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"EXPLORING THE ROLE OF EXECUTIVE FUNCTION IN EMOTION REGULATION AMONG BILINGUAL CHILDREN: THE MEDIATING IMPACT OF TEACHER-CHILD INTERACTIONS ON SOCIOEMOTIONAL AND BEHAVIORAL OUTCOMES"

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Abstract

This narrative review examines the development of self-regulation in bilingual children and the critical role of teacher-child interactions in fostering cognitive, emotional, and behavioral regulation. Given the rising number of bilingual and migrant students worldwide, understanding how bilingualism and educational environments affect self-regulatory skills is increasingly important. Drawing on empirical and theoretical studies published between 2010 and 2025, the review synthesizes evidence on bilingual children's executive functions, vocabulary development, and socioemotional outcomes. Findings indicate that bilingualism confers advantages in cognitive flexibility and inhibitory control, yet these benefits are strongly mediated by quality interactions with culturally responsive and linguistically sensitive teachers. Teacher support, structured language-rich instruction, and positive relational dynamics contribute significantly to bilingual children's capacity to regulate emotions and behaviors effectively. The review also highlights socioeconomic disparities and educational policy gaps that affect bilingual learners' self-regulatory development. Implications for research, classroom practice, and policy underscore the necessity of targeted teacher training and inclusive strategies to optimize bilingual students' psychological well-being and academic success. This synthesis provides an integrative perspective to guide future investigations and educational interventions aimed at supporting bilingual children's holistic development

INTRODUCTION

Bilingualism introduces children to unique social and psychological contexts that shape their cognitive and self-regulatory capacities through distinctive experiences. Self-regulation—the ability to modulate emotional and behavioral responses to suit situational demands—is a critical skill underpinning successful adaptation and learning (Melo et al., 2024). In this context, teacher-child interactions emerge as essential influences on bilingual students' development of self-regulation. When teachers show cultural sensitivity and attend to linguistic differences, they foster inclusion and security that underpin emotional control, cognitive flexibility, and goal-directed behaviors (Cadima et al., 2019). This review synthesizes research exploring how teacher-child dynamics affect bilingual children's self-regulation, an increasingly important area given the rise in migrant student populations worldwide.

Scope and Boundaries

The scope of this narrative review is deliberately focused on research examining bilingual children's development of self-regulation within educational contexts, specifically emphasizing the role of teacher-child interactions. The review encompasses empirical and theoretical studies conducted primarily from 2010 to 2025, which investigate cognitive, emotional, and behavioral regulatory skills in bilingual students aged approximately 4 to 15 years. The populations considered include diverse bilingual groups across cultural, linguistic, and socioeconomic backgrounds, with particular attention to both migrant and refugee students as well as native bilinguals.

Conceptually, the review centers on self-regulation as it relates to executive function, language development, and social-emotional learning, excluding studies focused solely on second-language acquisition without reference to regulatory processes. The educational settings considered range from preschools to primary and middle schools, prioritizing research that addresses teacher-child dynamics, instructional strategies, and language-rich environments.

Boundaries are set to exclude studies that do not differentiate bilingual from monolingual populations, clinical populations with diagnosed developmental disorders, and those outside the educational or social contexts relevant to self-regulation. Additionally, studies prior to 2010 and those not published in English were excluded to maintain currency and accessibility.

These boundaries establish clear conceptual, contextual, and temporal parameters to maintain coherence and depth while allowing flexibility for the inclusion of varied methodologies and theoretical perspectives. The scope balances breadth and specificity to provide a comprehensive yet focused synthesis pertinent to advancing understanding and practice in bilingual education and self-regulation.

Methodology

This narrative review synthesizes existing research examining the development of self-regulation in bilingual children and the influence of teacher-child interactions. A comprehensive literature search was conducted to collate peer-reviewed empirical studies, theoretical papers, and review articles relevant to the topic.

Literature Search Strategy

Electronic databases including PsycINFO, ERIC, PubMed, Scopus, and Google Scholar were systematically searched using combinations of keywords such as "bilingual children," "self-regulation," "teacher-child interactions," "executive function," "cognitive flexibility," and "language development." The search was limited to articles published in English from 2010 through 2025 to capture recent and relevant findings. Citation tracking of key articles and manual searches of reference lists supplemented the database search to ensure coverage of seminal and influential studies.

Inclusion and Exclusion Criteria

Studies were included if they (a) investigated bilingual children aged approximately 4 to 15 years; (b) focused on self-regulation or executive functions related to cognitive, emotional, or behavioral control; (c) examined teacher-child interactions or educational environments impacting bilingual learners; and (d) employed qualitative, quantitative, or mixed-method designs. Review articles providing theoretical or empirical syntheses were also included to contextualize findings. Studies that involved monolingual children without comparison to bilingual peers, focused solely on second language acquisition without reference to self-regulation, or targeted clinical populations with diagnosed developmental disorders were excluded.

Data Extraction and Synthesis

Selected articles were systematically reviewed to extract key information including study aims, participant characteristics, methodologies, main findings related to self-regulation and teacher-child interactions, and implications for bilingual education. The extracted data were organized thematically to identify patterns, contradictions, and research gaps. This thematic synthesis informed the development of the narrative structure presented in this review, emphasizing critical interpretation rather than mere summary.

Limitations

As a narrative review, this study does not employ the strict systematic protocols of meta-analyses; therefore, it may be subject to selection bias and does not quantify effect sizes across studies. Nevertheless, the approach allows for a nuanced and integrative understanding of a complex topic spanning diverse methodologies and contexts.

Literature Review

Bilingualism and Self-Regulatory Skills

Bilingual students are often credited with cognitive advantages, including enriched vocabularies and cultural contexts that theoretically enhance self-regulation (Melo et al., 2024). However, these benefits are not automatic. Evidence reveals that bilingual children's ability to regulate behavior depends heavily on supportive educational environments and quality interactions with teachers (Taboada Barber et al., 2021). For instance, bilingual students demonstrate superior executive cognitive-linguistic skills, including enhanced reading comprehension and elevated task-switching capabilities, compared to monolingual peers, suggesting intrinsic advantages in emotional and behavioral regulation (Taboada Barber et al., 2021).

Role of Teacher-Child Interactions

Teacher responsiveness and structured, language-rich pedagogical approaches play decisive roles in realizing bilingual children's self-regulatory potential. Castillo et al. (2020) identified that bilingual children initially display higher executive function levels as perceived by teachers, with trajectories of improvement steeper than those observed in monolingual counterparts. Moreover, teacher strategies such as using students' native languages and providing emotional support cultivate secure proximal interactions that foster vocabulary growth and self-regulation (Langeloo et al., 2019; Cadima et al., 2019). These interactions are especially crucial when students lack access to their second language outside school, highlighting the importance of formal language instruction and preschool attendance (Seuring & Will, 2022).

Executive Function and Cognitive Flexibility

Executive functions—including inhibitory control, working memory, and attentional regulation—are foundational for self-regulation development in bilingual children (Kovyazina et al., 2021). Bilingual students often engage inhibitory control to suppress dominant language instincts, improving cognitive flexibility and social skills relevant in teacher-child engagements (Melo et al., 2024). These executive functions contribute to long-term academic success by enabling students to switch between cognitive tasks seamlessly and regulate emotional responses, as highlighted by Berthelsen et al. (2017).

Socioeconomic and Policy Considerations

Disparities in self-regulatory development exist, particularly among bilingual children from low socio-economic backgrounds. Caughy et al. (2022) document that a significant proportion of low-resource Spanish-speaking students show limited improvements despite interventions, underscoring the need for consistent monitoring and tailored strategies by educators. These findings point to policy gaps at institutional levels, where sensitivity to bilingual students' additional academic burdens and cultural needs remains insufficient (Melo et al., 2024).

Discussion

The reviewed literature indicates that bilingual children encounter distinctive challenges and benefits in developing self-regulation, contingent on teacher support and educational quality. The cognitive advantages of bilingualism—such as enhanced executive function—can translate into superior self-regulation only within nurturing, responsive environments. Teacher-child closeness and autonomy support are pivotal, cementing a positive feedback loop between language development and behavioral regulation (Cadima et al., 2019). Interventions promoting formal language learning, regular attendance, and culturally responsive pedagogy emerge as effective supports, emphasizing the importance of early educational engagement (Seuring & Will, 2022).

Executive functions underpinning self-regulatory behaviors are instrumental for academic achievement, with research suggesting these skills

predict long-term success (Berthelsen et al., 2017). However, socio-economic disparities and inconsistent interventions highlight the necessity for policies sensitively tailored to bilingual learners' realities. Continuous assessment and individualized strategies foster improvement but require systemic commitment to cultural competence and inclusivity within educational institutions (Caughy et al., 2022).

Ethical Considerations

As a narrative review synthesizing previously published research, this study did not involve direct data collection from human participants and therefore did not require formal ethical approval or consent procedures. Nevertheless, ethical integrity was maintained throughout the review process by strictly adhering to principles of academic honesty and responsible scholarship. This included accurately representing original authors' findings, providing proper citations in accordance with APA citation style, and avoiding plagiarism. The review also respects the contextual and cultural nuances reported in the source studies, acknowledging the diversity of bilingual children's experiences without bias or misinterpretation. Additionally, by critically evaluating and synthesizing existing literature, this review aims to contribute constructively to educational research and policy, promoting ethical awareness of the needs of bilingual learners. Any limitations or potential conflicts inherent in the reviewed studies have been transparently disclosed to provide a balanced perspective.

Conclusion

This narrative review highlights that the development of self-regulation among bilingual children is multifaceted, involving cognitive, emotional, social, and contextual factors. Teacher-child interactions emerge as a critical leverage point to enhance bilingual students' self-regulatory capacities, with culturally aware and linguistically sensitive teaching central to their success. Policy reforms must address academic inequities faced by bilingual students and promote teacher training in inclusive practices. Investing in comprehensive language comprehension programs and extracurricular self-regulation workshops can further support bilingual children's psychological well-being and academic potential. As classrooms become increasingly diverse, educational systems must evolve to meet these complex demands effectively.

REFERENCES

Berthelsen, D., Hayes, N., White, S. L., & Williams, K. E. (2017). Executive function in adolescence: Associations with child and family risk factors and self-regulation in early childhood. Frontiers in Psychology, 8. https://doi.org/10.3389/fpsyg.2017.00903

Cadima, J., Barros, S., Ferreira, T., Serra-Lemos, M., Leal, T., & Verschueren, K. (2019). Bidirectional associations between vocabulary and self-regulation in preschool and their interplay with teacher–child closeness and autonomy support. Early Childhood Research Quarterly, 46, 75–86. https://doi.org/10.1016/j.ecresq.2018.04.004

Castillo, A., Khislavsky, A., Altman, M., & Gilger, J. W. (2020). Executive function developmental trajectories kindergarten to first grade: Monolingual, bilingual and English language learners. International Journal of Bilingual Education and Bilingualism, 25(3), 1101–1119. https://doi.org/10.1080/13670050.2020.1742649

Caughy, M. O., Brinkley, D. Y., Pacheco, D., Rojas, R., Miao, A., Contreras, M. M., Owen, M. T., Easterbrooks, M. A., & McClelland, M. (2022). Self-regulation development among young Spanish-English dual language learners. Early Childhood Research Quarterly, 60, 226–236. https://doi.org/10.1016/j.ecresq.2022.02.004

Kovyazina, M. S., Oschepkova, E. S., Airapetyan, Z. V., Ivanova, M. K., Dedyukina, M. I., & Gavrilova, M. N. (2021). Executive functions' impact on vocabulary and verbal fluency among mono- and bilingual preschool-aged children. Psychology in Russia: State of the Art, 14(4), 65–77. https://doi.org/10.11621/pir.2021.0405

Langeloo, A., Mascareño Lara, M., Deunk, M. I., Klitzing, N. F., & Strijbos, J. (2019). A systematic review of teacher–child interactions with multilingual young children. Review of Educational Research, 89(4), 536–568. https://doi.org/10.3102/0034654319855619

Melo, C., Pianta, R., DeCoster, J., & Orellana, P. (2024). Development of self-regulation of bilingual children and the role of teacher-child interactions. International Journal of Bilingual Education and Bilingualism, 1–18. https://doi.org/10.1080/13670050.2024.2310187

Seuring, J., & Will, G. (2022). German Language Acquisition of Refugee Children—The Role of Preschools and Language Instruction. Frontiers, 7. https://www.frontiersin.org/articles/10.3389/fsoc.2022.840696/full

Taboada Barber, A., Cartwright, K. B., Stapleton, L. M., Lutz Klauda, S., Archer, C. J., & Smith, P. (2020). Direct and indirect effects of executive functions, reading engagement, and higher order strategic processes in the reading comprehension of dual language learners and English monolinguals. Contemporary Educational Psychology, 61, 101848. https://doi.org/10.1016/j.cedpsych.2020.101848

Taboada Barber, A., Cartwright, K. B., Hancock, G. R., & Klauda, S. L. (2021). Beyond the simple view of reading: The role of executive functions in emergent bilinguals' and English monolinguals' reading comprehension. Reading Research Quarterly, 56(S1). https://doi.org/10.1002/rrq.385