.5. Quality appraisal

The methodological quality of the included studies was assessed using the mixed methods appraisal tool (MMAT) version 2018 [30]. MMAT was used because the final dataset included qualitative, quantitative, and mixed-methods studies, requiring a flexible appraisal tool for diverse designs. Each study was classified by research design before the relevant MMAT criteria were applied.

In line with MMAT guidance, no aggregate score was calculated. Instead, judgements were recorded as yes, no, or can't tell to preserve methodological nuance. Overall, the 21 included studies showed acceptable to strong methodological quality. Common limitations included limited reporting of non-response bias, reliance on cross-sectional designs, uneven transparency in qualitative coding and reflexivity, and limited treatment of divergence in the mixed-methods study. Thus, the evidence supports thematic interpretation, although causal and generalizable claims should be made cautiously. The study-level appraisal results are reported in Table 3.

3.6. Data extraction and synthesis

Data extraction used a structured matrix aligned with the review's three research questions and six core constructs: TL, crisis response, organizational resilience, teacher-related outcomes, digital adaptation, and contextual conditions. The matrix captured study details, context, aims, design, sample, crisis type, leadership dimensions, outcomes, mediating and moderating factors, key findings, and methodological limitations. Two reviewers extracted data independently, compared outputs, and resolved discrepancies through discussion, returning to the full text where interpretation was ambiguous.

The extracted data were synthesized thematically due to the methodological diversity of the included studies. Findings were first coded according to recurring concepts such as leadership practice, teacher capacity, crisis response, organizational adaptation, digital competence, and resilience outcomes. Related codes were then grouped into broader analytical categories and refined into higher-order themes explaining how TL shaped crisis response and resilience in K–12 settings. The synthesis examined not only patterns of convergence, but also tensions, contradictions, and contextual variations in how TL operated through mechanisms such as teacher self-efficacy, emotional well-being, organizational commitment, digital competence, collective efficacy, and organizational learning.

This process produced five thematic categories: i) TL as a crisis-response enabler; ii) enhancement of teacher capacity and instructional continuity; iii) development of organizational resilience through collective mechanisms; iv) digital adaptation as a leadership pathway; and v) contextual conditions shaping leadership effectiveness. Manual coding was used throughout to support close reading, with all coding and theme development decisions documented to maintain an audit trail. Overall, the synthesis generated an explanatory account of how TL operates across psychological, organizational, and digital pathways, rather than merely summarizing individual study findings.

Table 3. MMAT (2018) quality appraisal of included studies

Study	Design	Q1	Q2	Q3	Q4	Q5	Methodological observation
[31]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	SmartPLS-SEM was appropriate, but non-response bias and representativeness were underreported.
[32]	Quantitative non-randomized	Yes	Yes	Yes	Yes	Yes	Rigorous modeling clearly examined leadership–outcome relationships.
[33]	Quantitative descriptive	Yes	Cannot tell	Yes	Cannot tell	Yes	Survey and MLQ measures were appropriate, but sampling quality was insufficiently reported.
[34]	Quantitative non-randomized	Yes	Yes	Yes	Yes	Yes	Strong response rate and mediation analysis supported confidence in the findings.
[35]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	Moderated mediation was robust, but online-survey non-response bias remained unclear.
[36]	Quantitative non-randomized	Yes	Yes	Yes	Yes	Yes	Strong measurement validity and appropriate modeling supported the TPACK-related analysis.
[37]	Mixed methods	Yes	Yes	Yes	Cannot tell	Yes	Mixed-methods integration was useful, though strand divergences were underexplored.
[38]	Qualitative	Yes	Yes	Yes	Yes	Yes	Systematic thematic analysis supported coherent interpretation of teacher perceptions.
[39]	Qualitative	Yes	Yes	Yes	Yes	Yes	Clear sampling and thematic analysis supported exploration of adaptive leadership.
[40]	Qualitative	Yes	Yes	Yes	Yes	Yes	The case-study design provided rich and coherently interpreted crisis-leadership insights.
[41]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	SEM was appropriate, but non-response bias was insufficiently addressed.
[42]	Qualitative	Yes	Yes	Yes	Yes	Yes	Discourse analysis was coherent and aligned with the interpretive purpose.
[43]	Qualitative	Yes	Yes	Yes	Yes	Yes	In-depth interviews and systematic thematic analysis demonstrated strong qualitative rigor.
[44]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	Measurement and mediation modeling were appropriate, but non-response bias reporting was limited.
[45]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	SmartPLS-SEM was appropriate, but sampling and response-bias procedures lacked detail.
[46]	Qualitative	Yes	Yes	Yes	Yes	Yes	Phenomenology, criterion sampling, interviews, and content analysis were appropriate.
[47]	Quantitative non-randomized	Yes	Yes	Yes	Yes	Yes	Strong SEM procedures clearly modeled collective teacher efficacy as a mediator.
[48]	Quantitative non-randomized	Yes	Yes	Yes	Yes	Yes	Appropriate measures and mediation analysis examined online teaching success during COVID-19.
[49]	Qualitative	Yes	Yes	Yes	Yes	Yes	Principal interviews provided strong qualitative evidence on crisis leadership and meaning-making.
[50]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	Validated constructs and modeling were appropriate, but online-sampling bias was unclear.
[51]	Quantitative non-randomized	Yes	Yes	Cannot tell	Yes	Yes	Moderated mediation was appropriate, but non-response bias was not addressed.

4. RESULTS

A total of 21 empirical studies met the inclusion criteria and were retained for final synthesis. They covered diverse geographical contexts, including Indonesia, Israel, Cyprus, Croatia, Türkiye, Malaysia, South Africa, the United Arab Emirates, Bahrain, Ireland, and the United States. Most were conducted during the COVID-19 pandemic, reflecting its dominance in crisis-related educational leadership research.

The dataset included qualitative, quantitative non-randomized, quantitative descriptive, and mixed-methods studies, with variation in sample size, leadership focus, and crisis-related outcomes. Quantitative studies offered patterns and effect estimates, while qualitative studies provided contextual insight into leadership experiences during disruption. Table 4 summarizes the geographical context, sample characteristics, and key findings of the included studies, while methodological quality is reported separately in the MMAT appraisal table. Five themes emerged from the synthesis: TL as a crisis-response enabler, enhancing teacher capacity and instructional continuity, building organizational resilience through collective mechanisms, digital adaptation as a leadership pathway, and contextual conditions shaping leadership

effectiveness. Taken together, they point to the same underlying argument that TL shaped crisis response and organizational resilience through a combination of psychological, organizational, and digital mechanisms, each reinforcing the others rather than operating in isolation.

Table 4. Characteristics of included studies

Study	Country	Sample	Key findings
[31]	Indonesia	130 Islamic school teachers	Transformational and transactional leadership influenced teachers' innovation capability, with organizational learning playing an important role during the COVID-19 pandemic.
[32]	Ireland	634 primary school principals	TL indirectly influenced school performance and work alienation through relational resources such as trust and relational coordination.
[33]	Malaysia	124 teachers	Teachers preferred leadership behaviors that were supportive, communicative, and responsive during the shift to online teaching in the COVID-19 crisis.
[34]	Indonesia	418 elementary school teachers	TL was associated with organizational citizenship behavior in virtual teaching, mediated by job satisfaction.
[35]	Türkiye	443 teachers	TL reduced teacher burnout indirectly through organizational support and teacher resilience; workload moderated leadership effects.
[36]	Israel	437 teachers	Teachers' TPACK development during COVID-19 was shaped by ecological factors, including leadership, online teaching frequency, and sectoral context.
[37]	Israel	97 coordinators; 18 interview participants	TL and technological competence supported digital inclusion and equitable access during disruption, especially in minority-community education contexts.
[38]	Cyprus	30 primary school teachers	School leaders were perceived to enact TL during the pandemic, though weaknesses were noted in individualized consideration.
[39]	South Africa	5 novice teachers	Novice teachers demonstrated adaptive leadership capacities in uncertain school environments, highlighting resilience and agency in under-resourced contexts.
[40]	United Arab Emirates	One international school case	Effective pandemic school leadership required both leadership and management actions, combining transformational and transactional responses depending on the situation.
[41]	Indonesia	100 teachers and teaching staff	Transformative leadership showed a strong positive effect on crisis management, alongside other leadership styles.
[42]	Israel	3 classroom critical incidents	TL was shown as a potential leverage point for educational sustainability through discourse, interaction, and reflective classroom practice.
[43]	Israel	20 school principals	Principals combined transformational and transactional behaviors during COVID-19, suggesting the rise of integrated crisis leadership.
[44]	Croatia	1,655 teachers from 227 schools	TL, ICT skills, psychological capital, and social support influenced teacher job performance through emotional well-being.
[45]	Indonesia	140 Islamic school teachers	Transformational and transactional leadership, together with organizational learning, positively influenced teachers' innovation capability during COVID-19.
[46]	Türkiye	20 public school teachers	Teachers identified technological, transformational, agile, and human-centered leadership as important leadership qualities in the "new normal."
[47]	Israel	609 participants from 103 secondary schools	TL influenced organizational resilience through collective teacher efficacy in complex school systems.
[48]	Israel/Arab	331 teachers	TL positively influenced successful online teaching, mediated by school communication and moderated by population sector.
[49]	United States of America	50 principals	Hope influenced how principals navigated crises, showing that leadership resilience is shaped by meaning-making, confidence, trust, and recovery orientation.
[50]	Bahrain	380 teachers	Principals' digital TL was positively related to teachers' commitment and school effectiveness during remote schooling.
[51]	Croatia	1,655 teachers	TL was positively associated with instructional quality directly and indirectly through teacher self-efficacy; digital competence did not moderate the relationship.

4.1. Transformational leadership as a crisis-response enabler

The unprecedented disruptions caused by crises such as the COVID-19 pandemic have fundamentally tested the resilience of educational institutions, revealing TL as a critical enabler of effective crisis response [50]. Unlike transactional management, which seeks to maintain the status quo, TL provides a stimulus for change, innovation, and collective action [38]. By leveraging the core dimensions of TL which are idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, leaders can effectively navigate ambiguity, mobilize their teams, and ensure organizational continuity [35].

During a crisis, organizations suffer from immense uncertainty and fear. Transformational leaders respond by providing a clear, optimistic vision that helps stabilize the environment and gives staff a sense of purpose [43]. By exercising inspirational motivation, leaders give meaning to their followers' work, for instance, reminding teachers that their efforts are crucial for keeping students "sane and normal" during a pandemic [43]. Furthermore, through idealized influence, transformational leaders act as role models, projecting

calm, demonstrating resilience, and signaling that despite the chaos, the institution remains strong and focused on its core mission [43]. In remote environments, this was successfully achieved through “digital TL,” where leaders utilized digital communication tools to transmit their positive vision and foster trust [36], [50].

Disruptions inherently cause high levels of stress, anxiety, and increased workloads [35]. Transformational leaders respond by exercising individualized consideration, paying close attention to the personal welfare and emotional needs of their staff [47]. Leaders during the pandemic acted as “containers” for teachers’ difficulties, actively listening to their fears, offering emotional support, and providing necessary accommodations [43]. This empathetic response is crucial because it significantly mitigates teacher burnout [35], [38] and enhances emotional well-being [44]. By buffering the adverse effects of high workloads, transformational leaders build teacher resilience, allowing educators to cope, recover, and thrive despite the adversity [35].

Crises often demand rapid, systemic shifts, such as the sudden transition to online teaching during COVID-19. Transformational leaders use intellectual stimulation to challenge pre-existing assumptions, encourage outside-the-box thinking, and empower staff to embrace new methodologies [43]. This leadership style has a direct, positive impact on teachers’ innovation capabilities [31], [45] and their TPACK. During disruptions, leaders fostered innovation by encouraging teachers to experiment with digital tools, providing techno-pedagogical training, and modeling the effective use of technology themselves [37]. By creating an environment where taking calculated risks is supported, leaders transformed a crisis into an opportunity for professional growth and institutional modernization [36], [39].

A core function of a transformational leader during a crisis is to build collective teacher efficacy (CTE), which is the shared belief among staff that they can organize and execute the actions required to overcome challenges [47]. Through collaborative decision-making, transparent communication, and mutual respect, transformational leaders boost this collective confidence [47]. In turn, high CTE directly enhances organizational resilience, which is the institution’s capability to absorb shocks, adapt to dynamic environments, and recover from disruptive events [47]. Furthermore, by establishing high levels of employee trust [32], transformational leaders inspire organizational citizenship behavior (OCB), motivating staff to exceed baseline expectations, assist their peers, and voluntarily invest extra effort into ensuring the organization survives the crisis [34].

TL acts as a powerful leverage point for promoting sustainability and stability during a crisis [42]. By balancing emotional empathy with forward-looking innovation, transformational leaders do not merely help their organizations survive a disruption; they utilize the crisis as a catalyst for capacity-building, enabling their institutions to adapt intelligently and emerge stronger [39], [47]. However, the evidence also indicates that TL did not operate merely as an inspirational or motivational leadership style. In crisis situations, TL became practical and adaptive. Leaders were required to interpret changing conditions, communicate priorities, and help teachers make sense of rapid instructional and organizational shifts. This suggests that TL functioned as a form of crisis sensemaking, where vision and motivation became effective only when translated into actionable guidance.

At the same time, several studies indicate that TL alone may be insufficient during acute crisis situations. School leaders often combined transformational behaviors with transactional, managerial, or directive responses. This complicates overly positive interpretations of TL [40], [43]. While TL strengthens trust, commitment, and shared purpose, crisis response may also require rapid decision-making, operational control, and procedural clarity. Therefore, the findings suggest that TL is most effective during crisis when combined with situationally appropriate crisis management behaviors.

4.2. Enhancing teacher capacity and instructional continuity

The sudden transition to remote learning during the COVID-19 pandemic posed unprecedented threats to educational stability, placing the burden of instructional continuity squarely on teachers. To navigate this crisis, educational institutions had to urgently prioritize teacher-level outcomes, focusing on building their instructional capacity, safeguarding their emotional well-being, and fostering collaborative engagement. Results indicate that enhancing teacher capacity and ensuring continuity during a crisis hinges on several critical teacher-level outcomes.

The rapid shift to online learning required teachers to immediately adapt their instructional methods, making their TPACK, which is the integration of technology, pedagogy, and content as vital asset [36]. It is indicated that teachers’ digital competencies were instrumental in maintaining instructional quality and successfully adapting to virtual classrooms [51]. Interestingly, the frequency of online teaching itself acted as a catalyst for capacity building, in which teachers who frequently taught online during the pandemic reported significant improvements in their TPACK, viewing the crisis as an opportunity to adopt innovative digital tools and new pedagogical approaches [36]. Furthermore, possessing strong information and communication technology (ICT) skills served as a crucial personal resource that directly enhanced teachers’ task performance and their ability to execute core job requirements in a digital environment [44].

During periods of uncertainty, teacher self-efficacy (TSE), which is teacher's belief in their capability to organize and execute necessary actions is essential for sustaining performance. High TSE is strongly associated with superior instructional quality across three main dimensions: efficient classroom management, cognitive activation of students, and the maintenance of a supportive learning climate [51]. Confident teachers tend to be more persistent, work harder, and experience lower stress levels, which is critical during extraordinary circumstances [51]. Alongside self-efficacy, the crisis demanded high innovation capabilities [31]. Teachers were required to develop creative problem-solving skills and adapt their teaching strategies to maintain student engagement, proving that teacher innovation is a fundamental driver of sustainable education during disruptions [31], [45].

The pandemic has subjected teachers to immense psychological strain, heavy workloads, and the risk of severe burnout, including emotional exhaustion and a reduced sense of personal accomplishment [35]. To ensure instructional continuity, protecting teachers' emotional well-being was paramount. Teacher resilience acts as a protective shield against emotional exhaustion and diminishes the desire to leave the profession [35]. Hope, resilience, optimism, and self-efficacy help teachers engage in adaptive coping and generates positive emotions [44]. These positive affective experiences lead teachers to invest more effort into overcoming obstacles and directly boost both their teaching quality and task performance [44]. The physical separation of remote work introduced feelings of isolation, powerlessness, and "work alienation" [32]. To combat this, maintaining relational coordination through frequent, high-quality, and problem-solving-based communication was necessary to keep teachers feeling empowered, connected to their peers, and aligned with shared school goals [32].

Instructional continuity relies not just on baseline performance, but on teachers' willingness to go above and beyond. When teachers experience job satisfaction and feel supported by their organization, they are highly likely to exhibit organizational citizenship behavior in virtual teaching (OCB-VT) [34]. OCB includes voluntary actions that enhance the school's social and psychological environment, such as spontaneously helping colleagues adapt to online tools, sharing virtual teaching experiences, and participating in extra planning sessions [34]. The sources emphasize that support from coworkers is one of the strongest predictors of this behavior; when teachers feel supported by their peers, they show greater commitment to their roles and deliver higher quality instructional services to their students [34].

Nevertheless, the evidence also reveals important limitations. Leadership support may enhance teacher motivation and resilience, but it does not automatically remove structural pressures such as workload, emotional exhaustion, and technological stress. Existing research [35], [44] show that teacher outcomes during crisis were shaped not only by leadership but also by workload, organizational support, emotional well-being, and available resources. This suggests that TL contributes to instructional continuity through a teacher-capacity pathway, but this pathway depends on whether schools also provide adequate emotional, professional, and organizational support. Schools must look beyond mere logistical solutions and focus deeply on teacher-level outcomes. By actively developing teachers' technological frameworks, for example, TPACK, fortifying their psychological resilience to buffer against burnout and alienation, and fostering a collaborative culture that drives job satisfaction, educational systems can empower teachers to effectively navigate uncertainty and maintain high-quality student learning.

4.3. Building organizational resilience through collective mechanisms

In the face of unprecedented disruptions like the COVID-19 pandemic, the survival and adaptability of educational institutions depend heavily on organizational resilience. Defined as a school's capability to anticipate, absorb, respond to, and recover from disruptive events, organizational resilience is not merely about "bouncing back" but "bouncing forward" to emerge stronger [48]. Crucially, resilience is an emergent property of complex adaptive systems; it is not limited to individual psychological strength but is manifested and sustained through collective actions, decisions, and shared mechanisms at the school-level.

At the heart of school-level resilience is CTE, which represents a group's shared belief in its conjoint capabilities to organize and execute courses of action [48]. High CTE functions as a primary engine for resilience because it fosters a unified approach to obstacles, allowing institutions to collaboratively overcome challenges rather than fracturing under pressure. By focusing on shared instructional strategies and maintaining student discipline, teachers mutually reinforce their beliefs and actions, which reduces individual stress and enhances faculty well-being. Ultimately, when school leaders inspire their staff, this resulting collective confidence translates directly into the school's ability to thrive.

Resilience is also deeply embedded in a school's social capital, specifically through relational resources like employee trust and relational coordination [48]. The latter is a mutually reinforcing process of interaction focused on task integration, characterized by frequent, accurate, and problem-solving-based communication. During a crisis, physical separation and ambiguity can lead to work alienation; however, high relational coordination ensures that stakeholders including principals, teachers, boards, and parents

remain aligned. This environment of high employee trust creates a reciprocal culture where teachers are motivated to invest extra effort into the school's collective success.

Crises as complex as a pandemic often overwhelm traditional, top-down bureaucratic structures. To build resilience, schools must shift toward a system of distributed leadership, which empowers autonomous, self-managed teams to make rapid decisions [48]. By distributing authority rather than relying on a single principal to manage every incident, schools gain a significantly higher degree of agility and innovation. This approach ensures that those closest to the problems have the agency to adapt to changing conditions and implement immediate solutions.

Furthermore, resilient schools exhibit organizational mindfulness. This involves a proactive stance toward unforeseen events, a reluctance to oversimplify problems, and a commitment to swift recovery from errors [48]. This shared mindset requires the entire school to engage in continuous organic learning and "sensemaking." When a school's collective communication system is transparent and multi-directional, staff members receive timely information, allowing them to evaluate changes more positively and demonstrate a greater willingness to cooperate.

Ultimately, building organizational resilience at the school-level is a collective endeavor [48]. By moving beyond isolated individual efforts and fostering CTE, distributed leadership, and coordinated relational networks, schools create a powerful web of mutual support. These collective mechanisms do more than just buffer the institution against immediate shocks; they reconfigure resources and drive the systemic innovation necessary for long-term educational sustainability.

However, resilience should not be interpreted as an automatic outcome of TL. Leadership effects depend on whether collaborative structures, organizational support, and learning routines are already present. In schools where collaboration is weak or support systems are limited, TL may struggle to generate sustained organizational resilience. Thus, TL appears to contribute to resilience by activating collective mechanisms, but these mechanisms require supportive organizational conditions.

4.4. Digital adaptation as a core leadership pathway

The sudden move to remote learning during the COVID-19 pandemic transformed digital adaptation from a logistical tool into a leadership priority. In this context, digital TL became a key driver for school survival, allowing institutions to navigate the crisis while fostering long-term adaptability and innovation [50]. A technology-mediated crisis response requires leaders to exert their influence through virtual means. Digital TL involves utilizing digital communication and collaboration tools (such as Zoom, WhatsApp, and Slack) to articulate a clear vision, foster trust, and provide individualized support [50]. By maintaining a strong, visible virtual presence, leaders can project optimism and act as a stabilizing force, which significantly reduces the feelings of isolation and work alienation often experienced during remote operations [32], [43]. Furthermore, research demonstrates that virtual TL behaviors strongly enhance teachers' affective commitment to their schools and promote a higher perception of school effectiveness during remote instruction [50].

A central objective of digital adaptation is rapidly developing the technological capabilities of the staff, specifically their TPACK and technological competence (TC) [36], [37]. Transformational leaders facilitate this pathway by intellectually stimulating their teams to question pre-existing instructional routines and embrace innovative digital methodologies [36], [43]. Crucially, leaders must act as digital role models. When principals demonstrate high technological competence and actively model effective digital communication, they significantly ease the transition for their staff, reducing stress and increasing educators' confidence in handling remote work [37]. Conversely, leaders who struggle with technology or fail to provide adequate ICT support can exacerbate feelings of being overwhelmed [37]. Providing continuous digital professional learning and technical support is essential, as these resources directly shape educators' readiness to embrace online instruction and maintain instructional quality [36], [37].

Managing a crisis remotely requires an advanced level of coordination to keep operations running smoothly. Technology-mediated responses rely heavily on relational coordination including frequent, high-quality, and problem-solving-based communication over digital platforms [32]. To avoid confusion and ensure rapid decision-making, adaptive leaders customize their digital communication channels to suit different audiences (e.g., using emails for staff and social media for students) [33]. Maintaining these clear, multi-directional lines of communication builds trust, unites stakeholders around shared goals, and mobilizes collective effort even when the community is physically dispersed [32], [40].

Effective digital adaptation by leaders directly translates into improved performance and engagement in virtual environments. TL applied to remote schooling fosters OCB-VT. By inspiring staff and fostering job satisfaction, leaders motivate educators to voluntarily go beyond basic expectations such as spontaneously mentoring colleagues in new software or sharing successful virtual teaching strategies [34]. Additionally, adapting leadership to a digital context requires redefining traditional management structures. Leaders must engage in "virtual inspections" and establish clear remote teaching regulations to maintain accountability and demonstrate active engagement in the new digital reality [43], [46].

Digital adaptation requires leaders to be technologically competent, agile, and continuously forward-thinking [46]. This finding is important because it shows that TL cannot be separated from technological capacity in contemporary educational crises. By leveraging technology not merely as an operational fallback, but as an active medium for transformational influence, empathy, and capacity-building, leaders can successfully navigate the immediate shocks of a crisis. In doing so, they lay a resilient foundation for the sustainable integration of digital education in the post-crisis era [37], [46].

At the same time, the findings challenge the assumption that digital transformation is simply a technical process. Digital adaptation was shaped by leadership, teacher beliefs, organizational culture, communication structures, and access to infrastructure. Therefore, digital competence should be viewed not merely as an individual teacher skill, but as part of a broader leadership-supported ecosystem for crisis response.

4.5. Validation and refinement of the conceptual framework

The thematic synthesis provides strong support for the conceptual framework proposed in this review while also refining several of its underlying assumptions. Overall, the evidence confirms that TL contributes to crisis resilience through three interconnected pathways: teacher capacity, organizational adaptation, and digital adaptation. Rather than operating independently, these pathways interact dynamically and are shaped by contextual conditions, reinforcing the view that crisis resilience emerges from the collective functioning of multiple organizational mechanisms rather than from leadership behavior alone.

The teacher-capacity pathway received consistent empirical support across the included studies. TL enhanced teacher self-efficacy, professional agency, emotional well-being, organizational commitment, and instructional continuity, particularly during periods of uncertainty. These findings validate the proposition that leadership strengthens crisis resilience by developing the psychological and professional resources necessary for teachers to sustain high-quality teaching under adverse conditions.

Similarly, strong evidence supported the organizational-adaptation pathway. Across diverse educational contexts, TL fostered trust, CTE, organizational learning, collaboration, and relational coordination. These collective mechanisms enabled schools to absorb disruption, coordinate adaptive responses, and reorganize instructional processes more effectively, thereby reinforcing organizational resilience. The review also provides particularly strong evidence for the digital-adaptation pathway. Although originally conceptualized as one of three parallel mechanisms, the findings suggest that digital competence functions as a cross-cutting capability that reinforces both teacher capacity and organizational adaptation. Leadership support for technological competence, digital communication, and instructional innovation consistently enhanced schools' ability to maintain educational continuity in technology-mediated environments.

Finally, the review refines the conceptual framework by demonstrating that TL is not universally effective across all contexts. Its influence is moderated by contextual conditions including technological infrastructure, workload, organizational support, policy flexibility, school culture, and socio-cultural environment. These findings indicate that TL should be understood as a context-dependent enabling capability whose effectiveness depends on the interaction between leadership behaviors, organizational capacities, and external conditions. Consequently, the conceptual framework is strengthened by recognizing the reciprocal relationships among the three pathways rather than treating them as independent mechanisms.

4.6. Contextual conditions shaping leadership effectiveness

The effectiveness of educational leadership is not universally uniform; rather, its impact is heavily contingent upon the complex contextual conditions in which it operates. Factors such as socio-cultural norms, available infrastructure, teacher-level demands, and the systemic environment act as critical catalysts or barriers to how successfully a leader can influence their organization. Socio-cultural and economic realities cultural norms and socio-economic status (SES) profoundly shape leadership reception and effectiveness. In highly collectivist and hierarchical-traditional cultures such as those observed in Bahrain or the Arab education sector in Israel, authoritarian leadership norms can conflict with the participative and intellectually stimulating nature of TL [36], [50]. Furthermore, leadership impact is often constrained by external resource inequalities. For instance, the lack of digital infrastructure, lower SES, and language barriers in certain communities significantly weaken a principal's ability to drive technological innovation [48]. Conversely, leaders operating in affluent, well-resourced environments with a culture of innovation-driven education see a much stronger correlation between their leadership and successful teaching outcomes [36], [48].

This finding is particularly important because much of the TL literature tends to present leadership as broadly beneficial. The reviewed evidence supports a more cautious interpretation. TL may support crisis response and resilience, but its effectiveness depends on whether leaders have the autonomy, infrastructure, digital resources, organizational support, and policy flexibility needed to act meaningfully.

The level of teacher workload serves as a crucial moderating condition that dictates both the necessity and the overall impact of leadership. According to research, the protective effects of TL are most pronounced under conditions of severe professional strain [35]. In high-workload environments, this leadership style functions as a critical buffering resource that enhances teacher resilience and significantly reduces burnout. By offering individualized support and instilling a sense of purpose, leaders help overwhelmed staff navigate stress more effectively. Conversely, when workloads remain low, the impact of such leadership on resilience and burnout mitigation appears minimal and statistically non-significant [35].

A teacher's pre-existing digital competence also influences how effectively they can absorb and implement leadership directives. Research indicates that the direct effect of TL on instructional quality, specifically in providing students with cognitively challenging tasks, is stronger for highly digitally skilled teachers, whereas this leadership effect is nearly non-existent for teachers with low digital literacy [51]. Additionally, prior training, mentorship, and access to digital resources dictate how well educators can respond to a leader's push for remote teaching adaptation, meaning a leader's impact is partially dependent on the baseline capabilities of their staff [37].

The impact of a leader is highly dependent on the relational resources already embedded within the school context. High levels of employee trust and relational coordination characterized by frequent, problem-solving-based communication and shared goals serve as essential mediators that allow TL to successfully translate into higher school performance and reduced work alienation [32]. Contexts that already possess a supportive climate and mutual trust provide leaders with the necessary foundation to enact high-hope, resilient responses during a crisis, whereas a lack of trust can severely derail leadership efforts [49].

Finally, bureaucratic structures and logistical limitations serve as prominent conditions that constrain leadership impact. Highly centralized educational systems that lack clear guidelines or impose restrictive policies limit the autonomy and flexibility required for school leaders to enact transformational change [38]. Moreover, practical constraints such as large school sizes, diverse student and staff needs, and the leaders' own personal stress and anxiety significantly restrict their ability to provide the individualized consideration and direct communication that is central to effective leadership [38]. In contexts where infrastructure is weak, workload is high, or policy environments are highly centralized, TL may be constrained. This does not reduce the value of TL, but it shows that leadership effectiveness is context-dependent rather than universal.

4.7. Synthesis of findings

Overall, the findings suggest that TL contributes to crisis response and organizational resilience through four interconnected pathways. First, it supports crisis sensemaking by helping schools interpret disruption and coordinate responses. Second, it strengthens teacher capacity by enhancing self-efficacy, emotional well-being, professional agency, and commitment. Third, it builds organizational resilience by fostering collective efficacy, collaboration, organizational learning, and relational coordination. Fourth, it enables digital adaptation by supporting teacher competence and instructional continuity in technology-mediated environments.

However, the synthesis also shows that these pathways are not automatic. TL is most effective when supported by adequate infrastructure, organizational support, teacher readiness, digital competence, and policy flexibility. The evidence therefore supports a nuanced conclusion: TL is an important driver of crisis response and resilience, but it is not sufficient on its own. Its effectiveness depends on the interaction between leadership behaviors, teacher capacity, organizational conditions, and digital readiness. This synthesis moves beyond a general claim that TL is beneficial. Instead, it explains how, through what mechanisms, and under what conditions TL contributes to crisis resilience in K–12 educational settings.

5. DISCUSSION

This SLR provides a critical synthesis of how TL contributes to crisis response and organizational resilience in K–12 schools. Across the included studies, TL was generally associated with stronger crisis response, but the evidence does not support a simplistic or universal claim that TL alone produces resilience. Instead, the synthesis indicates that TL functions as an enabling leadership capability that supports crisis resilience through psychological, organizational, and digital pathways. This finding extends classical TL theory, which emphasizes idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration [8]–[10], by showing that these dimensions take on additional meanings in crisis contexts. During disruption, inspirational motivation becomes more than the communication of vision; it also involves crisis sensemaking, priority-setting, and the stabilization of collective expectations. Similarly, individualized consideration extends beyond professional development to include emotional and practical support for teachers facing uncertainty, workload pressure, and rapid instructional change.

The evidence suggests that TL contributes to crisis response by helping school leaders provide direction, sustain communication, build trust, and mobilize collective commitment during disruption [38], [40], [43]. However, these effects should not be interpreted as direct or automatic. Crisis response requires both social mobilization and operational coordination, and this is where TL demonstrates both its strength and its limitation. TL is particularly valuable when schools require shared purpose, motivation, adaptive thinking, and relational trust. Yet several studies indicate that acute crisis phases also require transactional, managerial, directive, and crisis-specific leadership behaviors, especially when rapid compliance, procedural clarity, and immediate decision-making are necessary [40], [43], [52]. Thus, TL does not replace other leadership approaches; rather, it complements them by strengthening the human and relational conditions that enable crisis-management systems to function effectively.

This comparison with other leadership models is important because it clarifies the distinctive but bounded contribution of TL. Instructional leadership is primarily concerned with curriculum, teaching quality, and pedagogical supervision, making it particularly relevant when crisis response requires the protection of instructional standards and learning continuity [53], [54]. Distributed leadership strengthens shared responsibility, professional collaboration, and the mobilization of collective expertise, which become essential when schools cannot rely on a single leader's decision-making [55], [56]. Transactional leadership may provide role clarity, accountability, and procedural discipline during the acute stage of a crisis, whereas crisis leadership frameworks emphasize rapid assessment, emergency coordination, communication, and recovery planning [5], [57]–[59]. The reviewed evidence suggests that effective crisis leadership in schools rarely follows a single theoretical model. Rather, leaders appear to combine transformational, instructional, distributed, transactional, technological, and crisis-oriented practices according to the phase and intensity of disruption [40], [43], [52]. Table 5 summarizes the comparative role, limitation, and phase-specific relevance of these leadership approaches in strengthening crisis resilience in K–12 schools.

Table 5. Comparative roles of leadership approaches across crisis phases in K–12 schools

Leadership approach	Primary contribution during crisis	Key limitation when used alone	Most relevant crisis phase
Transformational	Builds shared purpose, trust, motivation, teacher commitment, and adaptive capacity	May not provide sufficient procedural control or rapid operational direction during acute disruption	Adaptation and recovery
Instructional	Protects instructional quality, curriculum continuity, teacher guidance, and pedagogical coherence	May be too narrowly focused on teaching and learning when wider organizational coordination is required	Adaptation and continuity
Distributed	Mobilizes collective expertise, shared decision-making, peer support, and collaborative problem-solving	Can create coordination difficulties when immediate centralized decisions are required	Adaptation and recovery
Transactional and managerial	Provides role clarity, compliance, accountability, routines, and operational stability	May generate compliance without necessarily strengthening trust, innovation, or long-term adaptive capacity	Acute response
Crisis	Enables rapid assessment, emergency coordination, communication, prioritization, and recovery planning	Can become overly directive if not balanced with teacher support, collaboration, and shared meaning	Acute response and early recovery

Table 5 clarifies that TL offers a distinctive contribution to crisis resilience by strengthening the relational and motivational conditions that support collective adaptation. However, the evidence indicates that its value is greatest when it is integrated with other leadership approaches rather than applied in isolation. Transactional, managerial, and crisis leadership behaviors may be more necessary during the acute response phase, when schools require rapid coordination, procedural clarity, and immediate operational control. In contrast, instructional and distributed leadership become increasingly important during adaptation and recovery, when schools must sustain teaching quality, mobilize professional expertise, and convert crisis-related learning into longer-term organizational improvement.

The review also demonstrates that TL shapes organizational resilience through collective and relational processes. Resilience in the reviewed studies was not merely a matter of “bouncing back” to pre-crisis routines, but involved the capacity to absorb disruption, adapt organizational practices, and reorganize school functions under sustained uncertainty. This interpretation aligns with resilience theory, which conceptualizes resilience as adaptation and reorganization rather than passive recovery [18]–[20]. Within K–12 schools, resilience appeared to emerge through trust, collaboration, collective efficacy, organizational learning, relational coordination, and distributed problem-solving [32], [47]. TL contributed to these processes by helping leaders create shared meaning, encourage professional commitment, and support teachers' willingness to participate in collective adaptation. However, the evidence also indicates that these

organizational mechanisms were not simply produced by leader charisma, where they depended on routines, communication channels, peer support, and organizational structures that allowed leadership influence to become embedded in daily school practice.

A key theoretical contribution of this review is therefore the argument that TL does not directly “cause” organizational resilience. Rather, TL appears to activate the organizational conditions through which resilience becomes possible. This distinction is important because it prevents an over-personalized or heroic interpretation of school crisis leadership. Resilient schools were not merely those led by inspiring principals, but those in which leadership behaviors were translated into CTE, relational trust, organizational learning, and adaptive routines. This interpretation is supported by studies showing that relational coordination, collective efficacy, job satisfaction, and organizational support mediated or strengthened the relationship between TL and crisis-related outcomes [32], [34], [35], [47]. The evidence base for this pathway is relatively robust because several of these findings were derived from higher-quality quantitative studies using structural equation modeling, mediation analysis, or moderated mediation designs. Nevertheless, because many of these studies were cross-sectional, the direction and durability of these relationships should still be interpreted cautiously.

The teacher-capacity pathway was one of the most consistent mechanisms identified in the review. TL was associated with teacher self-efficacy, emotional well-being, job satisfaction, psychological capital, professional agency, commitment, and digital confidence [34], [44], [48], [51]. These teacher-level mechanisms help explain why TL is relevant during crises: it strengthens the psychological and professional resources teachers need to sustain instruction when ordinary routines collapse. In particular, self-efficacy and emotional well-being were important because teachers had to manage unfamiliar technologies, increased workloads, uncertainty about policy directions, and the emotional demands of supporting students during disruption. However, the evidence also cautions against assuming that teacher capacity can be built through leadership support alone. Organizational support, workload, access to resources, and institutional flexibility shaped whether leadership influence could be translated into sustained teacher performance and resilience [32], [35], [44]. Therefore, teacher capacity should be viewed as a conditional mechanism. TL can strengthen it, but cannot fully compensate for weak organizational support or excessive structural pressure.

This finding is especially important because some schools may appear resilient simply because teaching and administrative work continue during crisis. Continuity, however, is not the same as resilience if it is maintained through teacher overwork, emotional exhaustion, or informal coping. Several studies in the review point to workload, burnout, stress, and emotional well-being as central crisis-related concerns [35], [44]. This suggests that organizational resilience must be evaluated not only by whether schools continue functioning, but also by whether such functioning is sustainable and ethically supported. A school that survives disruption by intensifying teacher labor without adequate support may demonstrate operational continuity, but not genuine resilience. This distinction strengthens the critical contribution of the review by showing that TL must be linked to teacher well-being and organizational support if it is to contribute meaningfully to crisis resilience.

At the organizational level, TL was most effective when it was converted into collective practices rather than remaining dependent on the personal qualities of individual leaders. CTE, organizational learning, relational trust, distributed leadership, and communication systems were repeatedly identified as important mediating or enabling processes [32], [47]. These processes explain why schools with stronger collaborative cultures were better able to coordinate responses, share knowledge, and adapt instructional practices during disruption. This finding also clarifies the relationship between TL and distributed leadership. TL may provide direction, motivation, and shared purpose, but distributed leadership enables professional expertise to circulate across the organization. In crisis contexts, this combination appears especially valuable because centralized leadership alone may be too slow or limited to address rapidly evolving instructional, technological, and emotional demands. Thus, TL contributes to resilience most effectively when it supports distributed capacity rather than concentrating crisis response around the principal.

Digital adaptation emerged as another major pathway linking TL with crisis response and resilience. During COVID-19, schools could not sustain instruction without digitally mediated communication, remote teaching platforms, teacher digital competence, and technological support [36], [48], [50]. The review therefore suggests that digital competence should not be treated as a peripheral technical variable, but as a core condition through which leadership influence is enacted in contemporary crisis contexts. This finding aligns with the TPACK framework, which emphasizes the integration of technological, pedagogical, and content knowledge in effective teaching [21], [22]. It also resonates with technology integration research showing that digital adoption depends not only on access to tools, but also on teacher beliefs, confidence, institutional culture, and leadership support [23]–[25]. In this sense, digital leadership is not separate from TL, but it is one of the ways TL becomes operational during digitally mediated disruption.

Nevertheless, the evidence on digital competence is not uniformly straightforward. Some studies indicate that technological competence and school communication mediated leadership effects on online teaching and digital inclusion [36], [37], [48], [50]. However, other findings suggest that digital competence does not automatically strengthen the relationship between TL and instructional quality when organizational or infrastructural conditions are weak [51]. This inconsistency is theoretically important. It implies that digital competence may function both as a mediator and as a boundary condition. It mediates leadership effects when leaders develop teachers' digital confidence and pedagogical use of technology, but it moderates leadership effectiveness when existing levels of digital readiness, infrastructure, and access determine whether leadership practices can be implemented at all. Therefore, digital competence should be understood as part of a wider organizational ecosystem rather than as an independent guarantee of crisis resilience.

The contextual nature of TL is one of the strongest conclusions of this review. The evidence shows that TL effects are shaped by infrastructure, workload, school resources, organizational support, policy flexibility, digital readiness, and socio-cultural context [35], [37], [50]. This challenges universal claims about TL and suggests that the same leadership behaviors may produce different outcomes depending on the conditions in which they are enacted. In rural or resource-constrained settings, leaders may communicate a strong vision but still lack adequate technological infrastructure to sustain digital learning. In highly centralized policy environments, leaders may wish to act flexibly but remain constrained by top-down regulations. In schools facing high workload and emotional strain, TL may buffer burnout but cannot remove the underlying causes of exhaustion. These examples show that leadership effectiveness is contextual rather than universal, and that TL must be interpreted in relation to the organizational and policy conditions that enable or restrict leader action.

This context-sensitive interpretation also explains why TL should be positioned alongside, rather than above, other leadership approaches. TL is powerful in building commitment, trust, moral purpose, and adaptive capacity, but crisis response also requires operational discipline, instructional focus, distributed expertise, and emergency coordination. During the acute phase of crisis, transactional and managerial leadership may be necessary to establish routines, clarify responsibilities, and ensure compliance with urgent procedures [40], [43], [52]. During the adaptation phase, distributed and instructional leadership may become more important because schools must redesign teaching practices, support peer learning, and sustain pedagogical quality. During the recovery phase, TL may regain prominence by helping schools consolidate learning, rebuild morale, and transform temporary adaptations into long-term organizational improvement. This phase-sensitive interpretation provides a more realistic view of how leadership operates during crisis and avoids overstating the independent power of any single leadership model.

The quality appraisal also affects how confidently these conclusions should be interpreted. Findings related to teacher self-efficacy, emotional well-being, collective efficacy, and organizational learning are supported by several methodologically stronger quantitative studies using mediation models, structural equation modeling, and validated constructs. This ensures relatively stronger confidence in the psychological and organizational pathways. By contrast, some conclusions regarding digital adaptation, leadership flexibility, and contextual variation rely heavily on cross-sectional survey studies or qualitative evidence from specific contexts. Such studies are valuable for generating explanatory insight, but they provide weaker evidence for causal claims. Moreover, non-response bias was not consistently reported in several quantitative studies, particularly those using online surveys during COVID-19. Therefore, while the overall evidence base is sufficiently credible for thematic interpretation, claims about causal direction and generalizability must remain cautious.

The practical and policy implications of this synthesis are significant. For school leaders, the findings suggest that crisis resilience cannot be built through motivational leadership alone. Principals need to develop the capacity to combine vision, emotional support, instructional guidance, digital leadership, operational coordination, and distributed collaboration. Leadership preparation programs should therefore move beyond generic leadership competencies and include crisis sensemaking, teacher well-being, digital pedagogy, organizational learning, and adaptive decision-making. At the policy level, educational authorities should avoid placing the burden of crisis resilience solely on individual school leaders. Leadership effectiveness depends on enabling conditions, including digital infrastructure, professional development, workload management, school-based autonomy, flexible policy support, and access to mental health and well-being resources. In this sense, crisis-resilient schools require both capable leaders and supportive systems.

Taken together, the review answers the research questions by showing that TL supports crisis response and organizational resilience through interconnected psychological, organizational, and digital mechanisms. It facilitates crisis response by strengthening sensemaking, communication, trust, direction, and collective mobilization. It influences organizational resilience by activating teacher capacity, relational coordination, collective efficacy, organizational learning, and adaptive routines. These relationships are

mediated and moderated by teacher self-efficacy, emotional well-being, job satisfaction, digital competence, workload, organizational support, school communication, infrastructure, policy flexibility, and socio-cultural context. The central contribution of the review is therefore not simply that TL is beneficial during crisis, but that its effectiveness depends on how it activates organizational capacities and whether contextual conditions allow those capacities to operate. This shifts the theoretical understanding of TL from a leader-centered model of influence toward a systems-oriented explanation of crisis resilience in K–12 schools.

6. LIMITATIONS

This review has several limitations, including potential language, database, publication, and scope-related biases, that should be considered when interpreting the findings. Although this period was selected to capture contemporary evidence on crisis response, digital adaptation, and school resilience, it may have excluded earlier studies on TL and educational change that could offer additional theoretical insight. Second, the review was restricted to English-language peer-reviewed journal articles. This criterion helped ensure accessibility, consistency, and academic quality, but it may have introduced language bias by excluding relevant studies published in other languages. This limitation is particularly important because crisis leadership and school resilience are strongly shaped by local policy, culture, and socio-economic conditions that may be reported in national or regional journals outside English-language indexing systems.

Third, the reliance on selected academic databases may have affected the comprehensiveness of the evidence base. Although major databases were used to retrieve peer-reviewed educational leadership studies, database coverage is never complete. Relevant studies indexed elsewhere or published in less visible regional journals may not have been captured. In addition, the exclusion of grey literature, policy reports, professional documents, dissertations, and unpublished studies may have increased the risk of publication bias, as studies with significant or positive findings are more likely to appear in peer-reviewed journals.

Fourth, the final dataset was strongly influenced by the COVID-19 pandemic. This is understandable because COVID-19 generated a substantial body of research on school leadership, remote learning, and crisis response. However, the dominance of pandemic-related studies means that the findings may not fully represent other types of crisis, such as natural disasters, armed conflict, economic disruption, cyber incidents, school violence, or prolonged infrastructure failure. Consequently, the conclusions should be interpreted as most directly applicable to pandemic-related and digitally mediated educational disruptions.

Fifth, the methodological characteristics of the included studies also limit the strength of inference. Many quantitative studies used cross-sectional survey designs, which are useful for identifying associations but less suitable for establishing causal relationships or long-term developmental patterns. In addition, several survey-based studies did not report non-response bias in sufficient detail, particularly those conducted through online data collection during the pandemic. As a result, claims about the causal effects of TL on crisis response and organizational resilience should be interpreted cautiously.

Finally, the conceptual focus of this review was intentionally limited to TL. This enabled a focused synthesis, but it also means that other relevant leadership approaches, including instructional leadership, distributed leadership, transactional leadership, adaptive leadership, and crisis leadership, were considered mainly in relation to TL rather than as independent objects of review. Future reviews may therefore compare these leadership models more systematically across different crisis phases and educational contexts.

7. CONCLUSION

This SLR examined how TL contributes to crisis response and organizational resilience in K–12 schools. The synthesis shows that TL is generally associated with stronger crisis response, but its influence is neither direct nor universally sufficient. Rather, TL supports crisis resilience by activating psychological, organizational, and digital mechanisms, including teacher self-efficacy, emotional well-being, collective efficacy, organizational learning, relational coordination, school communication, and digital adaptation.

The main theoretical contribution of this review is its mechanism-based explanation of TL in crisis contexts. Instead of treating TL as a leader-centered model that automatically produces positive outcomes, this review shows that its influence depends on how leadership behaviors are translated into collective capacity, adaptive routines, and organizational learning. This finding extends TL theory by positioning it as a crisis-adaptive capability that works through interconnected teacher, organizational, and digital pathways. It also challenges universal interpretations of TL by showing that leadership effectiveness is shaped by infrastructure, workload, digital readiness, policy flexibility, school culture, and socio-cultural context.

The findings also have important implications for educational practice and policy. For school leaders, crisis resilience requires more than vision, motivation, and inspiration. Principals need the capacity to combine transformational practices with instructional guidance, distributed collaboration, digital leadership, operational coordination, and crisis-specific decision-making. For policymakers, the findings

suggest that leadership development must be supported by wider system conditions, including digital infrastructure, teacher professional learning, workload management, mental health support, flexible school governance, and clear crisis preparedness policies. In this sense, resilient schools are not built by individual leaders alone, but through the alignment of leadership capacity, teacher support, organizational culture, and enabling policy environments.

This review is subject to several limitations. The review was restricted to English-language peer-reviewed journal articles published between 2015 and 2025, which may have excluded relevant earlier studies, non-English publications, regional scholarship, policy reports, dissertations, and grey literature. The final dataset was also strongly shaped by the COVID-19 pandemic, meaning that the findings may be most applicable to pandemic-related and digitally mediated disruptions rather than all forms of educational crisis. In addition, many included studies used cross-sectional designs and several survey-based studies provided limited reporting of non-response bias, which restricts the strength of causal interpretation.

Future research should therefore examine TL and crisis resilience across a wider range of crisis contexts, including natural disasters, conflict, economic disruption, technological failure, and prolonged infrastructure breakdown. Longitudinal and mixed-methods studies are particularly needed to explain how leadership practices and organizational resilience evolve across different crisis phases, from acute disruption to adaptation and recovery. Comparative studies should also examine how TL interacts with instructional, distributed, transactional, adaptive, and crisis leadership models across diverse school systems and socio-cultural contexts. Such research would strengthen understanding of leadership as a dynamic, context-dependent process for building sustainable crisis resilience in K–12 education.

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C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nvestigation

R : **R**esources

D : **D**ata Curation

O : Writing - **O**riginal Draft

E : Writing - Review & **E**ding

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest, whether financial, professional, personal, or otherwise, that could have influenced the conduct, findings, or reporting of this study.

DATA AVAILABILITY

Data availability is not applicable to this paper as no new data were created or analyzed in this study.

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