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What Teachers Believe, Students Feel. Teacher Beliefs, Classroom Climate, and Socio-Emotional Engagement: A Scoping Review

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Abstract: School engagement is often assessed through observable indicators, while less attention is paid to the relational and affective conditions that sustain it. This scoping review maps relationships among teacher beliefs, classroom. climate, and socio-emotional engagement in primary and secondary education. Following JBI guidance and PRISMA-ScR reporting, four databases were searched for peer-reviewed English-language contributions published from 2010 to 15 July 2026. After duplicate removal, 1,021 records were screened and 138 full texts assessed. The final verifiable corpus comprised 23 sources: 14 empirical studies, eight reviews, and one theoretical contribution. Findings indicate that links between teacher beliefs and engagement are predominantly indirect, operating through instructional and relational practices, emotional support, classroom climate, teacher-student relationships, and belonging. The evidence supports a dynamic and reciprocal rather than linear or deterministic model.

Keywords: Teacher beliefs; Classroom climate; Socio-emotional engagement; Teacher-student relationships.

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1. Introduction[•1]

Student engagement is multidimensional and cannot be inferred from observable participation alone. Attendance, persistence, contributions, and task completion capture behavioral involvement but do not fully reveal emotional connection, cognitive investment, or the relational conditions that sustain participation. Fredricks et al. (2004) conceptualized engagement through behavioral, emotional, and cognitive dimensions, while Roorda et al. (2011) showed that supportive teacher-student relationships are associated with stronger engagement and achievement. From this perspective, trust,

Il contributo è frutto della riflessione condivisa degli autori. Nello specifico, ad Alberto Fornasari sono attribuiti i paragrafi 1, 2 e 5, mentre a Gaetano Monaco sono attribuiti i paragrafi 3, 4 e 6

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emotional safety, belonging, and recognition are not ancillary features of schooling but conditions that shape students' willingness to take risks, seek help, and remain involved when learning becomes difficult.

Teacher beliefs are central to these conditions because they provide interpretive frameworks through which teachers understand students, learning, motivation, ability, inclusion, and emotion. Their boundaries are conceptually porous: Pajares (1992) noted the overlap among beliefs, attitudes, values, and personal theories, while Fives and Buehl (2012) described beliefs as filters, frames, and guides for professional judgment. Beliefs are therefore neither isolated opinions nor deterministic causes of practice. They become educationally consequential when they shape expectations, task demands, feedback, wait time, autonomy, error management, and opportunities to participate, and when these practices are perceived by students as signals of confidence, equity, or distrust.

Teacher expectations exemplify this translation from interpretation to experience. Research on self-fulfilling prophecies suggests that expectancy effects are usually modest but may become more consequential when inaccurate expectations persist, particularly for stigmatized groups (Jussim & Harber, 2005). Rubie-Davies and Hattie (2025) further emphasize teachers' general expectancy orientation toward the class: high expectations can support challenging learning environments when accompanied by adequate scaffolding, whereas generalized low expectations may restrict access to demanding tasks and opportunities for improvement. The relevant mechanism is therefore not expectation alone, but the interactional pattern through which expectation becomes visible.

Mindsets and self-efficacy provide related but distinct perspectives. Yu et al. (2022) found no uniform direct association between teachers' beliefs and students' mindsets, whereas Vestad and Bru (2024) reported positive links between students' perceptions of teacher support for a growth mindset and behavioral and emotional engagement. These findings suggest that the pedagogical significance of mindset lies in growth-oriented practices rather than in abstract endorsement. Teacher self-efficacy similarly concerns perceived capacity to organize effective action; Tschannen-Moran and Woolfolk Hoy (2001) distinguish efficacy for instructional strategies, classroom management, and student engagement. Strong self-efficacy may support persistence and adaptive strategy use, but its effects remain contingent on reflective practice and contextual demands.

Beliefs about inclusion, emotions, and Social-Emotional Learning (SEL) broaden the analysis beyond achievement-oriented constructs. They shape how teachers interpret difference, distress, frustration, and fear of error and whether these experiences are treated as part of learning or primarily as disruption. Brackett et al. (2012) showed that teachers' SEL beliefs include comfort with teaching socio-emotional competencies, personal commitment, and perceived support from school culture. Across these domains, beliefs become socially legible through repeated practices. Skinner and Belmont (1993) demonstrated that teacher involvement, structure, and autonomy support are reciprocally related to student engagement, indicating that students' participation and withdrawal can in turn modify teachers' responses and expectations.

Repeated interaction contributes to classroom climate. Wang and Degol (2016) distinguish academic, community, safety, and institutional dimensions of school climate, while M.-T. Wang et al. (2020) found positive associations between classroom climate and social competence, motivation, engagement, and achievement, and negative associations with socio-emotional distress and externalizing behavior. Teacher-student

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relationships personalize these broader processes: Pianta and Hamre (2009) locate classroom interaction within emotional support, classroom organization, and instructional support, and Roorda et al. (2011, 2017) consistently link affectively positive relationships with engagement. Climate and relationship quality therefore provide plausible relational pathways through which professional beliefs acquire experiential meaning. Their importance lies in repeated interaction: the same demanding feedback may be read as investment in improvement within a trusting relationship or as devaluation where prior exchanges have communicated low expectations. This helps explain why the educational effects of beliefs depend on how consistently they are enacted across ordinary classroom situations.

Engagement is also shaped by students' basic psychological needs and sense of belonging. Self-Determination Theory identifies autonomy, competence, and relatedness as foundations for more autonomous motivation and sustained engagement (Ryan & Deci, 2020), while Reeve (2013) highlights agentic engagement as students' proactive contribution to instruction. School belonging, defined as feeling accepted, included, and supported (Goodenow, 1993), is associated with motivational, behavioral, socio-emotional, and academic outcomes (Allen et al., 2018). In this review, socio-emotional engagement is therefore treated as an integrative lens linking emotional engagement, relational connection, belonging, connectedness, psychological safety, and legitimate opportunities for participation.

The resulting framework views teacher beliefs, practices, climate, relationships, belonging, and engagement as dynamically interdependent rather than linearly causal. J. Wang et al. (2022) underscore the need to distinguish teachers' stated beliefs from classroom process quality and shared student perceptions, while Monaco et al. (2025) situate teacher beliefs within relational processes of engagement, disengagement, and dropout. The literature nevertheless remains fragmented across constructs and methods, and the same term may refer to different levels of experience or measurement. This scoping review therefore maps how teacher beliefs are conceptualized and connected with classroom climate and socio-emotional engagement in primary and secondary education, with particular attention to the relational processes through which beliefs may become part of students' everyday school experience and to the distinctions between teachers' stated beliefs, enacted practices, and students' perceptions.

2. Aim of the Scoping Review

The review asked: "How are the relationships among teacher beliefs, classroom climate, and students' socio-emotional engagement conceptualized, investigated, and described in the international literature on primary and secondary school settings?" Four subsidiary questions addressed: (1) the teacher-belief constructs most frequently studied; (2) how engagement was defined and operationalized; (3) the relational processes linking teachers' beliefs with students' experience; and (4) the main conceptual and methodological gaps. The purpose was to map the field rather than to estimate an average effect or establish a single causal relationship.

The review adopts as an orienting hypothesis the proposition that teachers' beliefs may influence engagement primarily when they are translated into instructional and relational practices and contribute to classroom climate. This hypothesis is not treated as an already demonstrated causal sequence, but as a heuristic to be examined through the literature mapping.

3. Method

This study used a scoping review design to map a theoretically and methodologically heterogeneous field. The review followed JBI guidance (Peters et al., 2020) and was reported in accordance with PRISMA-ScR (Tricco et al., 2018). An internal, non-preregistered protocol specified the review question, PCC framework, eligibility criteria, databases, search strategy, selection procedures, and data-charting items.

3.1. Research Questions

The review asked: "How are the relationships among teacher beliefs, classroom climate, and students' socio-emotional engagement conceptualized, investigated, and described in the international literature on primary and secondary school settings?" Four subsidiary questions addressed: (1) the teacher-belief constructs most frequently studied; (2) how engagement was defined and operationalized; (3) the relational processes linking teachers' beliefs with students' experience; and (4) the main conceptual and methodological gaps. The purpose was mapping rather than estimating an average effect or establishing a single causal relationship.

3.2. Inclusion and Exclusion Criteria

The scope was defined through the PCC (Population, Concept, Context) framework.

Table 1. Definition of the PCC framework

Component	Operational definition
Population	Teachers and students in primary and secondary education. Studies involving only one of the two groups were also included, provided that they explicitly examined a dimension of teacher beliefs in relation to students' school experience.
Concept	Teacher beliefs, teacher expectations, teacher mindsets, implicit theories of learning, self-efficacy beliefs, and beliefs about inclusion, emotions, relationships, and Social-Emotional Learning. Connections with behavioral, cognitive, emotional, relational, agentic, and socio-emotional engagement were considered, together with disengagement, classroom climate, teacher-student relationships, emotional support, belonging, and school connectedness.
Context	Primary and lower- and upper-secondary education, including in-person, digital, or hybrid learning environments when the relational and socio-emotional dimension was explicitly addressed.

Eligible sources were peer-reviewed English-language publications from 1 January 2010 to 15 July 2026 on primary or secondary education. Empirical studies, reviews, and theoretical contributions were eligible when they examined teacher beliefs in relation to engagement or school experience; citation searching could also identify contextual sources on climate, relationships, support, belonging, autonomy, or agency. Higher/adult education, non-school settings, achievement-only studies, undefined teacher opinions, non-peer-reviewed sources, and ineligible document types were excluded. Mixed-level samples were retained only when school data were separable.

3.3. Search Strategy and Source Selection

The search covered Scopus, Web of Science Core Collection, ERIC, and APA PsycINFO and was completed on 15 July 2026. The strategy combined teacher-belief terms, engagement/relational terms, and school-context terms. The base Scopus string was:

TITLE-ABS-KEY(("teacher belief*" OR "teacher expectation*" OR "teacher mindset*" OR "implicit theor*" OR "teacher self-efficacy" OR "teacher belief* about inclusion" OR

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"teacher belief* about emotion*" OR "teacher belief* about social emotional learning") AND ("student engagement" OR "school engagement" OR "emotional engagement" OR "affective engagement" OR "cognitive engagement" OR "behavioral engagement" OR "agentic engagement" OR "relational engagement" OR "social-emotional engagement" OR "socio-emotional engagement" OR disengagement OR disaffection OR "classroom climate" OR "teacher-student relation" OR "student-teacher relation*" OR "teacher support" OR "emotional support" OR "school belonging" OR "school connectedness" OR "social emotional learning") AND (school* OR classroom* OR "primary education" OR "elementary school*" OR "secondary education" OR "middle school*" OR "high school*" OR "K-12"))

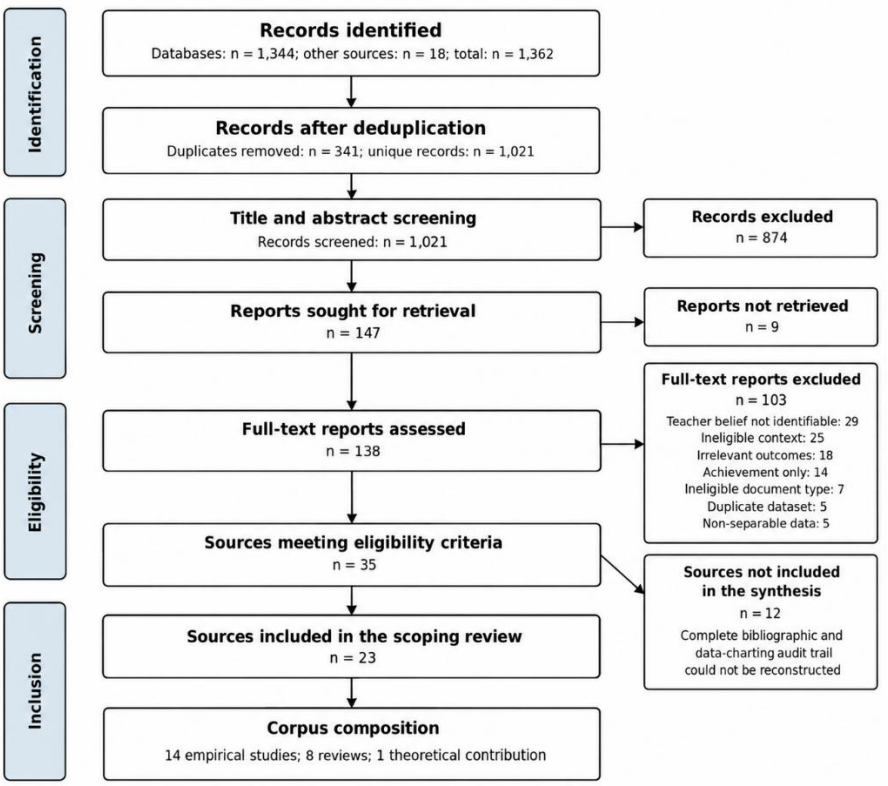
Searches were limited to peer-reviewed English-language sources in the stated period, without an open-access filter, and were supplemented by backward reference screening and forward citation searching. The databases yielded 1,344 records (Scopus 486; Web of Science 271; ERIC 358; APA PsycINFO 229), with 18 additional records from citation searching. Deduplication by DOI and, when necessary, bibliographic matching removed 341 duplicates, leaving 1,021 unique records.

3.4. Study Selection and Appraisal

Selection comprised title/abstract screening followed by full-text assessment. Two reviewers piloted the criteria on 50 records. One reviewer then screened all 1,021 records, while a second independently checked a random sample of 255 records (approximately 25%); agreement was 93.3% (Cohen's $\kappa = .84$). After 874 exclusions, 147 reports were sought, nine were unavailable, and 138 were independently assessed by two reviewers, with 91.3% agreement ($\kappa = .88$); disagreements were resolved through discussion. Of the 138 full-text reports assessed, 103 were excluded: 29 lacked an identifiable teacher-belief construct, 25 concerned an ineligible educational context, 18 lacked relevant engagement, climate, or socio-emotional outcomes, 14 focused exclusively on achievement, seven were ineligible document types, five were based on datasets already represented in the corpus without additional analyses, and five contained school-level data that could not be separated from other educational contexts. Thirty-five sources therefore met the eligibility criteria. During the final audit, however, a complete bibliographic and data-charting trail could not be reconstructed for 12 of these sources; they were consequently not included in the final synthesis. The final verifiable corpus comprised 23 sources: 14 empirical studies, eight reviews, and one theoretical contribution.

Twelve sources were classified as core because they directly examined teacher beliefs; 11 were contextual sources used to reconstruct climate, relationships, support, belonging, autonomy, and agency. Contextual sources informed interpretation but were not counted when estimating the recurrence of teacher-belief categories. Figure 1 summarizes identification, screening, eligibility, and inclusion.

Figure 1. Identification, screening, eligibility, and inclusion of sources (PRISMA-ScR).



Data charting used a structured form piloted on five diverse sources and recorded, when available, bibliographic/contextual information, design, sample, theoretical framework, belief and engagement measures, relational processes, findings, limitations, and gaps. One reviewer charted the data; the second verified bibliographic/methodological information and 30% of conceptual coding. Emergent categories were applied retrospectively to the corpus, consistent with iterative charting (Pollock et al., 2023).

Analysis combined descriptive mapping with qualitative content analysis. Source type, role, publication period, and predominant belief categories were summarized, whereas incomplete data on country, sample, design, and instruments were not aggregated. Coding distinguished beliefs, practices, climate, relationships, belonging, safety, engagement, and disengagement and classified the nature of the reported links. No meta-analysis was conducted because of the heterogeneity of the included sources, and no formal risk-of-bias assessment was performed, consistent with the mapping purpose of the review.

4. Results

The final synthesis comprised 23 sources published between 2010 and 2026: 14 empirical studies, eight reviews, and one theoretical contribution. Thirteen empirical

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studies were quantitative and one used mixed methods. Twelve core sources directly addressed teacher beliefs; 11 contextual sources examined relational and environmental processes. Table 2 reports the bibliographic, methodological, and conceptual characteristics of all included sources.

Table 2. Characteristics of the sources included in the scoping review

Author, year, Source type	Teacher belief	Engagement dimension	Intermediate processes	Main findings
Allen et al. (2018) *Meta-analysis*	Not analyzed: contextual source	Belonging; motivational, socio-emotional, and academic outcomes	Teacher support, relationships, school environment	School belonging is associated with personal, academic, relational, and environmental factors; teacher support plays a relevant role.
Brackett et al. (2012) *Empirical instrument-development study*	Beliefs about Social-Emotional Learning	Socio-emotional dimensions and participation	Comfort with teaching SEL, personal commitment, school culture	Teachers' SEL beliefs include comfort with teaching SEL, personal commitment, and perceived support from school culture.
Hettinger et al. (2023) *Quantitative empirical study*	Teacher self-efficacy for engagement	Student interest	Student-perceived emotional support	Teacher self-efficacy is linked to students' perceptions of emotional support, which in turn are associated with their interest; teachers' own ratings of support do not show the same pattern.
Hornstra et al. (2018) *Quantitative empirical study*	Teacher expectations	Intrinsic motivation, engagement, amotivation	Autonomy support, structure, relatedness	Expectations are associated with motivation and engagement; these relationships are mediated, with small effects, by need-supportive teaching practices.
Kelly et al. (2024) *Mixed-methods empirical study*	Beliefs about engagement	Primarily behavioral engagement; cognitive and emotional components	Instructional strategies and behavior regulation	A gap emerges between teachers stated multidimensional understanding of engagement and practices oriented mainly toward behavior regulation, also shaped by socioeconomic context.
Korpershoek et al. (2020) *Meta-analysis*	Not analyzed: contextual source	Belonging, motivation, socio-emotional and behavioral outcomes	School belonging and connectedness	Belonging is positively associated with motivational, socio-emotional, behavioral, and academic outcomes and negatively associated with absence and dropout.
Lazarides et al. (2023) *Quantitative empirical study*	Teacher self-efficacy and value attributed to engagement	Quality of teacher-student relationships	Work demands and school context	Self-efficacy and value attributed to engagement are linked to relationship quality when job demands are not excessive.
Mesler et al. (2021) *Quantitative empirical study*	Teacher growth mindset	Students' growth mindset	Growth-oriented messages and practices	Teachers' growth mindset shows a positive but modest relationship with the development of similar beliefs among students.
Monaco et al. (2025) *Theoretical*	Teacher beliefs and expectations	Engagement, disengagement, and dropout	Recognition, teacher-student relationship, community inclusion	Teacher beliefs are considered a relational factor involved in

contribution				engagement/disengagement and dropout through the quality of perceived recognition.
Morin (2020) *Quantitative empirical study*	Not analyzed: contextual source	Loneliness and social school experience	Social classroom environment	Teacher support is linked to perceptions of the social environment, through which indirect effects on school loneliness emerge.
Reeve (2013) *Quantitative empirical study*	Not analyzed: contextual source	Agentic engagement	Autonomy support and opportunities to influence the activity	Agentic engagement is conceptualized and empirically examined as students' proactive contribution through questions, preferences, and attempts to influence instruction.
Reyes et al. (2012) *Quantitative empirical study*	Not analyzed: contextual source	Engagement and achievement	Emotional classroom climate	Engagement mediates the relationship between emotional classroom climate and academic achievement.
Roorda et al. (2011) *Meta-analysis*	Not analyzed: contextual source	Engagement and achievement	Closeness, support, conflict	Positive and supportive relationships are associated with higher engagement and achievement, whereas conflict and distance are associated with less favorable outcomes.
Roorda et al. (2017) *Meta-analysis*	Not analyzed: contextual source	Engagement and achievement	Teacher-student relationship	The analysis supports engagement as a possible intermediate pathway between relationship quality and achievement, with differences by age, school level, and design.
Rubie-Davies & Hattie (2025) *Narrative review*	Teacher expectations	Participation and learning opportunities	Interactions, feedback, distribution of opportunities	Expectations shape interactions, opportunities, and feedback; teachers' general expectancy orientation toward the class is particularly relevant.
Ryan & Deci (2020) *Theoretical review*	Not analyzed: contextual source	Motivation and engagement	Autonomy, competence, relatedness	Support for autonomy, competence, and relatedness promotes more autonomous motivation and more sustained engagement.
M.-T. Wang et al. (2024) *Quantitative empirical study*	Teacher mindset: self-reported and student-perceived	Engagement, emotional well-being, social connectedness	Growth-oriented classroom practices and student perceptions	Student-perceived teacher mindset is associated with engagement, emotional well-being, and social connectedness; teachers' self-reported mindset does not show the same classroom-level pattern.
Tvedt et al. (2021) *Quantitative empirical study*	Not analyzed: contextual source	Emotional engagement, boredom, intentions to quit	Teacher support and belonging	Perceived support is associated with intentions to quit both directly and through emotional engagement and boredom.
Vestad & Bru (2024) *Quantitative empirical study*	Perceived teacher support for a growth mindset	Behavioral and emotional engagement	Growth-oriented practices	Students' perceptions of teacher support for a growth mindset are positively associated with engagement, directly and through students' beliefs about the malleability of abilities.
J. Wang et al.	Teacher beliefs	Student engagement	Classroom process	Teacher beliefs were not

(2022) *Quantitative empirical study*			quality and connectedness	significantly associated with classroom process quality, whereas connectedness and technology use were linked to student engagement.
Wang & Degol (2016) *Theoretical review*	Not analyzed: contextual source	Motivation, engagement, and achievement	Academic climate, community, safety, institutional environment	School climate is organized into four domains, with measurement approaches and associations with student outcomes synthesized.
M.-T. Wang et al. (2020) *Systematic review and meta-analysis*	Not analyzed: contextual source	Engagement, motivation, social competence, achievement	Relational and instructional classroom climate	Classroom climate is positively associated with social competence, motivation, engagement, and achievement and negatively associated with socio-emotional distress and externalizing behavior.
Yu et al. (2022) *Quantitative empirical study*	Teacher beliefs and mindset	Students' growth mindset	Instructional practices and school climate	No uniform direct association emerges between teachers' beliefs and students' mindset; instructional practices and school climate appear more salient.

Interest in the topic increased over time: four sources were published in 2010-2015, eight in 2016-2020, and 11 in 2021-2026. Recent work increasingly addressed mindsets, students' perceptions, SEL, belonging, and classroom process quality. Because country, school level, and sample size were inconsistently reported, these variables were not aggregated. Table 3 summarizes corpus composition.

Table 3. General characteristics of the included sources

Characteristic	Category	n	%
Source type	Empirical studies	14	60.9
	Reviews	8	34.8
	Theoretical contributions	1	4.3
Role in corpus	Core sources	12	52.2
	Contextual sources	11	47.8
Approach of empirical studies	Quantitative	13	92.9
	Mixed methods	1	7.1
Publication period	2010–2015	4	17.4
	2016–2020	8	34.8
	2021–2026	11	47.8

Note. Percentages for source type, role in the corpus, and publication period were calculated on the full corpus (N = 23); percentages for methodological approach were calculated on the empirical studies (n = 14).

Across the 12 core sources, teacher beliefs were heterogeneous. Mindsets and implicit theories formed the largest cluster (n = 4), while teacher expectations, self-efficacy/value of engagement, and broader teacher-belief configurations each appeared in two sources; beliefs about engagement and SEL appeared once each (Table 4). Expectations represented a historically established strand: Hornstra et al. (2018) linked expectations with motivation and engagement through need-supportive practices. Mindset studies emphasized perception and enactment: Mesler et al. (2021) found a modest association between teacher and student growth mindsets; Yu et al. (2022) highlighted practices and climate rather than a uniform direct link; Vestad and Bru (2024) associated perceived growth-oriented support with behavioral and emotional

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engagement; and M.-T. Wang et al. (2024) found student-perceived, but not teacher self-reported, mindset related to engagement, well-being, and connectedness.

Self-efficacy findings were similarly relational. Hettinger et al. (2023) linked teacher self-efficacy to students' perceived emotional support and interest, whereas Lazarides et al. (2023) showed that self-efficacy and the value assigned to engagement were associated with relationship quality under manageable work demands. Kelly et al. (2024) identified a gap between teachers' multidimensional understanding of engagement and practices oriented largely toward behavior regulation. Brackett et al. (2012) represented the SEL-beliefs strand, focusing on teachers' comfort, commitment, and perceived school support.

Table 4. Predominant types of teacher beliefs in the core sources

Predominant type	n	Sources
Mindsets and implicit theories	4	Mesler et al. (2021); M.-T. Wang et al. (2024); Vestad & Bru (2024); Yu et al. (2022)
Teacher expectations	2	Hornstra et al. (2018); Rubie-Davies & Hattie (2025)
Teacher self-efficacy and value of engagement	2	Hettinger et al. (2023); Lazarides et al. (2023)
General teacher beliefs	2	Monaco et al. (2025); J. Wang et al. (2022)
Beliefs about engagement	1	Kelly et al. (2024)
Beliefs about Social-Emotional Learning	1	Brackett et al. (2012)

Note. Each core source was assigned to the category representing its predominant focus; categories are therefore mutually exclusive and sum to the 12 core sources.

Engagement dimensions were likewise heterogeneous (Table 5). Behavioral indicators included participation, persistence, and on-task activity; emotional indicators included interest, boredom, well-being, and affective connection; relational indicators centered on belonging, connectedness, and teacher-student relationships. Cognitive and agentic engagement were less often isolated, while disengagement and intentions to leave school appeared mainly in secondary-school work.

Table 5. Dimensions of engagement represented in the corpus

Dimension	Main sources	Predominant indicators
Behavioral	Hornstra et al. (2018); Kelly et al. (2024); Korpershoek et al. (2020); Rubie-Davies & Hattie (2025); Vestad & Bru (2024); J. Wang et al. (2022)	Participation, persistence, activity, on-task behavior
Emotional and socio-emotional	Allen et al. (2018); Brackett et al. (2012); Kelly et al. (2024); M.-T. Wang et al. (2024); Tvedt et al. (2021); Vestad & Bru (2024); M.-T. Wang et al. (2020)	Interest, well-being, boredom, affective connection, safety
Cognitive and motivational	Hornstra et al. (2018); Kelly et al. (2024); Ryan & Deci (2020); Wang & Degol (2016); M.-T. Wang et al. (2020)	Investment, motivation, strategies, meaning of the activity
Relational and belonging	Allen et al. (2018); Korpershoek et al. (2020); Lazarides et al. (2023); Morin (2020); Roorda et al. (2011, 2017); M.-T. Wang et al. (2024); Tvedt et al. (2021)	Belonging, connectedness, support, recognition
Agentic	Reeve (2013)	Initiative, help seeking, expression of preferences
Disengagement and dropout	Hornstra et al. (2018); Monaco et al. (2025); Tvedt et al. (2021)	Amotivation, withdrawal, boredom, intentions to leave

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The connection between teacher beliefs and engagement was predominantly interpreted through intermediate processes (Table 6): teacher support and relationships, classroom climate, belonging and connectedness, autonomy support, growth-oriented practices, feedback and error management, and SEL-related emotional climate. Across contextual sources, relationship quality and teacher support represented the most consistently supported empirical components of the mapping, while belonging and connectedness captured whether participation was experienced as legitimate and sustainable. This supports an indirect interpretation of teacher beliefs: their educational relevance becomes visible when they are translated into interactional patterns that students can perceive.

Table 6. Intermediate processes mapped in the corpus

Process	Main sources	Predominant function
Teacher support and teacher-student relationship	Allen et al. (2018); Hettinger et al. (2023); Hornstra et al. (2018); Lazarides et al. (2023); Morin (2020); Roorda et al. (2011, 2017); Tvedt et al. (2021)	Communicating trust, equity, availability, and recognition
Classroom climate and process quality	Reyes et al. (2012); Wang & Degol (2016); M.-T. Wang et al. (2020); J. Wang et al. (2022); Yu et al. (2022)	Building safety and shared conditions for participation
Autonomy and psychological needs	Hornstra et al. (2018); Reeve (2013); Ryan & Deci (2020)	Supporting choice, competence, relatedness, and initiative
Belonging and connectedness	Allen et al. (2018); Korpershoek et al. (2020); Morin (2020); M.-T. Wang et al. (2024); Tvedt et al. (2021)	Strengthening students' connection to class and school
Growth-oriented practices	Mesler et al. (2021); M.-T. Wang et al. (2024); Vestad & Bru (2024); Yu et al. (2022)	Communicating the malleability of abilities
Feedback and error management	Rubie-Davies & Hattie (2025); Vestad & Bru (2024)	Shaping the interpretation of failure and persistence
SEL and emotional climate	Brackett et al. (2012); Reyes et al. (2012)	Recognizing emotions, safety, and socio-emotional competencies

Among the 14 empirical studies, designs were mainly associational; several used multi-informant data. Lazarides et al. (2023) used a longitudinal design, J. Wang et al. (2022) a multilevel analysis, and M.-T. Wang et al. (2024) and Yu et al. (2022) integrated multiple perspectives. Heterogeneous instruments prevented reliable aggregation of measurement techniques.

Overall, the literature supports a dynamic configuration in which teacher beliefs shape interpretations and practices that contribute to climate and relationship quality and, through belonging and emotional safety, to engagement or disengagement. Evidence was stronger for support, climate, relationships, and belonging than for a direct belief-to-practice link. Socio-emotional engagement emerged as an intersection of affective connection, safety, connectedness, and legitimate participation rather than as a single variable. Mindsets were the most represented core domain, while inclusion, emotion, SEL, feedback, error management, and agency remained less integrated.

5. Discussion

Taken together, the findings suggest that the educational relevance of teacher beliefs lies less in a direct association with engagement than in the relational and instructional processes through which beliefs become perceptible to students. Expectations, demands, autonomy, feedback, support, and opportunities to participate constitute the main pathways through which professional interpretations acquire experiential meaning. Hornstra et al. (2018), for example, illustrated this mediated pattern by showing how teacher expectations were linked to motivation and engagement through need-supportive practices. Teacher beliefs are therefore better understood as interpretive filters embedded in classroom routines and conditions than as deterministic antecedents.

Mindset research reinforces this conclusion. Yu et al. (2022) found no uniform direct link between teachers' and students' beliefs, whereas Vestad and Bru (2024) emphasized students' perceptions of growth-oriented support. M.-T. Wang et al. (2024) similarly showed that student-perceived teacher mindset, rather than teachers' self-reports, was associated with engagement, well-being, and connectedness. The same discrepancy appears in research on support: Hettinger et al. (2023) linked students' perceived emotional support with interest, while teachers' own ratings differed; J. Wang et al. (2022) likewise distinguished stated beliefs from classroom process quality. The gap between intention, enactment, and reception is therefore substantive.

Contextual sources provide stronger evidence for the relational conditions surrounding engagement than for a direct belief-practice pathway. Reyes et al. (2012) showed that engagement mediated the association between emotional classroom climate and achievement; Morin (2020) linked teacher support with perceptions of the social environment and school loneliness; and Korpershoek et al. (2020) associated school belonging with favorable motivational, socio-emotional, behavioral, and academic outcomes and with lower absence and dropout. Tvedt et al. (2021) further showed that support, emotional engagement, boredom, and intentions to leave school are interconnected. These findings support a view of climate as the accumulated pattern of everyday interactions through which students infer safety, fairness, recognition, and belonging.

Socio-emotional engagement consequently remains best understood as an integrative rather than standardized construct. Its components are distributed across emotional engagement, belonging, connectedness, teacher support, well-being, and relational safety. Behavioral indicators remain important but are insufficient: compliance may coexist with emotional withdrawal, while limited overt participation may coexist with cognitive interest. Agentic engagement is especially underdeveloped in the corpus, although Reeve (2013) demonstrates the importance of students' proactive contribution to instruction. The review therefore supports a broader account of engagement that includes students' capacity to participate, seek help, express preferences, and remain connected to learning under conditions of uncertainty and error.

The initial model—teacher beliefs, practices, climate, belonging, and engagement—receives partial and predominantly indirect support and should be interpreted reciprocally. Students respond to teachers through participation, withdrawal, opposition, help seeking, and initiative; these responses may reinforce or modify teachers' interpretations. Teacher self-efficacy is similarly contextual: Lazarides et al. (2023) linked efficacy and value for engagement with relationship quality under varying work demands. Workload, assessment pressure, class composition, time, and collegial

support may therefore constrain the translation of beliefs into practices. Professional development should address this system by connecting reflection on beliefs with observation of practice and students' perceptions rather than treating beliefs as isolated cognitions to be corrected.

Pedagogically, classroom climate should be treated as part of instructional design. Emotional safety, equity, and belonging require transparent expectations, accessible feedback, non-devaluing responses to error, and meaningful opportunities to contribute. This also has an ethical dimension: beliefs shape the possibilities recognized in students. Attending to socio-emotional engagement therefore means organizing challenge so that participation, high expectations, and dignity remain compatible.

Several gaps remain. Definitions are fragmented, while longitudinal, multilevel, multi-informant, and observational studies remain limited. Agency, emotional safety, feedback, error management, and beliefs about inclusion, emotion, and SEL are comparatively underdeveloped. Future work should connect stated beliefs, observed practices, student perceptions, and classroom characteristics and test whether professional-development interventions grounded in observation, student dialogue, and collegial reflection can alter relational practices and engagement.

The review also has limitations. It included only peer-reviewed English-language sources published between 1 January 2010 and 15 July 2026, excluding grey literature, theses, chapters, and publications in other languages. Heterogeneity precluded quantitative synthesis, and no formal risk-of-bias assessment was undertaken. Although 35 sources met eligibility criteria, a complete audit trail could not be reconstructed for 12, restricting the synthesis to 23 fully traceable sources. This loss reduces the completeness of the mapping and warrants caution when interpreting recurring patterns and research gaps.

6. Conclusions

This scoping review mapped a circumscribed and heterogeneous field in which the relationship between teacher beliefs and engagement is relevant but not yet fully understood. Professional beliefs shape how teachers interpret behavior, attribute difficulty, form expectations, and distribute opportunities; their educational significance, however, depends less on stated endorsement than on how they are enacted and perceived within interaction.

The connection with engagement is predominantly indirect. Between beliefs and engagement lie task demands, feedback, error management, autonomy support, teacher-student relationships, classroom climate, and belonging. Through these pathways, expectations may be experienced as trust or distrust and difficulty as either a malleable condition or a fixed personal trait. Engagement therefore cannot be reduced to visible compliance: sustained involvement also requires cognitive investment, emotional connection, belonging, and the perceived legitimacy of participation.

The emerging model is dynamic and reciprocal. Teacher beliefs orient interpretations and practices; repeated practices contribute to climate and relationships; these affect safety, belonging, and engagement; and students' responses feed back into teachers' subsequent beliefs. The most important implication is that the quality of the relational pathway matters as much as the content of the initial belief: what students experience depends on how expectations are communicated, revised, and embedded in everyday classroom routines. This reciprocity does not remove professional

responsibility, but it cautions against treating expectations as unilateral determinants of outcomes.

A key research direction concerns the distance between what teachers say they believe, what they enact, and what students perceive. Longitudinal and multi-informant designs should examine these three levels within the same classrooms and evaluate changes in engagement over time. The analytical focus would then shift from isolated beliefs to the coherence among belief, practice, and reception.

To support this agenda, the present contribution proposes a Teacher Beliefs and Relational Practices Lab for primary and secondary teachers. The pathway could elicit beliefs through scenarios and critical incidents, observe classroom episodes involving feedback, error, speaking opportunities, and autonomy, and compare teachers' intentions with students' anonymous perceptions. Teachers or teams could then select one relational practice to modify and reassess it through follow-up observation after implementation.

The laboratory would not classify beliefs as morally right or wrong or evaluate intentions; its purpose would be to make the relational consequences of implicit beliefs visible and reduce the distance between intended communication and student experience. Changes in beliefs could be examined alongside changes in practices and climate to assess whether greater coherence among declared trust, opportunities offered, and perceived recognition supports socio-emotional engagement.

The central issue is therefore not only what teachers believe about students, but what experiences those beliefs make possible. Expectations enter relationships through ordinary decisions—the time allowed for an answer, the complexity of a task, the response to an error, or whose voice is heard. What teachers believe does not determine what students will become, but it can help delimit what students feel able to attempt. Examining these processes allows schools to connect the quality of learning with the quality of recognition and to build conditions in which participation is genuinely worthwhile.

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