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Antecedents of mindset in primary school EFL learners: A systematic review from an ecological perspective

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Abstract

Moving beyond literature that treats mindset primarily as a success predictor, this systematic review addresses the central research question concerning the social, pedagogical, and contextual antecedents shaping growth and fixed mindsets in primary school EFL learners. Following PRISMA guidelines, 31 empirical studies published between 2017 and 2025 were selected from Google Scholar and Web of Science, prioritizing recent research (2021–2025) while extending the scope to capture limited earlier studies in primary EFL contexts. Data were analyzed using typological and thematic analyses. Findings were synthesized into four themes: teacher antecedents, family factors, social and peer influences, and individual learning experiences. Results indicate that mindset functions as a multi-layered belief system shaped by early social environments rather than as a purely individual trait. The study highlights the importance of mindset alignment across family, school, and peer settings and underscores the need for longitudinal research and holistic ecosystem-oriented interventions in primary education.

Introduction

Beliefs regarding the nature of intelligence and ability act as fundamental frameworks that guide how individuals interpret and respond to learning situations. Central to this understanding is Dweck's Mindset Theory, which categorizes these beliefs into two distinct frameworks: fixed mindset, viewing intelligence as a static trait, and growth mindset, viewing it as malleable through effort and strategy (Dweck, 2000; Dweck & Leggett, 1988). While these constructs were initially conceptualized as individual implicit theories, integrating them with Bronfenbrenner's (1979) ecological perspective reveals that mindsets are not isolated traits but comprehensive meaning systems constructed through interactions within a social and ecological environment (Dweck et al., 1995; Lou, 2025; Shirvan et al., 2021). Since development is defined as lasting changes in how a person perceives and copes with their environment, antecedents such as family messages, teacher feedback, and peer interactions become the cornerstones of mindset formation. Consequently, mindset should be understood not merely as an individual preference, but as a dynamic social construction shaped by multi-layered environmental factors (Shirvan et al., 2021). Indeed, recent systematic reviews warn that focusing solely on individual beliefs often fails to sustain mindset changes, highlighting the urgent need to address ecological factors such as family and school dynamics (Jiang et al., 2023).

In the specific context of English as a Foreign Language (EFL), mindset transcends general academic motivation and becomes a critical determinant of language acquisition mechanisms. Unlike other subjects, language learning is inherently a "social performance" fraught with the risk of making mistakes in front of others. Within this high-stakes environment, mindset interacts directly with what Krashen (1982) termed the "Affective Filter." Learners with a fixed mindset are likely to perceive linguistic errors as proof of a lack of "natural talent", thereby raising their anxiety levels and withdrawing from communication (Mercer, 2012; Sadoughi & Hejazi, 2023). Conversely, a growth mindset

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functions as a protective shield, allowing learners to reframe errors as necessary input for acquisition rather than threats to self-worth (Lou & Noels, 2017). Therefore, understanding the roots of these beliefs is vital for ELT, as the surrounding ecosystem—teacher feedback, parental beliefs, and peer culture—constitutes the "soil" that either lowers the affective filter or reinforces fixed beliefs regarding language aptitude (Lou, 2025; Yao et al., 2025).

Despite the centrality of mindset to language proficiency, a review of the existing literature reveals a functional limitation: the majority of research treats English proficiency as a monolithic grade, often overlooking how mindset interacts with specific language skills. While some studies have examined mindset in relation to specific competencies such as writing motivation (Bai & Guo, 2021) or willingness to communicate (Wang et al., 2021), there is a significant scarcity of research addressing the antecedents of these mindsets in primary school learners (Oruç, 2025; Xu & Feng, 2024). Most existing studies focus on mindset as a predictor of academic outcomes rather than its origins. Understanding the socializing processes and the ecosystem surrounding the child remains a critical theoretical gap.

Furthermore, a notable limitation in the current body of knowledge is the lack of focus on primary school learners. Most language mindset research has been conducted with university students or adults, overlooking the critical developmental period when the "Language Self-Concept" is first established (Sadoughi et al., 2023; Zhang & He, 2024). Similarly, a recent review by Kim and Shin (2025) highlights that while mindset research is increasing, studies conducted internationally tend to skew towards higher education levels, confirming the gap in the primary school context. Mindsets begin to form at an early age, and transitions such as starting primary school are decisive in constructing belief systems that influence long-term language learning trajectories (Lam et al., 2023). The ecological approach suggests that effective early interventions require a holistic understanding of how family beliefs, teacher practices, and peer culture interact to shape a young learner's perception of their language ability. This aligns with recent reviews suggesting that effective mindset cultivation requires moving beyond isolated bespoke activities to "embedded cultural practices" within the school environment (Savvides & Bond, 2021).

In contemporary EFL contexts, young learners increasingly face institutional pressures, exam-oriented language assessment practices, and early performance comparisons that shape their beliefs about linguistic ability from the earliest stages of schooling. These pressures have become even more salient in post-pandemic learning environments, where learner disengagement has been widely reported. Within such contexts, mindset development cannot be treated as an individual psychological attribute alone, but rather as an outcome of interacting social, pedagogical, and institutional forces. By systematically examining the antecedents of mindset in primary school EFL learners, this review responds to an urgent educational need to understand how early language learning environments shape students' beliefs about language aptitude, effort, and ability, with implications extending beyond individual classrooms to broader school and system-level practices.

In summary, this study addresses the pressing issue of the lack of holistic research on the formation of mindset in young EFL learners and the dominance of outcome-oriented studies in the field. The purpose of this research is to investigate the antecedent factors influencing the development of growth and fixed mindsets in primary school students through a systematic review, aiming to shed light on the social and pedagogical origins of these beliefs and contribute valuable insights to the field of early language education. To guide our investigation, the following research questions will be explored:

1. What are the general characteristics of the included studies in terms of research approaches, participant profiles, geographic distribution, and data collection methods?
2. What are the antecedents shaping mindset development in primary school EFL learners?
3. How do teacher-related factors influence the development of student mindset?
4. How do family-related factors affect children's mindset development?
5. How do social context and peer interactions influence the formation and transformation of individual mindset beliefs?
6. What role do students' individual learning experiences play in constructing their mindset structure?

By addressing these inquiries, we aim to provide a structured framework for mindset formation in early language learning, ultimately advancing our understanding of how to foster resilient learning beliefs in young students.

Method

The primary purpose of this study is to analyze the antecedent factors influencing the development of growth and fixed mindsets in primary school EFL learners based on current literature and to evaluate the findings obtained. In this context, a systematic literature review method was used. Higgins et al. (2019) define a systematic review as a scientific process that aims to identify, evaluate, and synthesize all empirical evidence that meets pre-specified eligibility criteria to answer a specific research question. Unlike traditional narrative reviews, this method minimizes bias by using explicit and systematic methods during the search, selection, and synthesis of articles. Furthermore, this study follows the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency and replicability in the research process (Page et al., 2021).

Study Selection

The selection process was guided by strict eligibility criteria to ensure both the methodological rigor and the contextual homogeneity of the review. As visualized in the PRISMA 2020 flow diagram (Fig. 1), studies were evaluated based on specific Inclusion and Exclusion criteria designed to isolate the ecological antecedents of mindset in language learning contexts.

Inclusion Criteria

To be included in the review, studies had to meet the following conditions:

1. Population and ecological focus: The primary participants were primary school learners (approximate ages 6–12, spanning ISCED Level 1). However, grounded in the understanding that the primary school ecosystem is constituted by the dynamic interaction of parents, teachers, and peers (Bronfenbrenner, 1979), this review adopted a holistic approach. Therefore, studies focusing on microsystem agents (teachers or parents) were included if and only if they explicitly investigated factors shaping primary-aged learners' mindsets, treating these agents not as separate subjects but as essential components of the learner's ecological environment.
2. Context: The study was conducted specifically within English as a Foreign Language (EFL) or Second Language (L2) learning contexts.
3. Focus: The research empirically examined the antecedents (social, pedagogical, or contextual factors) of mindset formation, rather than solely focusing on mindset as a predictor of academic achievement.
4. Publication type: The study was an original empirical research article (quantitative, qualitative, or mixed-methods) published in English between 2017 and 2025.

Exclusion Criteria

Studies were excluded if they failed to meet the primary criteria or fell into the following categories:

1. Contextual mismatch: Studies conducted in general education, STEM (Science, Technology, Engineering, Mathematics), or native language (L1) contexts were excluded to maintain the specific focus on language learning dynamics (Reason 1).
2. Age group mismatch: Studies focusing on secondary (high school) or tertiary (university) education were excluded to isolate the developmental antecedents specific to childhood (Reason 2).
3. Study design: Theoretical papers, systematic reviews, book chapters, dissertations, and editorials were excluded to strictly focus on peer-reviewed data-driven evidence (Reason 3).

Final Selection

The systematic screening process is visualized in the PRISMA 2020 flow diagram (Fig. 1). The initial database search yielded a substantial pool of records (n=1,465). Following the removal of duplicates and the screening of titles, the majority were excluded due to a lack of relevance to the specific primary school EFL context (Inclusion Criteria 1 & 2). As detailed in the diagram, full-text access restrictions limited the retrieval of certain dissertations (n=127). Ultimately, a rigorous eligibility assessment was conducted on the remaining full texts. At this stage, studies conducted in STEM/general education settings or focusing on secondary/tertiary levels were excluded to maintain ecological homogeneity (Exclusion Criteria 1 & 2). Consequently, 31 empirical articles were deemed suitable for the final qualitative synthesis.

Data Collection

In the data collection process, a comprehensive search strategy was employed across Google Scholar and Web of Science (WoS) databases to ensure a balanced inclusion of high-impact empirical studies and broader academic literature. The temporal scope of the search was defined as 2017 to 2025. While the review prioritized recent developments (2021–2025), the start date of 2017 was strategically selected to encompass seminal empirical studies on early childhood antecedents (e.g., Gunderson et al., 2017) that marked a shift from outcome-oriented research to process-oriented ecological inquiries. This timeframe ensures the inclusion of foundational findings regarding family and teacher influences that continue to underpin contemporary EFL mindset research.

To ensure replicability and mitigate terminological ambiguity, specific keywords were combined into Boolean search strings. A particular challenge in comparative education reviews is the geographic variation in school terminology (e.g., 'primary school' in the UK/Europe vs. 'elementary school' in the US/Asia). To resolve this and ensure the coverage of the full International Standard Classification of Education (ISCED) Level 1 (UNESCO, 2012), these terms were employed as interchangeable search keywords. An example of the full search string employed was: ("mindset" OR "growth mindset" OR "fixed mindset") AND ("EFL" OR "foreign language learning") AND ("primary school" OR "young learners" OR "elementary students").

Regarding Google Scholar, given the high volume of unrefined results, searches were conducted using the same boolean combinations, but entries were sorted by relevance. Consequently, screening was strictly limited to the first 200 results for each combination, as relevance significantly decreased beyond this point—a filtering method aligned with standard recommendations for reviews utilizing broad academic search engines.

Data Analysis

The data analysis process was initiated with the systematic extraction of bibliographic information, methodological details, and key findings from the selected 31 articles into a digital database, followed by a rigorous full-text examination by the researcher. To ensure a comprehensive evaluation, the analysis was conducted in two distinct stages. First, a typological analysis (Grant & Booth, 2009) was performed to categorize the studies based on research approaches, participant profiles, geographic locations, and data collection tools, thereby identifying methodological trends in the existing literature. Second, a thematic analysis (Braun & Clarke, 2006) was utilized to synthesize findings related to mindset antecedents, where coded data were structured based on recurring patterns.

To ensure theoretical coherence, the identified codes were synthesized through the lens of the 'Mindset × Ecological-System' framework proposed by Lou (2025). This framework conceptualizes mindset development as an interaction between the learner's internal meaning-making and their external environment, using the 'seed and soil' metaphor wherein the seed of mindset requires the fertile soil of the environment to flourish. Accordingly, the findings were categorized into four ecological domains: (1) teacher-related factors and (2) family-related factors (representing the supportive 'soil' of the microsystem), (3) social context and peer interactions (reflecting the broader relational climate), and (4) individual learning experiences (corresponding to the learner's internal meaning-making system).

Results

Findings on the General Characteristics of the Included Studies

Table 1 presents the findings obtained from the typological analysis regarding the research approaches, participant profiles, geographic distribution, data collection methods, and focal language skills of the 31 studies included in the systematic review.

Upon examining the methodological landscape presented in Table 1, distinct trends regarding research approaches and participant demographics emerge.

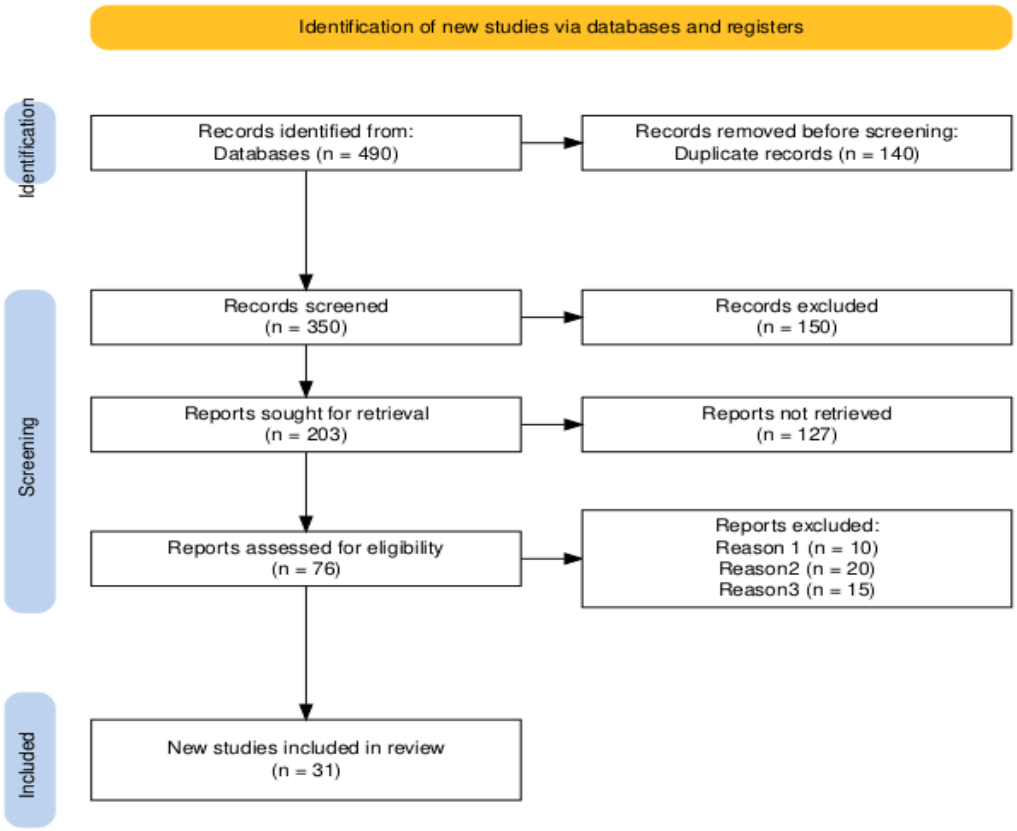

Fig. 1. PRISMA 2020 flow diagram of the study selection process.

Table 1.
General Characteristics of Included Studies based on Participants, Geography, Data Collection Methods, and Focal Language Skills.

Category	Sub-Category	Ratio (%)	Example Source
Participants	Primary School Learners	58%	Bai & Guo (2021)
	Longitudinal (Primary to Secondary)	29%	Yu et al. (2025)
	Teachers & Parents (Microsystem Agents)	13%	Chen & Liu (2023)
Region	East Asia (China/HK)	48%	Kwok et al. (2025)
	Europe (Finland/Netherlands)	29%	Laine et al. (2025)
	USA and Others	23%	Gunderson et al. (2017)
Data Collection	Questionnaire Only	65%	Dong (2024)
	Questionnaire + Performance Test	20%	Shen et al. (2024)
	Observation/Video/Interview	15%	Yao et al. (2025)
Focal Language Skill	General English Achievement	70%	Dong (2024); Yu et al. (2025)
	Writing & Composition	15%	Bai & Guo (2021); Truax (2018)
	Speaking & WTC	15%	Wang et al. (2025); Wang et al. (2021)

Research Approaches and Methodological Distribution

The analysis reveals a strong dominance of quantitative approaches in mindset research, with a particular emphasis on model-driven investigations of motivational and achievement-related variables. Researchers have largely relied on statistical modeling to explore the relationships between mindset, motivation, and academic outcomes. For instance, Bai and Guo (2021) and Dong (2024) employed Structural Equation Modeling (SEM) to examine the

mediating roles of motivational beliefs in relation to academic achievement. Similarly, Yu et al. (2025) utilized Latent Profile Analysis (LPA), a person-centered approach, to suggest that students do not merely hold a binary mindset but can possess mixed mindset profiles that change over time. While quantitative methods dominate, qualitative and mixed-method designs provided deeper contextual insights that could not be captured through survey-based approaches alone. Notably, Yao et al. (2025) used semi-structured interviews and audio recordings to analyze the consistency between teachers' self-reported beliefs and their actual feedback practices, offering a granularity that surveys alone could not capture.

Overall, the methodological dominance of quantitative and cross-sectional designs suggests consistent patterns in mindset-related variables, while also limiting causal interpretations of the reported relationships. This dominance of quantitative methodologies aligns with the recent findings of Kim and Shin (2025), who reviewed 40 studies and reported that mindset research in English education predominantly relies on quantitative measures rather than qualitative inquiries.

Participant Profiles

The review highlights a strong research focus on primary school learners, addressing a critical gap in a literature traditionally centered on older age groups. For example, Bai and Guo (2021) focused their investigation on 523 fourth-grade students, while Lam et al. (2023) examined engagement and well-being in first graders. This shift suggests a growing recognition that mindset construction may begin early. Furthermore, studies involving adults or adopting a triadic approach underscore the ecological nature of the construct by demonstrating that student mindset is embedded within parent–child–teacher belief systems rather than isolated learner attributes. Chen and Liu (2023), for instance, included over 4,000 parent-child dyads to trace the intergenerational transmission of mindset, suggesting that student beliefs are closely connected to parental influence. However, most studies examining participant profiles relied on cross-sectional and self-report data, indicating that conclusions regarding intergenerational and ecological influences on mindset should be interpreted with caution.

Distribution of Focal Language Skills

A critical analysis of the included studies reveals distinct variations in how English proficiency was operationalized. While the majority of studies utilized general English achievement scores or holistic proficiency grades as a broad indicator of competence, a subset specifically targeted distinct language skills. Writing emerged as a significant focus area; for instance, Bai and Guo (2021) and Truax (2018) specifically examined the relationship between mindset and L2 writing strategies, finding that growth mindset is essential for maintaining motivation during the cognitively demanding revision processes. Speaking and Communication represented another critical domain, particularly in studies focusing on classroom interaction and anxiety. Wang et al. (2021) and Wang et al. (2025) focused on "Willingness to Communicate" (WTC) and speaking proficiency, identifying that students with high growth mindsets were more resilient against the foreign language anxiety associated with oral performance. This distribution suggests that while general proficiency remains the dominant measure, there is a specific interest in how mindset shapes productive skills (writing and speaking) in young learners.

Geographic Distribution

Geographically, the research is heavily concentrated in East Asia, particularly in China and Hong Kong. This trend is exemplified by studies such as Kwok et al. (2025) and Zhang and He (2024), which investigate mindset within highly competitive, exam-oriented educational systems rooted in Confucian heritage where effort is culturally emphasized. In contrast, European studies, including those by Laine et al. (2025) in Finland and Yu et al. (2022) in the Netherlands, tend to focus more on the influence of school climate and teacher practices on student mindset. This distribution suggests that cultural context plays an important role in how mindset is conceptualized, operationalized, and prioritized across educational systems. It should be noted that this regional concentration may partly reflect publication patterns and database coverage rather than a comprehensive representation of global mindset research.

Data Collection Methods

In terms of data collection tools, self-report questionnaires emerged as the dominant instrument in the reviewed studies. Research such as Wang et al. (2021) relied on online Likert-scale surveys to efficiently measure learner beliefs across large samples. To address some of the inherent limitations of self-reporting, a subset of studies, including Shen

et al. (2024) and Lee et al. (2025), supplemented questionnaires with objective performance measures in English or Mathematics. Additionally, observational approaches enhanced ecological validity; for example, Sheffler and Cheung (2022) employed video-based coding of mother–child interactions to capture mindset-related behaviors in real time, moving beyond reported perceptions toward observed practices.

Despite these methodological variations, the overall reliance on self-report instruments warrants cautious interpretation of the findings, given the potential influence of response and social desirability biases.

Findings on the Antecedents Shaping Mindset Development

The thematic analysis of the 31 studies specifically focusing on mindset formation revealed that the antecedents of mindset in primary school EFL learners are not isolated variables but are embedded within complex social and pedagogical interactions. As presented in Table 2, these antecedents were synthesized under four main themes: teacher-related factors, family-related factors, social context and peer interactions, and individual learning experiences.

Table 2.
Thematic Categorization of Antecedents Influencing Mindset Formation.

Main Theme	Key Factors (Sub-Themes)	Example Source
Teacher-Related Factors	Teacher Language & Feedback (Process vs. Person)	Truax (2018); Kidachi & Leis (2025)
	Meta-lay Theories (Perceived Teacher Beliefs)	Dong (2024)
	Classroom Practices (Differentiation vs. Inquiry)	Yu et al. (2022)
Family-Related Factors	Parental Praise (Process Praise)	Gunderson et al. (2017)
	Intergenerational Transmission & Beliefs	Chen & Liu (2023)
	Failure Mindset & Support	Liu et al. (2023); Peng & Zhang (2025)
Social Context & Peers	Social Contagion of Mindset	King (2020)
	Classroom Goal Structures	Yu et al. (2025)
	Sense of Belonging & Cultural Values	Seo et al. (2025); Bai et al. (2025)
Learning Experiences	Self-Regulation & Self-Efficacy	Bai & Guo (2021)
	Academic History & Success/Failure	Yu et al. (2025)
	Social-Emotional Skills	Shen et al. (2024)

Examination of Table 2 suggests that mindset formation in young learners can be understood as a multi-layered process consistent with Bronfenbrenner's ecological systems theory. The identified antecedents span the microsystem (direct interactions with teachers and parents), the mesosystem (interactions between home and school), and the macrosystem (broader cultural values related to effort and ability). Studies such as Gunderson et al. (2017) and Truax (2018) demonstrate that the quality of feedback (process-oriented versus trait-oriented) provided by significant adults contributes to how children interpret their language abilities. Furthermore, social context and peer interactions emerge as critical socializing forces during primary schooling. The concept of "social contagion" identified by King (2020) suggests that mindset operates not merely as an individual belief but as a shared classroom norm. Finally, learning experiences represent the internal mechanisms through which external feedback is internalized; factors such as self-regulation and self-efficacy (Bai & Guo, 2021) play a central role in shaping whether learners adopt resilient or fixed approaches to language learning tasks. Overall, this thematic distribution confirms that investigating mindset solely as an individual cognitive trait is insufficient, pointing instead to a dynamic construction process shaped by the interaction of pedagogical practices, parental attitudes, and peer dynamics.

Findings on the Impact of Teacher-Related Factors on Mindset Development

The analysis of the included studies indicates that teachers represent a salient influence on the development of student mindset within the school microsystem. As illustrated in the summary of findings in Table 3, teacher-related antecedents are primarily reported through three interrelated mechanisms: teacher language and feedback, classroom practices, and students' perceptions of teacher beliefs (meta-lay theories).

Table 3.
Teacher-Related Factors Shaping Student Mindset

Key Factor	Findings & Impact	Source
Teacher Language & Feedback	Process-focused feedback is associated with enhanced motivation; person-focused criticism may foster fixed mindset.	Kidachi & Leis (2025); Yao et al. (2025)
Classroom Practices	Guided inquiry supports growth mindset; ability-based differentiation is linked to fixed beliefs.	Yu et al. (2022)
Meta-Lay Theories	Students' belief that "my teacher thinks I can improve" predicts their own growth mindset.	Dong (2024)
Teacher Belief-Practice Gap	Institutional pressures may force growth-minded teachers to use fixed-mindset practices.	Zhang & He (2024); Gong (2025)

The synthesis of these studies suggests that the quality of teacher–student interaction is more consistently associated with students' mindset-related beliefs than teachers' self-reported beliefs alone. Truax (2018) reported that in writing conferences, objective and process-oriented feedback (e.g., focusing on strategies used) was associated with higher levels of writing motivation and learner resilience. In contrast, critical language focusing on the person or innate ability was reported to relate to diminished student motivation, potentially reinforcing fixed mindset orientations. Supporting this, recent experimental research by Kidachi and Leis (2025) demonstrated that subjecting students to fixed-mindset praise can be actively harmful, leading to a noticeable decline in mindset levels even among learners who initially possessed growth-oriented beliefs.

Conversely, the positive impact of pedagogical intervention is evident in inclusive settings. Wang et al. (2025) reported that while students with Learning Difficulties (LD) typically exhibit lower self-efficacy and mindset scores than their peers, targeted 'effort praise' interventions significantly improved both their growth mindset beliefs and English-speaking proficiency, highlighting the restorative power of teacher feedback for vulnerable learners. However, maintaining such practices remains a challenge in high-pressure contexts. As reported by Yao et al. (2025), even teachers who self-identify as holding growth-oriented beliefs may inadvertently employ fixed-oriented feedback under high-stakes assessment pressures, suggesting a discrepancy between stated beliefs and enacted practices. This systemic tension is further clarified by Gong (2025), who found that despite teachers possessing high knowledge of communicative policies, their actual enactment is constrained by a mismatch between policy goals and the rigid exam-oriented education system, creating a structural barrier to fostering growth-oriented learning environments. In response to such challenges, Wahdeni et al. (2025) emphasize the necessity of professional development, proposing that training teachers in 'deep learning' strategies can provide the pedagogical tools needed to sustain growth-oriented practices despite external pressures.

Furthermore, the pedagogical approach adopted in the classroom may function as an implicit signal of mindset-related values. Yu et al. (2022) highlighted that constructivist practices, such as guided inquiry, may be associated with growth-oriented beliefs by framing learning as an ongoing process. In contrast, ability-based task differentiation may communicate implicit messages about fixed ability, which have been linked to more fixed mindset orientations among lower-performing students.

Perhaps the most prominent theme in recent literature is the emergence of meta-lay theories. Dong (2024) and Lee et al. (2025) reported that students' perceptions of their teachers' beliefs (e.g., "Does my teacher believe I can improve?") are more strongly associated with students' own mindset orientations than teachers' self-reported beliefs. These findings suggest that mindset transmission may function as a communicative process, whereby teachers' beliefs are interpreted by students through observable feedback, instructional choices, and interactional cues.

It should be noted that the majority of studies examining teacher-related antecedents rely on cross-sectional, qualitative, or self-report designs, which supports the identification of consistent associations but limits strong causal claims regarding the impact of teacher practices on mindset development.

Findings on the Impact of Family-Related Factors on Mindset Development

The synthesis of the included studies suggests that the family represents a central socialization context in which children's mindset-related beliefs are shaped. As detailed in Table 4, family-related antecedents are reported to influence children's mindset through multiple interrelated channels, including the nature of parental praise, intergenerational transmission of beliefs, parental responses to failure, and the broader emotional support system.

Table 4.
Family-Related Factors Shaping Student Mindset.

Key Factor	Findings & Impact	Source
Parental Praise & Feedback	Process praise (effort/strategy) is associated with growth-oriented beliefs; outcome-based feedback is linked to fixed mindset.	Gunderson et al. (2017)
Intergenerational Transmission	Mothers' growth mindset and high expectations are reported to be associated with children.	Chen & Liu (2023)
Failure Mindset	Parents viewing "failure-is-enhancing" relates to higher academic confidence and growth mindset in children.	Liu et al. (2023)
Parental Support & Perception	Perceived family support is linked to higher self-efficacy; intrusive parenting is associated with suppressed growth mindset.	Peng & Zhang (2025); Sheffler & Cheung (2022)
Emotional Climate	Emotional abuse or trauma may disrupt mindset formation; encouragement of effort supports resilience.	Bai et al. (2025); Kwok et al. (2025)

The findings presented in Table 4 indicate that the nature of parental feedback is consistently associated with children's mindset-related beliefs. The longitudinal study by Gunderson et al. (2017) reported that process praise (focusing on effort and strategy) provided during early childhood was associated with later academic outcomes and growth-oriented beliefs in adolescence. In contrast, findings indicate that result-oriented feedback focusing on grades or innate intelligence is linked to more fixed mindset orientations (Gunderson et al., 2017). These findings suggest that it is not merely the presence of praise, but its focus, that is relevant to mindset development.

Beyond verbal feedback, parental beliefs appear to play a role through intergenerational transmission processes. Studies have reported that parents, particularly mothers, who endorse growth-oriented beliefs and maintain high expectations tend to be associated with home environments in which ability is perceived as malleable (Chen & Liu, 2023; Lee et al., 2025). Furthermore, parental responses to academic setbacks appear to be relevant. Liu et al. (2023) reported that when parents endorse a "failure-is-enhancing" perspective—viewing mistakes as learning opportunities—children tend to report higher academic confidence and more growth-oriented beliefs.

Finally, the broader emotional climate of the family may shape how these beliefs are internalized. Sheffler and Cheung (2022) reported that when parents perceive their children as competent, they are more likely to provide autonomy-supportive scaffolding, whereas perceptions of low competence are associated with more intrusive parenting practices, which have been linked to less adaptive mindset-related beliefs. Similarly, Peng and Zhang (2025) and Kwok et al. (2025) emphasized that while perceived family support is associated with higher self-efficacy, adverse emotional experiences such as emotional abuse may undermine the psychological resources needed to sustain growth-oriented beliefs. It is important to note that although several studies employed longitudinal or large-scale survey designs, the evidence regarding family-related antecedents is primarily correlational, which supports the identification of consistent associations but limits strong causal interpretations.

Findings on the Impact of Social Context and Peer Interactions on Mindset Development

The analysis of the included studies suggests that mindset formation extends beyond individual cognition and is closely associated with the social ecosystem of the classroom. As summarized in Table 5, social antecedents are reported to influence students' mindset-related beliefs through mechanisms such as social contagion, peer culture, classroom goal structures, and broader societal values.

The synthesis of these studies highlights the socially embedded nature of mindset development. King (2020) introduced the concept of "social contagion," reporting longitudinal evidence that students' mindset-related beliefs are associated with the prevailing mindset norms within their classroom. The study found that higher levels of fixed mindset at the classroom level were related to individual students' mindset orientations several months later, suggesting that peer interactions may play a role in the social transmission of beliefs about intelligence.

Seo et al. (2025) highlighted the intersection between classroom mindset culture and students' sense of belonging. Their findings suggest that in classrooms characterized by fixed mindset norms, students who struggle academically or come from minority backgrounds tend to report a reduced sense of belonging, which is associated with more fixed-

oriented beliefs. Conversely, Kwok et al. (2025) reported that positive relationships within the school context are associated with more adaptive mindset-related beliefs, even among students who experience adverse conditions or trauma in the family environment.

Table 5.
Social Context and Peer Factors Shaping Student Mindset.

Key Factor	Findings & Impact	Source
Social Contagion	Peer mindset is associated with changes in individual mindset over time; fixed mindset may spread among classmates like a social norm.	King (2020)
Peer Mindset Culture & Belonging	Fixed-mindset peer cultures are linked to reduced the sense of belonging, especially for vulnerable or lower-performing students.	Seo et al. (2025)
Classroom Goal Structures	Perceived mastery goals support growth mindset profiles; performance-avoidance structures are associated with fixed mindset and disengagement.	Yu et al. (2025)
Societal & Cultural Values	Perceived societal value of language learning is associated with a higher likelihood of adopting a growth mindset profile.	Bai et al. (2025)
Protective Relationships	Positive relationships with peers and teachers are associated with reduced negative impact of family trauma on mindset.	Kwok et al. (2025)

Furthermore, the structural design of the learning environment plays a pivotal role. Yu et al. (2025) reported that students' perceptions of classroom goal structures are associated with different mindset profiles. Learning environments emphasizing mastery goals were linked to more growth-oriented profiles, whereas performance-avoidance structures were associated with more fixed mindset orientations and higher levels of disengagement. Finally, Bai et al. (2025) extended the analysis to the macrosystem, reporting that students' perceptions of the societal value placed on English learning are associated with growth-oriented mindset profiles, illustrating how broader cultural expectations may filter down to shape individual beliefs.

It should be noted that although several studies employed longitudinal or multilevel designs, the evidence regarding social and peer-related antecedents is largely relational, which supports interpretations of association but limits definitive causal conclusions.

Findings on the Impact of Individual Learning Experiences on Mindset Development

The analysis of the included studies suggests that students' individual engagement with the learning process is closely associated with mindset-related beliefs. As summarized in Table 6, internal mechanisms such as self-regulation, self-efficacy, academic history, and emotional regulation appear to interact in ways that are related to the development and maintenance of growth- or fixed-oriented mindset patterns.

Table 6.
Individual Learning Experience Factors Shaping Student Mindset.

Key Factor	Findings & Impact	Source
Self-Regulated Learning (SRL)	Students who use planning and monitoring strategies perceive learning as controllable, which is associated with a growth mindset.	Bai & Guo (2021); Bai et al. (2025)
Self-Efficacy	Belief in one's capability to succeed is strongly associated with maintaining a growth mindset.	Wang et al. (2025); Peng & Zhang (2025)
Academic History	High prior achievement is associated with more stable mindset profiles; history of failure or low grades is linked to fixed mindset and disengagement.	Yu et al. (2025)
Emotional Regulation & SEL	Social-emotional skills help students interpret errors constructively rather than as threats to self-worth.	Shen et al. (2024); Truax (2018)
Online Learning Experience	Successfully managing one's own learning process in challenging contexts (e.g., online classes) is associated with strengthened beliefs that ability is malleable.	Dong (2024)

The synthesis of these studies suggests that mindset is dynamically related to students' ongoing learning experiences. Bai and Guo (2021) and Bai et al. (2025) reported a reciprocal association between self-regulated learning (SRL) and mindset. Students who engage in planning, monitoring, and evaluating their own learning tend to perceive the learning process as more controllable (Bai & Guo, 2021; Yuan et al., 2024), which is associated with more growth-oriented mindset beliefs. This sense of agency serves as empirical proof to the student that ability is not fixed but can be improved through strategic effort. Dong (2024) further examined this relationship in online learning contexts, reporting that students' experiences of successfully managing challenging learning tasks were associated with stronger beliefs in the malleability of ability. Similarly, the ability to regulate negative emotions and maintain engagement in online environments has been identified as being associated with more adaptive mindset-related beliefs (Dong, 2022; Ebn-Abbasi et al., 2024).

Moreover, Peng and Zhang (2025) highlighted the important role of self-efficacy in mindset-related processes. Their findings suggest that students' beliefs about their own capability to successfully engage with learning tasks are closely associated with broader growth-oriented mindset beliefs. Without a basic sense of competence and effective management of cognitive demands (Wang et al., 2025), students may be less likely to endorse the belief that their abilities can improve over time. For students with learning difficulties, Wang et al. (2025) found that low self-efficacy is a primary barrier to growth mindset, which can be mitigated through supportive pedagogical interventions.

Finally, the data indicates that past academic outcomes function as a feedback loop for mindset construction. Yu et al. (2025) reported that students with a history of higher academic achievement were more likely to display stable growth-oriented mindset profiles over time, whereas a history of lower achievement was associated with more fixed-oriented and disengaged profiles. However, Shen et al. (2024) and Truax (2018) emphasized the role of Social and Emotional Learning (SEL) skills in this process. Their findings indicate that students who are able to regulate their emotions tend to interpret academic setbacks as part of the learning process rather than as threats to self-worth, a pattern that is associated with more adaptive, growth-oriented mindset beliefs.

It should be noted that much of the evidence regarding individual learning experiences is based on correlational and self-report data, which supports interpretations of association but limits causal conclusions about the directionality of these relationships.

Taken together, the findings across all four thematic domains suggest that mindset development in primary school EFL learners is a multi-layered and contextually embedded process. Teacher practices, family beliefs, peer dynamics, and individual learning experiences appear to interact across ecological levels rather than operate in isolation. While the reviewed studies consistently point to meaningful associations between these antecedents and students' mindset-related beliefs, the strength and nature of these relationships vary depending on contextual conditions, research design, and developmental stage. This integrated pattern underscores the importance of examining mindset formation as a dynamic process shaped by the alignment—or misalignment—of influences across home, school, and individual learning contexts.

Discussion, Conclusion & Suggestions

The systematic analysis of 31 studies indicates that research on mindset antecedents in the EFL context has reached a certain methodological maturity, though it remains geographically clustered. As noted in the review, the dominance of quantitative approaches, particularly Structural Equation Modeling (SEM), has enabled researchers to model complex relationships (Bai & Guo, 2021). However, regarding the strength of the evidence, it is important to note that the majority of these studies are cross-sectional. While they provide robust data on the associations between environmental factors and mindset, they cannot definitively establish causality. Therefore, the findings should be interpreted as highlighting conditions that are associated with the development of mindset, rather than as simple cause-and-effect mechanisms.

The synthesis of findings regarding teacher and family antecedents supports Bronfenbrenner's ecological perspective, suggesting that mindset acts as a dynamic social construction. A critical insight from the reviewed literature is the distinction between reported beliefs and perceived practices. While teachers' self-reported growth mindset is theoretically important, recent findings suggest that students' perception of their teacher's belief (meta-lay theories) appears to be more strongly associated with students' own mindset (Dong, 2024; Lee et al., 2025). This aligns with Savvides and Bond (2021), implying that providing teachers with a specific 'growth mindset script'—focused on process praise and reframing mistakes—is a central mechanism for operationalizing mindset. Similarly, in the family context, the "nature" of feedback (process vs. person praise) appears to be a more powerful mechanism of

transmission than the parents' mindset alone (Gunderson et al., 2017). From a critical perspective, the findings regarding social context and peer interactions raise significant equity concerns regarding the structure of educational systems. The phenomenon of "social contagion" (King, 2020) suggests that classrooms develop "mindset norms." However, these norms do not emerge in a vacuum. As highlighted by Yu et al. (2022) and Zhang and He (2024), institutional pressures—such as rigid ability tracking, high-stakes testing, and competitive ranking—can create environments in which the adoption of a fixed mindset may be understood as a rational response to systemic demands. As validated by Gong (2025), even teachers with high pedagogical awareness struggle to enact growth-oriented practices when national assessment policies contradict classroom goals. If the school culture structurally rewards innate ability over effort, individual interventions targeting only the student risk becoming "decontextualized psychological fixes" that place the burden of adaptation solely on the learner while ignoring systemic barriers.

Therefore, efforts to foster growth mindset in EFL learners must extend beyond the classroom to broader school and system-level policies. The evidence implies that "mindset alignment" across the ecological system is essential (Seo et al., 2025). For instance, a teacher's ability to provide process-oriented feedback may be constrained by assessment mandates that prioritize accuracy over experimentation (Gong, 2025). Consequently, effective intervention requires addressing these structural contradictions to ensure that assessment policies do not undermine the pedagogical messages of resilience given in the classroom.

Finally, the findings regarding individual learning experiences suggest a reciprocal association between mindset and Self-Regulated Learning (SRL). Mindset appears not only to shape engagement with learning but also to be shaped by students' experiences of success and control in learning tasks. Students who develop effective self-regulation strategies tend to perceive learning as more controllable, which is associated with stronger beliefs in the malleability of ability (Bai & Guo, 2021; Bai et al., 2025). Conversely, a history of academic difficulty without adequate scaffolding is associated with more fixed-oriented mindset patterns over time (Yu et al., 2025). These findings suggest that pedagogical practices that support students' competence and self-efficacy may indirectly support the development of growth-oriented mindset beliefs.

Conclusion

This systematic review highlights that mindset in primary school EFL learners is best understood as a socially embedded belief system rather than solely an individual or intrinsic trait. By shifting the focus from mindset as an outcome to the ecological conditions that shape its development, this review contributes a synthesized framework of antecedents across school, family, and peer contexts. The synthesized evidence suggests that while individual learning experiences are relevant, the broader "ecosystem of beliefs"—shaped through the alignment of teacher feedback, parental practices, and peer norms—is closely associated with the development of mindset. From this perspective, efforts to foster growth-oriented beliefs are unlikely to be effective when they focus exclusively on the student, without also considering the communicative practices of adults and the structural conditions of schools. Where misalignment exists across these ecological levels, individual attempts to promote resilience may be constrained by contradictory environmental messages.

Taken together, these findings highlight the need for future research and practice to move beyond isolated, student-centered approaches and instead address mindset development through methodologically robust designs and ecosystem-aligned interventions.

Limitations

Several limitations should be considered when interpreting the findings of this systematic review. First, the majority of the included studies relied on self-report questionnaires, which may be susceptible to social desirability bias and may not fully capture the complexity of actual classroom or home practices (Bai et al., 2025; Peng & Zhang, 2025). Second, although some longitudinal studies were included, a substantial proportion of the evidence base remains cross-sectional. This limits the ability to draw strong causal conclusions regarding whether specific antecedents directly influence mindset development or simply co-occur with it. Third, the reviewed literature shows an overrepresentation of samples drawn from East Asian contexts, which may restrict the generalizability of the findings to more diverse cultural settings (Laine et al., 2025; Liu et al., 2023). Finally, as with all systematic reviews, the scope of the synthesis is shaped by the availability of published research in the selected databases.

Suggestions for Future Research and Practice

Based on the findings and limitations of this review, the following suggestions are proposed for future research and practice:

Future research should prioritize longitudinal and intervention-based designs to map the developmental trajectories of mindset, particularly during critical transition periods from primary to secondary school, to establish stronger causal evidence (Bai et al., 2025). Such designs would allow researchers to move beyond cross-sectional associations and provide stronger evidence regarding how specific pedagogical and contextual factors contribute to mindset development.

To address the limitations associated with self-report measures, future studies are encouraged to incorporate multi-source data collection methods. These may include classroom observations, discourse analysis of teacher–student interactions, and parent–child video protocols, which can more accurately capture the social and communicative processes through which mindset beliefs are transmitted and reinforced (Zhang & He, 2024).

The findings suggest that effective mindset development may benefit more from holistic, ecosystem-oriented interventions than from approaches focusing exclusively on student-level or intrapersonal factors. Recent reviews indicate that interventions predominantly targeting individual beliefs often overlook ecological influences and may therefore struggle to sustain long-term impact (Jiang et al., 2023). Accordingly, mindset cultivation can be conceptualized as an embedded cultural practice rather than a standalone psychological intervention (Savvides & Bond, 2021). From this perspective, teacher training is paramount; as proposed by Wahdeni et al. (2025), professional development programs focusing on 'deep learning' and mindset pedagogy are essential to equip teachers with the skills to navigate systemic pressures. Furthermore, policymakers play a critical role; mindset alignment requires that assessment policies do not contradict the pedagogical goals of resilience (Khunaprom & Chansirisira, 2025; Platte et al., 2025; Seo et al., 2025). Finally, interventions must be inclusive. Drawing on Wang et al. (2025), targeted feedback mechanisms such as 'effort praise' should be systematically integrated to support students with learning difficulties, ensuring that improvements in both growth mindset and English-speaking proficiency are accessible to all learners regardless of their starting competence.

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Authors' Contributions

Özge Doğan conceived the study framework and contributed to the development of the research design and theoretical positioning of the manuscript. Sibel Güzel Yüce conducted the systematic review process, carried out the literature search and data analysis, interpreted the findings, and wrote the manuscript. Both authors reviewed and approved the final version of the manuscript.

Ethics Declaration

This study is a systematic review based solely on previously published research and does not involve any direct data collection from human participants. Therefore, ethical approval was not required. The study was conducted in accordance with academic integrity and ethical research standards.

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