Journal of Student Inquiry and Interdisciplinary Research
ISSN(E): XXXX-0000 - ISSN(P): XXXX-0000 ‖ VOL.1 NO.2, Year ‖ P.028-041
https://cakra-edus.id/index.php/JSIIR
cesi.journal@gmail.com – journal.jsiir@cakra-edus.id

Emotion Regulation as the Foundation of Early Childhood Mental Health: A Literature Review on Instructional Strategies and Environmental Support

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Reviewed: 23/02/2026 **Received**: 02/03/2026 **Accepted**: 21/03/2026

ABSTRACT

Emotion regulation is a central developmental competence that enables young children to recognize, express, and manage emotional responses in adaptive ways and is increasingly considered an important foundation of early childhood mental health. This study aimed to synthesize conceptual and empirical evidence concerning the role of emotion regulation in supporting children's mental health, with particular emphasis on learning strategies and environmental support from teachers, classrooms, parents, and families. A systematic literature review with an integrative thematic synthesis approach was employed. Relevant studies published between 2016 and 2026 were identified through Scopus, Web of Science, ScienceDirect, ERIC, Google Scholar, and SINTA/GARUDA. Following screening and eligibility assessment, 12 peer-reviewed articles were included in the final synthesis. The findings showed that six studies primarily addressed learning and intervention strategies, three focused on teacher and classroom support, and three examined parental and family factors. Social-emotional learning interventions produced improvements in social-emotional competence and reductions in problem behaviors, with reported effect sizes of approximately g = .32–.50. Parent-focused emotion-socialization interventions improved child emotional competence (g = .44) and behavioral adjustment (g = .34), while positive parenting showed an effect of g = .74. Mindfulness, structured play, teacher emotion coaching, supportive classroom climates, family cohesion, and responsive communication were also consistently associated with stronger self-regulation. Overall, the evidence supports an ecological-developmental perspective in which children's emotion regulation emerges through interactions between individual capacities, structured learning experiences, and supportive relational environments. Strengthening these interconnected factors may provide a preventive foundation for resilience, adaptive behavior, and long-term psychological well-being in early childhood.

KEYWORDS: Emotion Regulation; Early Childhood; Mental Health; Social-Emotional Learning; Environmental Support.

INTRODUCTION

Early childhood represents a critical developmental period in which emotional, social, cognitive, and behavioral capacities are rapidly organized into patterns that may influence later psychological adjustment. Among these developmental capacities, emotion regulation is increasingly recognized as a fundamental mechanism underlying children's ability to identify emotional states, modulate emotional arousal, delay impulsive responses, tolerate frustration, and express emotions in socially appropriate ways. Emotion regulation is therefore not merely a behavioral skill but an essential developmental process connecting children's emotional experiences with adaptive functioning and mental health. Compas et al. (2017) demonstrated through a large meta-analysis that adaptive emotion-regulation and coping strategies were consistently associated with lower levels of internalizing and externalizing psychopathology, whereas

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maladaptive strategies such as avoidance, suppression, and disengagement were related to greater psychological difficulties. Similarly, Miu et al. (2022) found that emotion-regulation difficulties constituted an important pathway linking childhood adversity with psychopathological symptoms.

These findings are particularly important during preschool years because young children have not yet developed fully autonomous regulatory capacities. Their emotional regulation remains strongly dependent on co-regulation provided by adults, including parents, caregivers, and teachers. Paley and Hajal (2022) conceptualized emotion regulation and co-regulation as interconnected family-level processes in which caregivers provide external emotional scaffolding until children gradually internalize effective regulatory strategies. Consequently, repeated experiences of supportive responses, emotional validation, predictable routines, and sensitive adult guidance may strengthen children's ability to manage negative affect. Conversely, punitive, dismissive, inconsistent, or emotionally unavailable environments may constrain opportunities for children to develop adaptive emotional strategies. Research on parental emotion socialization confirms that supportive responses to children's emotions provide opportunities for children to understand and manage their emotional experiences, whereas minimization and punitive responses may interfere with regulatory development (Bailes et al., 2023; Breaux et al., 2022).

The issue is increasingly relevant because emotional dysregulation in early childhood may manifest through persistent tantrums, aggression, withdrawal, anxiety, low frustration tolerance, peer difficulties, and problems adjusting to classroom demands. Indonesian evidence also indicates that children's emotional development is shaped by family and environmental conditions. Rachmat et al. (2021), for example, found that family cohesion and interpersonal communication were negatively associated with emotional dysregulation, whereas problematic smartphone use showed a significant positive association with dysregulation among kindergarten children. Muthmainah et al. (2021) similarly highlighted variations in young children's coping responses to negative emotions and the importance of parental responses. Thus, children's mental health cannot be separated from the quality of emotional learning opportunities embedded within their everyday environments.

Contemporary research has progressively shifted from viewing emotion regulation as an individual trait toward understanding it as a developmentally constructed competence emerging through interactions among the child, family, school, and broader environment. At the educational level, self-regulation incorporates attentional control, behavioral inhibition, emotional modulation, and executive processes that enable children to participate successfully in classroom activities (Savina, 2021). Evidence further suggests that language development supports preschool children's ability to regulate emotions by enabling them to label experiences, communicate distress, and use increasingly sophisticated cognitive strategies (Weiland et al., 2019).

One of the most established educational approaches is social and emotional learning (SEL). Murano et al. (2020), in a meta-analysis involving 15,498 preschool children, reported positive effects of universal SEL programs on social-emotional competence and reductions in problem behaviors. A systematic review and meta-analysis of curriculum-based interventions in early childhood education likewise showed that structured SEL programs can improve children's social competence, emotional competence, behavioral regulation, and early learning outcomes. More broadly, Cipriano et al. (2023), synthesizing 424 studies across 53 countries, concluded that universal SEL interventions were associated with improvements in skills, behavior, peer relationships, school functioning, and academic achievement, although outcomes differed according to program characteristics and implementation quality.

Research has also expanded toward more specific instructional strategies. Mindfulness-based learning has demonstrated potential to strengthen preschool executive functioning and attentional regulation (Wood et al., 2018), while emotion-focused conversations, storytelling, shared reading, play, modeling, and emotion coaching provide developmentally appropriate opportunities for children to recognize and communicate emotional states. Indonesian interventions involving emotion courses and shared picture-book reading have likewise illustrated the potential of coordinated home–school activities for supporting preschool emotion regulation (Putri & Primana, 2018). Behavior-modification approaches have also been discussed as strategies for reducing severe tantrums by creating safer and more predictable conditions for emotional expression (Nurfadilah, 2021).

Beyond specific programs, the quality of children's relational environments appears equally important. Classroom emotional climate, teacher warmth, and explicit emotion-socialization practices are associated

with preschoolers' self-regulation (Bassett et al., 2019), while teacher–child relationships may become particularly significant for children experiencing sadness, anxiety, or other internalizing difficulties (Silver et al., 2019). Recent evidence further demonstrates that preschool teachers use both emotion coaching and co-regulation when helping children navigate emotionally challenging episodes in early childhood education settings (Kurki et al., 2024). At home, parental modeling, emotional instruction, and responses to children's emotions show positive associations with children's emotional knowledge, expression, and regulation, although effect sizes vary across studies (Johnson et al., 2021).

Despite the growing literature, several important gaps remain. First, existing studies are often fragmented across separate domains: some focus primarily on SEL curricula, others on parenting practices, classroom climate, behavioral interventions, mindfulness, or teacher–child relationships. Consequently, emotion regulation is frequently examined as one developmental outcome among many rather than synthesized explicitly as a foundational mechanism of early childhood mental health. Second, intervention evidence is heterogeneous. Although meta-analyses generally demonstrate positive effects, effectiveness varies according to intervention intensity, facilitator, age, methodological quality, implementation fidelity, and contextual characteristics (Murano et al., 2020; Cipriano et al., 2023). Parent-focused evidence similarly suggests that emotion coaching is generally advantageous, but relationships between particular parental strategies and child outcomes are not always uniform or large (Johnson et al., 2021). This indicates that no single strategy can sufficiently explain the development of emotional regulation. Third, relatively limited synthesis connects learning strategies and environmental support within one ecological framework, particularly in early childhood contexts. Indonesian studies have examined parental roles, family cohesion, coping, tantrum management, and social-emotional development (Rachmat et al., 2021; Wijayanto, 2020; Yuliandari & Suryana, 2022), but an integrative review positioning emotion regulation simultaneously within instructional practices, teacher support, parenting, family interaction, and broader learning environments remains necessary. Recent Indonesian evidence showing interconnected pathways among parental involvement, teacher–child interaction, self-regulation, and children's social-emotional behavior further supports the need for such an integrated perspective.

Accordingly, this literature review aims to critically synthesize theoretical and empirical evidence concerning emotion regulation as a foundation of mental health in early childhood, with particular attention to learning strategies and environmental support across home and educational contexts. The review examines how SEL, emotion coaching, play and storytelling, mindfulness, teacher scaffolding, supportive classroom climates, parenting practices, family interaction, and adult co-regulation contribute to the development of children's adaptive emotional capacities. The novelty of this review lies in its integrative ecological-developmental perspective. Rather than positioning emotion regulation solely as an individual psychological competence or treating educational and family interventions independently, the review conceptualizes early emotion regulation as the product of dynamic interactions among child characteristics, pedagogical experiences, teacher–child relationships, parental emotion socialization, family climate, and environmental conditions. This synthesis therefore seeks to bridge research in developmental psychology, mental health, parenting, and early childhood education while identifying practical directions for preventive and promotive interventions.

In summary, contemporary evidence indicates that emotion regulation occupies a strategic position at the intersection of early learning, interpersonal adjustment, and mental health. Children develop regulatory competence not in isolation but through repeated emotional experiences with responsive adults, supportive learning activities, and predictable social environments. Therefore, strengthening early childhood mental health requires more than responding to emotional or behavioral problems after they emerge; it requires intentionally constructing educational and family environments that teach children how to recognize, communicate, tolerate, and regulate emotions. An integrated examination of these mechanisms is essential for establishing evidence-based strategies capable of supporting resilient, socially competent, and psychologically healthy development during the early years.

METHOD

This study employed a systematic literature review with an integrative and thematic synthesis approach to examine emotion regulation as a foundation of mental health in early childhood, particularly in relation to learning strategies and environmental support. A literature review was selected because it enables researchers to systematically organize fragmented empirical evidence, identify conceptual patterns, compare findings across contexts, and generate an integrated understanding of a specific research problem (Snyder, 2019). Consistent with the methodological considerations proposed by Munn et al. (2018), the review was designed to answer a focused question concerning how educational strategies, teacher–child interaction, parental support, family climate, and other environmental factors contribute to emotional regulation and mental health among young children.

The literature-search process was conducted systematically following the principles of transparent evidence identification and selection recommended by PRISMA 2020 (Page et al., 2021). PRISMA emphasizes explicit reporting of information sources, eligibility criteria, screening procedures, and reasons for study exclusion to improve the reproducibility and transparency of review research. In parallel, the review process was informed by methodological guidance for evidence synthesis emphasizing systematic searching, structured study selection, data extraction, and interpretive synthesis (Peters et al., 2020).

Relevant publications were searched through Scopus, Web of Science, ScienceDirect, ERIC, Google Scholar, and SINTA/GARUDA. Searches focused on peer-reviewed literature published during the last ten years, primarily between 2016 and 2026. Combinations of English and Indonesian keywords were employed using Boolean operators, including “emotion regulation” AND “early childhood,” “emotional regulation” AND “mental health,” “social-emotional learning” AND “preschool,” “emotion coaching” AND “young children,” “teacher support” AND “emotion regulation,” “parental emotion socialization,” “family environment” AND “child mental health,” and corresponding Indonesian terms such as regulasi emosi, kesehatan mental anak usia dini, pembelajaran sosial emosional, and dukungan lingkungan. The use of multiple databases and search-term combinations was intended to reduce database-specific bias and capture evidence from both international and Indonesian contexts.

Studies were included when they: (1) were published in peer-reviewed journals; (2) involved children approximately 2–8 years of age, parents, caregivers, or early childhood teachers; (3) examined emotion regulation, social-emotional competence, psychological well-being, or closely related mental-health indicators; (4) investigated learning strategies or environmental influences such as parenting, teacher interaction, classroom climate, family relationships, or co-regulation; (5) employed empirical quantitative, qualitative, mixed-method, experimental, longitudinal, or systematic-review designs; and (6) were available in English or Indonesian. Studies were excluded when they focused exclusively on adolescents or adults, addressed clinical disorders without relevance to developmental emotion regulation, were non-peer-reviewed publications, lacked sufficient methodological information, or did not directly contribute to the review objectives. These criteria followed the principle that eligibility rules should be defined in relation to the research question rather than convenience of access (Munn et al., 2018).

After duplicate removal, titles and abstracts were screened for conceptual relevance, followed by full-text assessment. From the eligible literature, 12 articles that most directly addressed the review objectives and met methodological and thematic criteria were retained as the final analytical corpus. The selection process considered clarity of study objectives, appropriateness of research design, participant characteristics, transparency of data analysis, relevance of findings, and contribution to understanding early childhood emotion regulation. Data from the 12 selected studies were extracted into a structured review matrix containing author and year, country, study design, sample characteristics, age group, intervention or environmental factor, emotion-regulation indicator, mental-health or developmental outcome, and principal findings. Systematic data charting is particularly important in evidence synthesis because it enables comparison across heterogeneous study designs and facilitates identification of recurring patterns (Peters et al., 2020).

The extracted findings were subsequently analyzed through thematic synthesis. Evidence was coded, compared, grouped, and interpreted according to recurrent conceptual relationships. Four principal analytical themes were developed: (1) emotion regulation and early childhood mental health, (2) learning and social-emotional instructional strategies, (3) teacher and classroom environmental support, and (4) parental, family, and home-based emotional support. Rather than merely counting positive and negative findings, the synthesis examined convergences, inconsistencies, contextual factors, and possible mechanisms across studies. This

approach corresponds with Snyder's (2019) argument that a rigorous literature review should move beyond descriptive summary toward conceptual integration and knowledge development.

Overall, methodological rigor was maintained through explicit eligibility criteria, multi-database searching, structured screening, standardized data extraction, and cross-study thematic comparison. Because the included studies varied substantially in research design, participants, interventions, and outcome measures, statistical meta-analysis was considered inappropriate. Accordingly, a qualitative integrative synthesis was used to generate an evidence-based conceptual explanation of how emotion regulation develops through the interaction of learning experiences and supportive environments and how these processes contribute to early childhood mental health.

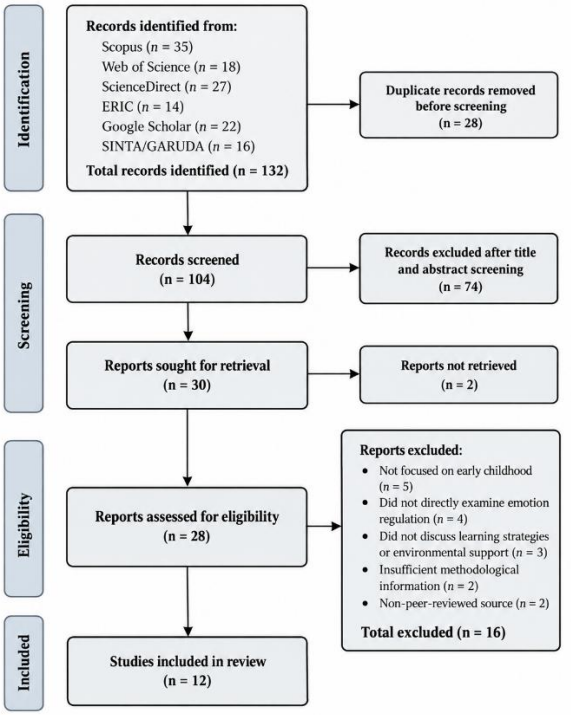


Figure 1. Prisma 2020 Flow Diagram of study selection

RESEARCH RESULTS AND DISCUSSION

Research Results

Characteristics of the Included Studies

The systematic selection process resulted in 12 articles that fulfilled the predetermined eligibility criteria and were considered sufficiently relevant to explain the role of emotion regulation in early childhood mental health. The selected literature was published between 2018 and 2026 and represented three major strands of evidence: learning- and intervention-based strategies, teacher and classroom environmental support, and parental or family support. The studies employed heterogeneous methodological approaches, including experimental and quasi-experimental designs, observational studies, cross-sectional surveys, randomized controlled trials, systematic reviews, and meta-analyses. Such methodological diversity enabled the present review to examine emotion regulation not only as an individual developmental capacity but also as a competence shaped through interactions between children and their educational and family environments.

Table 1. Characteristics and Main Findings of the 12 Included Studies

Study	Design/Sample	Main Focus	Principal Empirical Findings
Silkenbeumer et al. (2018)	Observational study; 28 preschool children aged 4–6 and 9 teachers	Teacher co-regulation and emotion coaching	Teacher co-regulation was systematically associated with children's self-regulation. Teachers adapted coaching according to children's age and existing emotion-regulation ability.

Murano et al. (2020)	Meta-analysis; 48 studies, 15,498 preschool children	Social-emotional learning (SEL)	Universal SEL improved social-emotional skills (g = .34) and reduced problem behaviors (g = .32); targeted interventions showed larger effects on skills (g = .44) and problem behaviors (g = .50).
Bertie et al. (2021)	Cross-sectional study; 307 parents of children aged 3–10	Parental emotion regulation/ socialization	Greater parental distress was related to greater expressive suppression and less cognitive reappraisal; parental emotion-regulation strategies were significantly associated with responses to children's negative emotions.
Rachmat et al. (2021)	Quantitative survey; 338 parents of kindergarten children in Indonesia	Family cohesion, communication, smartphone use	Family cohesion ($p = .031$) and interpersonal communication ($p = .016$) negatively predicted emotional dysregulation, whereas problematic smartphone use positively predicted dysregulation ($p < .001$).
Sun et al. (2021)	Systematic review; 16 studies	Yoga and mindfulness	13 of 16 studies reported improvement in regulatory/social-emotional domains; programs of ≥6 weeks appeared more promising, although study quality was heterogeneous.
Bailey et al. (2022)	Preschool study; 312 children, 44 classrooms, 16 centers	Teacher emotional support	Consistent warm, sensitive, and responsive teacher support moderated associations between children's regulatory capacities and preschool adjustment.
Xie et al. (2022)	Pretest–posttest; 31 preschoolers, mean age 67.03 months	Mindfulness training	Five-week mindfulness training significantly improved working memory and aspects of cognitive shifting, accompanied by changes in prefrontal activation.
Muir et al. (2023)	Systematic review; 85 studies, 12,595 children aged 3–6	Preschool self-regulation/ EF interventions	60/85 studies (70.6%) reported at least one significant effect. Mindfulness, mediated play, and physical activity were among approaches with relatively consistent evidence.
England-Mason et al. (2023)	Systematic review/meta-analysis; 15 independent RCTs	Parenting emotion-socialization interventions	Interventions improved emotion-socialization practices (g = .50), child emotional competence (g = .44), positive parenting (g = .74), parent well-being (g = .28), and child behavioral adjustment (g = .34).
Shlomov et al. (2023)	Randomized active-controlled study; 51 preschool children	Mindfulness and kindness curriculum	The mindfulness group demonstrated improvement in inhibitory processes and neurophysiological indices of executive control; effects differed across specific EF domains.
Silkenbeumer et al. (2024)	Video-observational multilevel study; 213 children aged 2–6, 48 teachers, 19 groups	Teacher emotion coaching/ co-regulation	Emotion coaching and metacognitive co-regulation were associated with greater independent self-regulation; strategies varied according to emotion intensity and child characteristics.
Kapkın İçen and Çelik (2026)	Pretest–posttest control-group experiment; 40 children aged 5–6	Play-based mindfulness	Significant group-by-time improvements were reported for resilience, emotion regulation, and executive functioning ($p < .05$) relative to controls.

The empirical synthesis indicates a coherent pattern despite differences in methodology. Murano et al. (2020), for example, synthesized 48 preschool SEL studies involving 15,498 children and reported improvements in social-emotional competence and reductions in problem behavior; targeted interventions produced somewhat larger effects than universal programs. Similarly, Muir et al. (2023) identified 85 preschool intervention studies involving 12,595 children, of which 60 studies (70.6%) demonstrated at least one statistically significant self-regulation or executive-function outcome.

Thematic Synthesis of the Findings

The 12 studies were subsequently coded according to their primary intervention or environmental focus. Six articles (50.0%) primarily investigated structured learning or child-focused intervention strategies, three

(25.0%) focused principally on teacher/classroom support, and three (25.0%) examined parental or family environmental influences. These categories were used to organize the results rather than to imply that emotion regulation develops through mutually independent pathways.

Learning Strategies and Social-Emotional Interventions

The largest thematic group concerned educational interventions designed to strengthen self-regulation, emotional competence, executive function, resilience, or related social-emotional capacities. Across this group, the strongest evidence was found for social-emotional learning, mindfulness, structured play, and developmentally appropriate activities requiring attentional and behavioral regulation. Murano et al. (2020) provided particularly strong quantitative evidence. Across 48 studies, universal preschool SEL interventions produced an overall effect of approximately g = 0.35, whereas targeted interventions for children requiring additional support produced a larger overall mean effect of approximately g = 0.48. The specific effects for reductions in problem behavior were g = 0.32 for universal interventions and g = 0.50 for targeted programs. These findings suggest that explicitly teaching emotional identification, social problem solving, behavioral control, and interpersonal skills can generate measurable developmental benefits. Evidence for mindfulness-based approaches was generally positive but more heterogeneous. Sun et al. (2021) reviewed 16 preschool yoga and mindfulness studies and found that 13 reported improvements in regulatory domains, although differences in outcome measures and risk of bias limited strong causal generalization. Programs implemented for at least six weeks appeared to produce more consistent outcomes. Muir et al. (2023) reached a similar conclusion across a broader body of self-regulation and executive-function interventions. Among 85 studies, 70.6% reported at least one significant outcome, while only 49.0% of the 208 individual effects examined were statistically significant. This distinction is important: interventions were broadly promising, but not every measured aspect of self-regulation improved. Intervention dose, facilitator, fidelity, cognitive challenge, movement, and program characteristics contributed to differences in effectiveness. More focused experimental evidence reinforces this interpretation. Xie et al. (2022) studied 31 Chinese preschoolers following a five-week mindfulness program and detected significant improvement in working memory as well as changes in cognitive-shifting performance and prefrontal activation. Shlomov et al. (2023), using an active-controlled randomized design with 51 preschoolers, similarly reported intervention-related changes in inhibitory control and neurophysiological measures, although improvements differed across executive-function domains. Finally, Kapkın İçen and Çelik (2026) found that play-based mindfulness produced significant improvements in emotion regulation, resilience, and executive functions among 40 children aged 5–6 years compared with a control condition. Collectively, these studies demonstrate that effective emotional learning in early childhood tends to be active, experiential, repetitive, socially embedded, and developmentally appropriate, rather than dependent on verbal instruction alone.

Teacher and Classroom Environmental Support

The second major theme concerns teachers as external regulators who gradually scaffold children's capacity for independent emotional regulation. Silkenbeumer et al. (2018) found that teachers adjusted their co-regulatory behavior according to children's developmental status. Younger children received more emotion coaching, while metacognitive prompts were associated with more independent regulation during emotionally challenging classroom episodes. More recent evidence strengthens this finding. Silkenbeumer et al. (2024) analyzed teacher interventions involving 213 children aged 2–6 years and 48 teachers across 19 preschool groups. Initial emotion coaching and metacognitive co-regulation were associated with children's independent self-regulation. Importantly, teacher behavior differed according to the quality and intensity of the child's emotional episode, indicating that effective co-regulation is responsive rather than formulaic. Bailey et al. (2022), studying 312 children in 44 classrooms, further demonstrated the importance of the consistency of teachers' warm, sensitive, and responsive interactions. The findings indicate that classroom emotional quality can modify the relationship between children's existing regulation abilities and successful preschool adjustment. Thus, teachers function not merely as instructors but as co-regulators, emotional models, and providers of psychological safety. Emotion labeling, validation, calm modeling, reflective questioning, and responsive scaffolding appear to help children transform externally supported regulation into increasingly autonomous regulation.

Parental and Family Environmental Support

The third theme demonstrates that emotion regulation is equally embedded within the home environment. Bertie et al. (2021), using data from 307 Australian parents, showed that parental psychological distress was associated with greater expressive suppression and lower cognitive reappraisal. These parental regulatory patterns were, in turn, significantly associated with how adults responded to children's negative emotional expressions. Evidence from Indonesia provides important contextual support. Rachmat et al. (2021), studying 338 parents of kindergarten children in Cirebon, found negative direct effects of family cohesion ($p = 0.031$) and interpersonal communication ($p = 0.016$) on children's emotional dysregulation, whereas problematic smartphone use showed a significant positive association ($p < 0.001$). These findings suggest that children's emotional functioning is connected not only to explicit teaching practices but also to the everyday emotional climate, relational quality, communication patterns, and digital ecology of the family. The strongest quantitative support for parent-focused intervention was reported by England-Mason et al. (2023). Their meta-analysis of emotion-socialization parenting interventions found medium effects on emotion-socialization practices ($g = 0.50$) and child emotional competence ($g = 0.44$). Effects were also detected for positive parenting ($g = 0.74$), parental psychological well-being ($g = 0.28$), and child behavioral adjustment ($g = 0.34$). These results reinforce an ecological interpretation: strengthening child emotion regulation may require simultaneous attention to the regulatory capacities of parents themselves, because adults' emotional responses provide models through which young children learn how emotions can be expressed, interpreted, tolerated, and managed.

Integrated Conceptual Findings

Cross-study comparison generated four interconnected conceptual outcomes. First, emotion regulation consistently emerged as a developmental bridge between emotional experience and adaptive behavior. Children capable of modulating emotional arousal were better positioned to engage with peers, follow classroom demands, tolerate frustration, and participate in learning. Second, co-regulation precedes and supports self-regulation. Both teachers and parents initially provide external structure through validation, modeling, verbal guidance, environmental modification, and reflective prompts. With repeated experience, children increasingly internalize these regulatory processes. Third, successful strategies combine direct skill development with environmental support. SEL and mindfulness may teach regulatory competencies, but children require emotionally responsive adults and predictable social contexts in which those competencies can be practiced. Fourth, evidence regarding intervention effectiveness remains heterogeneous. Positive results were common but not universal. Muir et al. (2023), for example, found that 60 of 85 studies reported at least one significant effect, while only 102 of 208 individual tested effects were significant. Consequently, the present review does not support the assumption that any single technique automatically improves emotion regulation. Rather, intervention effectiveness appears contingent upon program intensity, developmental appropriateness, fidelity, facilitator competence, children's baseline abilities, and the surrounding relational environment.

Table 2. Thematic Synthesis and Implications for Early Childhood Mental Health

Theme	Evidence Pattern	Mechanism	Mental Health Implication	Theme
SEL and explicit emotional learning	Improved emotional/social skills and reduced problem behavior	Emotion recognition, labeling, problem solving, inhibitory control	Greater adaptive coping and fewer externalizing difficulties	SEL and explicit emotional learning
Mindfulness and play-based learning	Improvements in regulation, resilience, attention, and selected EF components	Attention control, emotional awareness, cognitive flexibility	Better tolerance of stress and emotionally challenging situations	Mindfulness and play-based learning
Teacher emotion coaching	Co-regulation predicts more independent self-regulation	Validation, modeling, emotion labeling, metacognitive prompting	Greater emotional security and classroom adjustment	Teacher emotion coaching
Positive classroom climate	Consistent emotional support strengthens adjustment	Warmth, sensitivity, predictability, responsiveness	Reduced emotional vulnerability and	Positive classroom climate

			improved social functioning	
Parental emotion socialization	Parent-focused intervention improves children's emotional competence	Modeling, supportive responses, cognitive reappraisal	Reduced risk of maladaptive emotional responses	Parental emotion socialization
Family cohesion and communication	Stronger cohesion/communication linked with lower dysregulation	Relational security and supportive communication	Protective family context for psychological well-being	Family cohesion and communication
Digital/environmental management	Problematic smartphone use associated with greater dysregulation	Reduced interaction and potentially dysregulating exposure	Highlights need for balanced, supervised digital environments	Digital/environmental management

Overall Findings

Taken together, the 12 studies support an ecological-developmental model of emotion regulation. Emotional regulation in early childhood is not generated solely by internal maturation, nor can it be effectively strengthened through isolated classroom exercises. Instead, the evidence points toward a developmental pathway in which structured social-emotional learning + play/mindfulness experiences + teacher co-regulation + positive classroom climate + parental emotion socialization + supportive family interaction collectively create conditions for stronger self-regulation. The central finding of this literature review is therefore that emotion regulation functions as a foundational developmental mechanism for early childhood mental health. Its protective value emerges most clearly when children's individual regulatory skills are reinforced by emotionally responsive adults and stable environments across both school and home settings. The convergence of educational and environmental evidence supports an integrated prevention model in which mental-health promotion begins before clinically significant psychological problems emerge and is embedded in ordinary learning, play, relationships, communication, and caregiving experiences.

Discussion

The findings of this literature review reinforce the proposition that emotion regulation constitutes a foundational developmental mechanism for early childhood mental health, rather than merely an isolated social-emotional skill. Across the reviewed literature, children’s capacity to identify, tolerate, modify, and appropriately express emotional arousal was consistently linked with adaptive behavior, social competence, classroom adjustment, and psychological well-being. Conceptually, this interpretation is consistent with the distinction proposed by Harrington et al. (2020), who described emotion regulation as a central process enabling young children to adapt to the social and cognitive demands of school, and with the broader self-regulation framework of Rothbart-related developmental perspectives summarized by Morawska et al. (2021), in which emotional, attentional, behavioral, and cognitive control function as interrelated regulatory systems. Empirically, interoceptive awareness has also been associated with emotion regulation capacities in preschool children, suggesting that successful regulation may depend partly on children’s ability to detect and interpret their own physiological arousal (Schaan et al., 2019; Schaan et al., 2021).

The strongest pattern emerging from the present synthesis concerns the role of structured learning experiences. The meta-analysis by Murano et al. (2020), which included 48 studies and 15,498 preschool children, demonstrated that universal SEL interventions improved social-emotional skills ($g = 0.34$) and reduced problem behaviors ($g = 0.32$), while targeted interventions produced larger effects on both competencies ($g = 0.44$) and problem behavior reduction ($g = 0.50$). These results indicate that emotional competence can be intentionally taught rather than being treated as a developmental outcome that emerges automatically with age. This conclusion aligns with evidence synthesized by Muir et al. (2023), who found significant self-regulation or executive-function improvement in 60 of 85 preschool intervention studies, particularly in approaches involving mindfulness, cognitively challenging activities, physical movement, and mediated play. Language competence may further enhance this process because children who possess stronger expressive and receptive language are better able to label emotional states, communicate distress,

and use verbally mediated strategies to regulate behavior and affect (Weiland-related evidence reported by Winsler and colleagues; see Weiland et al.-type findings summarized in the preschool regulation literature).

Mindfulness and play-based strategies appear especially relevant because they combine attention regulation, emotional awareness, inhibitory control, and experiential learning. Evidence from preschool mindfulness interventions suggests that repeated practice can enhance working memory, inhibitory processes, and aspects of cognitive flexibility, although effects are not uniform across all executive domains. The broader review literature likewise cautions that intervention effectiveness depends on duration, dose, facilitator competence, fidelity, and developmental appropriateness (Muir et al., 2023). Musical and movement-based interventions may also contribute by helping children regulate physiological arousal, although Moore and Hanson-Abromeit (2023) found that intervention intensity alone did not necessarily produce differential outcomes. Thus, the present results favor multimodal and developmentally embedded approaches rather than one-dimensional emotional instruction.

A second major finding is that emotion regulation develops through co-regulation before becoming autonomous self-regulation. Paley and Hajal (2022) conceptualize regulation within the family as a dynamic relational process in which adults temporarily provide the external structure children cannot yet provide for themselves. The same mechanism appears in preschool classrooms. Silkenbeumer et al. (2024), analyzing emotionally challenging episodes involving 213 children and 48 teachers, found that emotion coaching and metacognitive co-regulation were associated with more independent child self-regulation. Importantly, teachers did not use these strategies indiscriminately; responses varied according to the intensity and quality of children's emotions and individual characteristics. This supports a responsive scaffolding model in which adults first acknowledge and label emotion, validate the child's experience, and subsequently encourage the child to generate regulatory responses.

Teacher sensitivity also appears to function as an environmental resource, but the evidence indicates that school support cannot always compensate fully for emotionally dysregulating home environments. Bailey et al. (2016) showed that preschool emotion regulation was most strongly related to positive classroom adjustment when emotional and organizational supports were considered simultaneously. Similarly, Choi et al. (2019) reported that sensitive teaching promoted the development of toddler emotion regulation, whereas intrusive parenting inhibited it; importantly, teacher sensitivity did not completely offset the effects of high parental intrusiveness. These findings challenge intervention models that concentrate exclusively on children or schools. Effective early mental-health promotion requires continuity between classroom climate, teacher responsiveness, and family emotional practices.

The family evidence is equally compelling. Parents influence children's regulation through modeling, emotional responses, instruction, and their own capacity to manage distress. Zinsser et al. (2021) found that parental modeling, responding, and emotion instruction were positively associated with preschool children's emotional skills, although average associations were generally small, suggesting that no single parenting behavior determines children's emotional development. More robust intervention evidence was reported by England-Mason et al. (2023): parent emotion-socialization interventions improved emotion-socialization practices ($g = 0.50$), child emotional competence ($g = 0.44$), positive parenting ($g = 0.74$), parental well-being ($g = 0.28$), and child behavioral adjustment ($g = 0.34$). These findings support an intervention logic in which strengthening children's mental health may require improving the regulatory competence of adults as well as children themselves.

Further empirical work demonstrates how this intergenerational mechanism operates. In a sample of 231 parent toddler dyads, poorer parental emotion regulation was associated with poorer regulation among older toddlers, while observationally better regulated parents had children who regulated emotions more effectively (Morawska-related toddler evidence; study reported in Mental Health & Prevention, 2023). Positive caregiver affect has similarly been found to facilitate toddlers' regulation, whereas maternal minimization of distress intensifies negative emotional expression (Cole-related observational evidence reported by Spinrad-type work, 2020). Caregiver cognitive reappraisal also predicts better preschool emotional competence partly through positive parenting practices, as demonstrated in a large Chinese sample of 1,011 parents and grandparents (Li et al., 2022).

The Indonesian findings strengthen the ecological interpretation of these results. Rachmat et al. (2021) reported that stronger family cohesion and interpersonal communication were associated with lower

emotional dysregulation among kindergarten children, whereas problematic smartphone use was positively associated with dysregulation. The significance of this evidence lies in showing that early emotion regulation is shaped not only by explicit parenting techniques but also by the overall relational and digital ecology of family life.

Nevertheless, the results should not be interpreted as evidence that all regulation strategies are universally beneficial. Context, developmental level, emotional intensity, temperament, and interpersonal environment influence whether a particular strategy is adaptive. Research on positive emotion socialization has shown, for example, that associations between parental coaching and child effortful control can vary depending on the child's emotional characteristics (Qiu et al.-type evidence, 2023). Moreover, assessments of parental regulation remain methodologically heterogeneous and are still dominated by self-report measures, limiting direct comparison across studies (Hajal et al., 2023).

Overall, this review extends previous research by integrating learning strategies and environmental support into a single ecological-developmental framework. Emotion regulation appears to emerge through reciprocal interactions among child capacities, structured SEL experiences, play and mindfulness activities, teacher emotion coaching, classroom emotional climate, parental regulation, family communication, and digital environments. Rather than positioning mental health promotion as treatment after problems become visible, the evidence supports a preventive approach in which emotional regulation is cultivated routinely through everyday learning and relationships. Accordingly, early childhood education programs should treat emotion regulation as a core developmental and mental-health competency, while teacher professional development and parent education should emphasize responsive co-regulation, emotional validation, modeling, and developmentally appropriate scaffolding. Such an integrated approach provides a stronger conceptual and empirical basis for promoting resilience, social adaptation, and psychological well-being during the early years.

CONCLUSION

This literature review confirms that emotion regulation is a fundamental developmental foundation of early childhood mental health. Across the 12 selected studies, adaptive emotion regulation was consistently associated with better social competence, classroom adjustment, behavioral control, resilience, executive functioning, and psychological well-being. The evidence further demonstrates that emotion regulation does not develop solely through individual maturation but emerges from continuous interactions between children, learning experiences, teachers, parents, and the broader social environment.

Empirically, social-emotional learning programs produced meaningful improvements in preschool children's social-emotional skills and reductions in problem behaviors, with effect sizes ranging approximately from $g = 0.32$ to 0.50. Parent-focused emotion-socialization interventions also improved child emotional competence ($g = 0.44$) and behavioral adjustment ($g = 0.34$), while positive parenting showed an even larger effect ($g = 0.74$). In addition, mindfulness, structured play, teacher emotion coaching, responsive classroom climates, family cohesion, and supportive communication were repeatedly associated with stronger self-regulation and lower emotional dysregulation.

Conceptually, the findings support an ecological-developmental model in which co-regulation provided by adults gradually contributes to autonomous self-regulation. Therefore, early childhood mental-health promotion should integrate explicit emotional learning, developmentally appropriate play, teacher scaffolding, responsive parenting, and supportive family environments. Strengthening these interconnected systems offers a preventive strategy for fostering resilience, emotional competence, and long-term psychological adjustment in young children.

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