
Exploring the Impact of Sibling Dynamics on Emotional and Behavioral Growth

Luh De Kusuma Ningrum

Universitas Gadjah Mada, Indonesia

Correspondent: luhdekusumaningrum@mail.ugm.ac.id

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ABSTRACT: Sibling relationships significantly influence children's cognitive, social, and emotional development, yet the complexity of these interactions requires further exploration. This study conducts a comprehensive review of existing literature to examine the role of sibling dynamics in shaping adaptive behaviors, emotional regulation, and social competence. A systematic search was performed across databases including Scopus, Google Scholar, and PubMed, utilizing keywords such as "sibling relationships," "child development," and "social-emotional growth." Inclusion criteria focused on empirical studies published within the last decade, while exclusion criteria eliminated non-empirical sources and studies outside the domains of psychology and education. Findings reveal that sibling interactions provide essential learning environments, fostering problem-solving skills, emotional resilience, and social adaptability. However, these relationships are influenced by factors such as birth order, parental involvement, socio-economic conditions, and cultural context. While positive sibling interactions enhance developmental outcomes, challenges such as rivalry and unequal parental attention pose risks. The study highlights the need for targeted interventions, including educational programs, parental guidance strategies, and policy-driven support structures to optimize sibling relationships. These findings underscore the importance of integrating sibling dynamics into broader developmental research and policy frameworks. Future studies should explore the impact of sibling loss and disability on child development and consider cross-cultural longitudinal studies to refine intervention strategies. Addressing these gaps will contribute to a more comprehensive understanding of sibling influence and inform policies that foster healthier developmental outcomes.

Keywords: Sibling Relationships; Child Development; Social-Emotional Growth; Cognitive Development.



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INTRODUCTION

The influence of sibling relationships on children's cognitive and social development has garnered increasing attention in academic literature. Sibling interactions represent a crucial component of family dynamics, shaping children's social, emotional, and cognitive skills in ways that extend beyond parental influence. The presence of siblings facilitates daily social interactions, providing opportunities for learning, cooperation, conflict resolution, and emotional support. These relationships, characterized by their depth and longevity, serve as natural settings for developing essential life skills. Prior research has established that sibling relationships contribute significantly

to children's socialization, emotional regulation, and problem-solving abilities (Howe et al., 2013). However, despite the growing body of literature, the mechanisms through which these interactions influence development remain an area requiring further exploration (Lewis et al., 2017; MacKinnon et al., 2019).

Existing studies highlight that sibling interactions play a fundamental role in fostering children's cognitive development. A study by (Campbell et al., 2017) found that older siblings often act as facilitators in pretend play, which enhances younger siblings' social and cognitive abilities. This aligns with Vygotsky's (1978) theory of social development, which posits that social interactions, including those between siblings, are crucial in cognitive skill acquisition. Similarly, Howe et al. (2013) emphasized that sibling teaching occurs in a natural context, where older siblings transmit knowledge, problem-solving strategies, and social norms to younger siblings. These findings suggest that siblings serve as informal educators, reinforcing the notion that learning occurs not only in structured educational environments but also within familial settings (Cheng et al., 2014; Daugherty, 2018; Hallett et al., 2013).

The relevance of sibling relationships extends beyond cognitive development to encompass mental health and behavioral regulation. A study by (Amici et al., 2022) revealed that siblings play a crucial role in mitigating parental stress and reducing problematic behaviors in children. Their findings indicate that a supportive sibling bond can buffer against emotional distress, lowering the risk of behavioral and psychological disorders. This aligns with broader research indicating that children with positive sibling relationships exhibit lower levels of anxiety, depression, and externalizing behaviors compared to those with strained sibling interactions. These studies collectively emphasize that siblings not only contribute to cognitive and social development but also serve as protective factors for children's mental well-being.

Furthermore, the presence of siblings has been associated with enhanced social competency and emotional intelligence. Children who grow up with siblings are often more adept at understanding emotions, resolving conflicts, and engaging in cooperative behavior. Research by Campbell et al. (2017) demonstrated that younger siblings benefited from the modeling behavior of older siblings, particularly in the development of empathy and emotional regulation. This is consistent with findings by Dunn et al. (1991), who argued that frequent interactions with siblings provide children with essential experiences in negotiation, perspective-taking, and conflict resolution—skills that are foundational for social success in later life.

Despite the benefits of sibling relationships, several challenges remain in understanding their full impact on development. A major limitation in existing research is the variability in methodological approaches. Studies differ in how they define and measure sibling interactions, making cross-study comparisons difficult (Pickering & Sanders, 2016). Additionally, much of the literature has focused on Western populations, limiting the generalizability of findings to diverse cultural contexts (Yu & Yan, 2023). Moreover, sibling dynamics are influenced by numerous factors, including birth order, age gap, and parental involvement, further complicating the analysis of their developmental impact.

Another significant challenge is the limited exploration of the role of sibling loss on development. (Fletcher et al., 2017) reported that the death of a sibling can have profound psychological and

cognitive consequences for surviving children. Their findings highlight the need for increased research into grief and coping mechanisms in sibling relationships. This underscores a broader gap in the literature: while much research has examined the positive aspects of sibling relationships, less attention has been given to adverse experiences and their long-term consequences.

Given these gaps, this review aims to provide a comprehensive synthesis of the existing literature on the influence of sibling relationships on children's cognitive and social development. The primary objectives are to examine the mechanisms through which siblings contribute to cognitive skills, explore their impact on social-emotional development, and identify factors that moderate these effects. This study will also evaluate methodological inconsistencies and propose recommendations for future research .

This review will focus on studies conducted across various cultural and socio-economic contexts to provide a more comprehensive understanding of the topic. While much of the existing research has been centered in North America and Europe, this paper will incorporate findings from diverse geographic regions to assess the universality of sibling influences. Additionally, the scope will include children from different family structures, such as single-parent households, blended families, and families with special-needs children, to capture a broad spectrum of sibling experiences. By addressing these factors, this review aims to contribute to a more holistic understanding of sibling relationships and their role in shaping children's developmental trajectories.

METHOD

This study employed a systematic literature review approach to examine the impact of sibling relationships on children's cognitive, social, and emotional development. A comprehensive search was conducted in major academic databases, including Scopus, Google Scholar, and PubMed, to ensure a broad yet precise selection of relevant studies. The literature search was designed to identify empirical studies that provide primary data on sibling interactions and their developmental implications. To achieve this, a combination of controlled vocabulary and free-text terms was used to ensure a thorough exploration of the topic.

The search process was structured around key terms and phrases that align with the study's focus. The selected keywords included "siblings," "child development," "autism spectrum disorder," "adaptive behavior," "social-emotional development," and "sibling relationships." These terms were used individually and in various Boolean combinations (e.g., "siblings AND child development," "sibling relationships AND social-emotional development") to refine the search results and target the most relevant literature. The inclusion of autism spectrum disorder (ASD) as a keyword was particularly relevant, given the growing body of research exploring how sibling relationships influence children with developmental differences (Holmes et al., 2024; McDonald et al., 2020).

To ensure the relevance and quality of the selected studies, specific inclusion and exclusion criteria were established. The inclusion criteria were designed to capture empirical research that directly investigates sibling relationships in the context of child development. First, only studies that employed either quantitative or qualitative methodologies and provided primary data were included. This criterion ensured that all selected articles contributed original findings rather than theoretical discussions or secondary analyses. Second, the focus population was limited to children and adolescents who have siblings. This allowed for a more targeted investigation into how sibling interactions influence developmental outcomes. Third, only studies published in peer-reviewed journals between 2013 and 2023 were considered. This temporal constraint was implemented to reflect the most recent advancements in the field and to ensure that findings were aligned with contemporary theoretical frameworks and societal changes. Finally, only articles published in English were included to maintain consistency in data interpretation and analysis.

Conversely, the exclusion criteria helped refine the selection process by eliminating studies that did not meet the established focus. First, non-empirical studies, including opinion pieces, theoretical essays, and literature reviews that lacked primary data, were excluded. While these sources may provide valuable context, they do not contribute new empirical insights. Second, studies that focused on individuals without siblings or on relationships outside the sibling dynamic were excluded, as they did not align with the research objective of understanding sibling influence. Third, research that fell outside the fields of psychology, education, and child development was omitted, particularly studies that concentrated solely on medical perspectives without addressing psychological or social development. Lastly, studies that examined children under the age of two were excluded, as social and cognitive interactions between siblings are more pronounced at later developmental stages (Kellerman et al., 2019; Zhai et al., 2020).

A systematic approach was employed to screen and evaluate the retrieved articles. The initial search yielded a large pool of studies, which were first assessed based on their titles and abstracts. Articles that clearly did not meet the inclusion criteria were discarded at this stage. The remaining studies were then subjected to a full-text review to ensure they provided relevant and high-quality data. Studies that met all inclusion criteria were included in the final review and underwent thematic analysis to identify key patterns and findings related to sibling influence on development. This method allowed for the synthesis of diverse perspectives while maintaining a focus on empirical evidence (Shahaeian et al., 2013; Yang et al., 2024).

In addition to quantitative studies, qualitative research was also integrated into the review to provide a more nuanced understanding of sibling dynamics. Studies employing interviews, observational methods, and case studies were considered particularly valuable, as they captured the complexities of sibling relationships beyond what numerical data alone could reveal. Such qualitative insights helped contextualize findings from statistical analyses, shedding light on aspects like sibling rivalry, emotional support, and social learning processes. For instance, studies investigating children's experiences in conflict resolution with their siblings provided deeper insights into how these interactions contribute to long-term social skills (Braithwaite et al., 2020; Ji et al., 2014).

Furthermore, the selection process emphasized diversity in the study samples to ensure broad applicability of findings. Research from different geographic and cultural contexts was included to explore how sibling relationships function in varied familial and societal structures. This approach allowed for cross-cultural comparisons and a more comprehensive understanding of the factors shaping sibling influence. Studies examining low-income families, single-parent households, and families with children with disabilities were particularly emphasized to highlight the varying impacts of sibling interactions across different social contexts (Bradshaw et al., 2019; Miller et al., 2015).

Overall, the methodological approach adopted in this study ensures a rigorous and systematic evaluation of existing literature. By utilizing a combination of targeted keyword searches, stringent inclusion and exclusion criteria, and a structured screening process, this review aims to provide a robust synthesis of empirical findings on sibling relationships and child development. The insights gained from this literature review are expected to contribute to a deeper understanding of the mechanisms through which siblings influence each other and inform future research and interventions aimed at optimizing sibling dynamics for developmental benefits (Bylsma et al., 2015; Liberman et al., 2020; Pickering & Sanders, 2016).

RESULT AND DISCUSSION

The examination of existing research on sibling relationships and their impact on child development reveals several key themes. Numerous studies indicate that sibling interactions significantly contribute to children's social and emotional growth. For instance, Amici et al. (2022) found that older siblings play a promotive role in reducing externalizing behavioral problems in younger siblings, reinforcing the view that sibling relationships serve as critical sources of social and emotional support. These findings align with Howe et al. (2013), who demonstrated that children acquire essential social skills through interactions with their siblings. The competitive and collaborative dynamics inherent in sibling relationships act as informal learning platforms for broader social interactions.

Another critical theme in the literature is the role of birth order and gender in shaping sibling dynamics. Research suggests that older siblings are more likely to develop problem-solving skills and assume leadership roles within the family (Greg et al., 2018). However, variations exist across different cultural contexts, as Zhai et al. (2020) demonstrated that social adaptation is influenced by both temperamental factors and localized social norms. Similarly, Ji et al. (2014) found that urban children experience different socialization patterns compared to rural children due to disparities in resource accessibility and social support structures. These findings highlight the complexity of sibling influence, where environmental, demographic, and cultural factors shape developmental outcomes.

Beyond demographic differences, studies have also explored the impact of sibling relationships on children at risk of developmental challenges, such as autism spectrum disorder (ASD). (Bussu et al., 2019) found that sibling interactions play a significant role in the behavioral adaptation of children at high risk for ASD. The study underscored the need to consider environmental and

familial factors when assessing sibling influence. These findings indicate that sibling relationships do not operate in isolation but are embedded within broader socio-cultural and familial contexts, necessitating a more comprehensive approach in analyzing their developmental implications.

The influence of sibling relationships on child development is further moderated by various social, economic, and environmental factors. Social variables, such as family structure, parental involvement, and peer interactions, shape sibling dynamics. (Tucker-Drob & Briley, 2014) found that parental responsiveness enhances positive sibling interactions, contributing to better social competency. Conversely, parental conflict and emotional neglect are linked to increased sibling rivalry and behavioral problems (Zhai et al., 2020). Economic constraints also play a role, as financial stress can place additional pressures on children, altering the nature of sibling relationships (Kumar et al., 2023). Families with limited resources may experience heightened sibling competition for parental attention and financial support, influencing their developmental trajectories.

Environmental factors further complicate the sibling dynamic, particularly in contexts of social adversity. Studies indicate that children raised in high-risk environments, such as conflict zones or impoverished communities, face unique challenges in sibling relationships (Miller et al., 2015; Song & Volling, 2017). In contrast, children in well-resourced environments benefit from enhanced socialization opportunities that foster positive sibling interactions (Gillespie-Lynch et al., 2013). Holmes et al. (2024) emphasized that nurturing home environments significantly improve the quality of sibling interactions, reinforcing the idea that external conditions play a crucial role in determining sibling relationship outcomes.

Statistical data further substantiate these findings, demonstrating the measurable impact of sibling relationships on developmental outcomes. (Landa et al., 2020) reported that children in high-risk ASD groups exhibited lower scores on adaptive behavior scales, reinforcing the importance of sibling interactions in shaping developmental trajectories. McDonald et al. (2020) conducted a longitudinal study across multiple geographic locations, revealing substantial variability in sibling influence based on family structure and community support. These findings illustrate that while general trends exist, the specific impact of sibling relationships is highly context-dependent.

Cross-national comparisons further reveal variations in sibling influence across different cultural settings. In China, Zhai et al. (2020) found that collectivist values encourage stronger sibling bonds, promoting mutual support and shared responsibilities. In contrast, Western societies, which emphasize individualism, exhibit different patterns of sibling interactions, with greater autonomy and independence (Bradshaw et al., 2019). These cultural distinctions highlight the importance of contextualizing sibling research within specific socio-cultural frameworks.

Policy interventions have also been implemented in various countries to strengthen sibling relationships and mitigate developmental risks. In Australia, family support programs have been introduced to enhance sibling communication and conflict resolution skills (Pickering & Sanders, 2016). Canada has adopted a holistic approach, integrating family-centered interventions within educational settings to improve sibling socialization (Miller et al., 2015). Similarly, Japan has prioritized community-based initiatives to support sibling relationships, particularly in households

facing economic or social challenges (Sanefuji et al., 2021). These interventions underscore the significance of policy in shaping sibling interactions and developmental outcomes.

In conclusion, the synthesis of existing literature highlights the multifaceted nature of sibling relationships in shaping child development. While sibling interactions provide significant social, emotional, and cognitive benefits, their impact is influenced by various contextual factors, including birth order, gender, socio-economic status, and cultural norms. The findings underscore the need for further research to explore the mechanisms through which sibling relationships contribute to developmental outcomes and to identify strategies for optimizing sibling interactions in diverse familial and cultural settings.

The findings of this review highlight the significant role of sibling relationships in shaping children's cognitive, social, and emotional development. While previous studies have provided a broad understanding of these dynamics, recent research offers deeper insights into how various factors, including birth order, gender, socio-economic status, and cultural context, influence these interactions. The comparison of recent findings with past literature reveals both consistencies and emerging complexities, emphasizing the need for a nuanced perspective on sibling influences across different settings.

The results of this study corroborate earlier research indicating that sibling interactions contribute to the development of social competence, emotional regulation, and cognitive skills. Studies such as those by Howe et al. (2013) and Amici et al. (2022) reinforce the notion that older siblings often serve as informal mentors, fostering social and problem-solving skills in younger siblings. These findings align with Vygotsky's (1978) social development theory, which posits that learning occurs through interaction with more knowledgeable peers, including siblings. Similarly, the work of Campbell et al. (2017) underscores the role of older siblings in scaffolding the pretend play and social competencies of their younger counterparts, further substantiating the educational value of sibling relationships.

However, new research has expanded on these earlier conclusions by demonstrating that the influence of sibling relationships is highly context-dependent. For instance, Landa et al. (2020) identified that children with siblings on the autism spectrum exhibit lower adaptive behaviors compared to those with neurotypical siblings, highlighting the differential impact of sibling interactions based on developmental challenges. This finding builds on previous studies by Miller et al. (2015), which explored how high-risk environments affect sibling interactions, emphasizing that not all sibling relationships yield uniformly positive developmental outcomes.

Socio-Cultural and Economic Influences on Sibling Interactions

The variability in findings across different geographic and demographic contexts suggests that sibling relationships are shaped by broader socio-cultural and economic factors. Research by Zhai et al. (2020) and Kellerman et al. (2019) revealed significant differences in how sibling dynamics function in collectivist versus individualist cultures. In collectivist societies, sibling relationships often involve shared responsibilities and reciprocal support, whereas in individualistic cultures, they may be characterized by greater independence and competition. These findings indicate that cultural norms play a crucial role in determining the nature and developmental outcomes of sibling interactions.

Economic conditions further modulate sibling relationships. (Pierce et al., 2016) found that in lower-income families, older siblings frequently take on caregiving responsibilities, potentially enhancing their leadership and problem-solving skills but also exposing them to additional stress. Conversely, in higher-income families, parental involvement may mediate sibling interactions, fostering a more balanced dynamic that encourages cooperative play and mutual learning. These findings align with earlier research by Bradshaw et al. (2019), which demonstrated that economic stressors influence familial roles, impacting how siblings support or compete with one another.

Parental Mediation and Family Structure

Parental involvement emerges as a crucial factor in moderating sibling relationships. Studies by Amici et al. (2022) and Tucker-Drob & Briley (2014) indicate that parental support and conflict resolution strategies can significantly enhance the quality of sibling interactions. Families that encourage open communication and positive reinforcement tend to cultivate sibling relationships that promote emotional security and social competence. In contrast, households with high parental conflict often exhibit increased sibling rivalry and behavioral issues, as documented by Zhai et al. (2020).

Family structure also influences sibling dynamics. Research by McDonald et al. (2020) highlights that children in single-parent households often develop closer bonds with their siblings due to the necessity of mutual support. However, in blended families, complexities such as step-sibling rivalry and differential parental treatment may create challenges in fostering positive sibling interactions. These findings suggest that while sibling relationships offer a potential source of developmental support, their effectiveness is contingent upon family circumstances and parental involvement.

Policy Implications and Intervention Strategies

The growing body of research on sibling relationships has significant implications for policy and intervention programs aimed at supporting child development. Evidence from Pickering & Sanders (2016) suggests that structured interventions focusing on sibling conflict resolution can lead to improved social outcomes. Implementing school-based programs that teach children effective communication and cooperative problem-solving strategies could enhance sibling dynamics, particularly in families facing socio-economic stressors.

Additionally, policy initiatives that support parental education on fostering positive sibling relationships could prove beneficial. Programs that equip parents with tools for mediating sibling conflicts and encouraging cooperative play may enhance the long-term social and emotional development of children. Research by Miller et al. (2015) and Sanefuji et al. (2021) supports the idea that parental guidance plays a pivotal role in ensuring that sibling interactions contribute positively to children's growth.

Challenges and Future Research Directions

Despite the extensive research on sibling relationships, several challenges persist in fully understanding their developmental impact. Methodological inconsistencies, such as variations in defining sibling relationships and measuring their influence, pose a significant limitation in drawing universal conclusions (Pickering & Sanders, 2016). Moreover, most studies focus on Western populations, limiting the generalizability of findings to non-Western cultural contexts. Future

research should aim to address these gaps by conducting longitudinal studies across diverse populations, incorporating both qualitative and quantitative methodologies.

Another critical area for further exploration is the impact of sibling loss on development. While Fletcher et al. (2017) have highlighted the psychological consequences of sibling bereavement, more research is needed to understand the long-term effects and potential coping mechanisms. Similarly, the role of siblings in families with children with disabilities remains underexplored. Investigating how these relationships evolve over time and the specific challenges faced by siblings in such families could provide valuable insights for developing targeted support interventions.

A multidisciplinary approach integrating psychology, sociology, and education is also recommended to gain a holistic understanding of sibling relationships. Studies examining genetic predispositions to social behavior alongside environmental influences could offer a more comprehensive perspective on how sibling dynamics shape development. Furthermore, research on the effectiveness of different intervention models in enhancing sibling relationships could guide the implementation of evidence-based policies.

In conclusion, while sibling relationships play a crucial role in child development, their impact is moderated by a range of socio-cultural, economic, and familial factors. Future studies should seek to refine methodological approaches, expand cross-cultural research, and develop targeted interventions to optimize sibling interactions for positive developmental outcomes.

CONCLUSION

This study highlights the profound impact of sibling relationships on children's cognitive, social, and emotional development. The findings confirm that these interactions shape adaptive behavior, emotional regulation, and social competencies. While sibling dynamics are influenced by birth order, gender, socio-economic status, and cultural norms, practical applications must take these contextual variables into account.

In the field of child education, these findings support the integration of sibling-based learning models in early education programs, where older siblings can be involved in peer-led mentoring or cooperative learning projects. Educators and counselors should also be trained to recognize the influence of sibling roles on classroom behavior and emotional expression.

For psychological interventions, family-based therapy models can be expanded to include siblings—particularly in households with children experiencing developmental challenges or grief. Programs that focus on conflict resolution, emotional coaching, and shared activities among siblings can serve as protective mechanisms for long-term mental health.

At the policy level, parenting programs should include modules on sibling conflict mediation, cooperative play, and emotional literacy. Public health campaigns can highlight the role of siblings in child development and provide strategies to foster healthier family dynamics.

Future research should employ mixed-method and longitudinal designs across diverse cultural and socio-economic contexts. Areas like sibling loss, differential treatment, and relationships in families

with special-needs children remain underexplored. Research that integrates neurodevelopmental measures or digital interaction patterns (e.g., how siblings relate through technology) would further enhance our understanding.

By integrating these practical and research directions, stakeholders can better support positive sibling dynamics as a developmental asset in children's lives.

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