

A Systematic Review of Early Childhood Research on Socioemotional Development and Prosocial Behaviour

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i18/19978> DOI:10.6007/IJARBSS/v13-i18/19978

Published Date: 08 December 2023

Abstract

Understanding the relationship between prosocial behaviour, emotional intelligence, and parent-child attachment is crucial for future research into maintaining positive social relationships and promoting social adjustment, particularly in young children. Therefore, this systematic review critically explores the gaps in the relationship between parent-child attachment, emotional intelligence and prosocial behaviour. According to the findings, there are few gaps in the relationship between parent-child attachment, emotional intelligence and prosocial behaviour. By analysing 12 selected articles, the current study identifies and categorises gaps in four themes: influencing factors, populations and sampling, methodology, and outcomes. This systematic review highlights gaps in research, including insufficient focus on multiple mediators and moderators, small sample sizes, specific population contexts, reliance on cross-sectional designs, and overlooking longitudinal perspectives. This systematic review highlights critical areas of parent-child attachment, emotional intelligence, and prosocial behaviour. Addressing these gaps is essential to improve understanding of this complex relationship and to guide future research.

Keywords: Attachment, Emotional Quotient, Prosocial Behaviour, Parent-Child Relationship

Introduction

The early years of a child's life, including the critical period of the first six years, significantly impact the child's future overall welfare (Britto et al., 2017). During this developmental phase, children actively demonstrate curiosity, kindness, and empathy, all closely linked to emotional intelligence. The significance of attachment between parents and children holds the utmost importance within this scenario. McGinley (2018) reported that secure attachment favours a child's emotional regulation and empathy, enhancing their capacity to establish healthy

connections and engage in prosocial behaviour. On the other hand, an insecure attachment style can hinder emotional development, which may result in challenges related to emotional regulation and the establishment of healthy relationships with peers. Therefore, examining the association between emotional intelligence and children's prosocial behaviour during this sensitive age requires thoroughly considering the significance of parent-child attachment (Ryan-Enright et al., 2022; Zeidner et al., 2002).

An increasing body of scholarly research suggests a strong association exists between the nurturing of prosocial behaviour in young children and several influential elements, such as parent-child attachment and emotional intelligence. Bowlby (1969); Kerr et al (2019) argue that establishing a secure and affectionate relationship between parents and children, known as parent-child attachment, is a fundamental basis for promoting the development of emotional intelligence. Emotional intelligence, as suggested by Zhao et al (2020); Eisenberg and Fabes (1992); Salovey and Mayer (1990), may function as a possible mechanism that facilitates the development of prosocial behaviour. When parents provide children with secure attachment and emotional responsiveness, responsibility, sensitivity and protection, children are more likely to develop empathy, emotional regulation, and an awareness of the emotions and needs of others.

The emotional skills discussed in this context are essential elements of prosocial behaviour. They play a crucial role in helping children exhibit empathetic responses towards the suffering experienced by others, effectively manage their own emotions in social settings, and actively participate in prosocial (Eisenberg et al., 1998; Svetlova & Brownell, 2010). Hence, the correlation between parent-child attachment, emotional intelligence, and prosocial behaviours provides a convincing theoretical framework for comprehending the complex aspects of prosocial development in young children. Prosocial behaviours, which include voluntary behaviours such as helping, sharing, and comforting, play a crucial role in social interactions, contributing to the well-being of others and individuals (Williams & Berthelsen, 2017).

Following continuing philosophical debates around the core concepts of morality, current academic investigations have mostly concentrated on improving the development of prosocial behaviour, with a specific emphasis on its emergence in young children. While researchers have conducted numerous studies on moral development in older age groups, there is a lack of studies focusing on preschool-aged children (Eisenberg-Berg & Hand, 1979; Ketelaar et al., 2015). Prosocial behaviour in children is a complex phenomenon shaped by several factors, including gender differences, levels of emotional intelligence, and the cultural environment in which they grow up. Recent research has presented evidence that contradicts the widely held opinion that prosocial behaviour only develops in later stages of life.

Previous studies indicate that babies as young as 12 months old actively participate in acts of helping and sharing, indicating their genuine care and consideration for the welfare of others (Brownell, 2013). As children's cognitive capacities develop, their prosocial behaviour becomes more intricately shaped by their comprehension of the wishes and intentions of others (Zuffiano et al., 2023). These habits contribute to a seamless transition into adulthood by promoting constructive interactions and developing social connections (Williams & Berthelsen, 2017). Hence, a comprehensive examination of the origins and determinants of

prosocial behaviour is crucial for comprehending their implications on the growth and development of children (Knafo & Plomin, 2006; Hendry et al., 2023).

Bowlby's attachment theory argues that establishing secure attachments to parents is a fundamental basis for developing emotional well-being (Bowlby, 1969). Research supports the concept, indicating that children with secure attachments have greater emotional intelligence (Mikulincer & Shaver, 2007). Children with a secure attachment style can place confidence and trust in their parents, successfully manage their emotions, and nurture empathy. Mayer and Salovey (1997) identified these qualities as fundamental aspects of emotional intelligence. Acknowledging that the parent-child attachment relationship is not a permanent structure; rather, it changes and can potentially impact a child's emotional and social development. Prior studies have also emphasized the significance of parental modelling in developing emotional intelligence.

According to Holmgren et al (1998), parents who exhibit emotional awareness, empathy, and effective emotion control serve as influential role models for their children. Children engage in the process of observing and acquiring knowledge from their parents, then incorporating these emotional abilities into their inventory of emotional intelligence. The modelling process significantly emphasizes the home environment's role in fostering emotional intelligence development. Researchers have extensively studied the correlation between emotional intelligence and prosocial behaviours. Individuals who possess emotional intelligence demonstrate the ability to comprehend and effectively address the emotional requirements of others, hence fostering a stronger tendency towards empathy and helpfulness (Salovey & Mayer, 1990).

Many components of emotional intelligence, including self-awareness and management, facilitate prosocial activity. Nevertheless, it is crucial to acknowledge the complex connection between emotional intelligence and prosocial behaviour. According to Mestre et al. (2006), emotional intelligence may contribute to the augmentation of prosocial preferences, but it is important to acknowledge that cultural influences and socialization also have significant effects. It suggests that understanding prosocial behaviour requires including emotional intelligence as an individual component within a broader framework. It is essential to acknowledge that the development of prosocial behaviour in children may occur through several paths, such as social learning and moral development (Eisenberg, 2014).

Social learning theory further demonstrates the significance of parents as role models. Children observe their parents' interactions with others, demonstrate empathy, and effectively manage their emotional responses. These observations contribute to developing individuals' comprehension of prosocial behaviours and emotional intelligence. Nevertheless, the social learning theory also recognizes the intricate nature of this connection, considering many elements such as individual characteristics, family dynamics, and cultural influences (Wu et al., 2016). The moral development hypothesis proposed by Nancy Eisenberg provides useful insights into the relationship between parent-child attachment, emotional intelligence, and prosocial behaviour in young children (Malti et al., 2013). The approach proposed by Eisenberg et al. (2014) and Eisenberg et al. (2006) emphasizes the importance of empathy, self-regulation, and moral reasoning in facilitating prosocial behaviour.

However, despite its great insights, this approach has several limitations. Eisenberg's theory mainly focuses on studying individual characteristics, potentially neglecting the inclusion of external elements such as cultural influences or peer interactions in forming prosocial behaviour (Beilin, 2013; Hu & Feng, 2022). Furthermore, researchers must address the difficulty of effectively assessing multifaceted concepts such as emotional intelligence and moral reasoning in studies investigating these associations (Shafait et al., 2021; Hebert, 2010). Prior research has also shown gender differences in prosocial behaviour, whereby females often exhibit higher levels of prosocial tendencies (Putra et al., 2021). Zuffiano et al (2023) state that cultural norms, socialization processes, and personal beliefs substantially influence prosocial preferences. These results highlight the need to adopt a comprehensive viewpoint considering many factors.

Examining parent-child attachment, emotional intelligence, and prosocial behaviour necessitates the consideration of cultural context due to the potential variability of these constructs across different cultures. In brief, children's emotional intelligence plays a substantial role in shaping their prosocial behaviour and ethical reasoning. Establishing a secure connection serves as a vital foundation for developing emotional abilities, with parents' exhibition of emotional intelligence further strengthening these abilities. Several variables, including cultural background and socialization processes, influence emotional intelligence's effect on prosocial behaviour. Recognizing the complex structure of these associations helps comprehension of the development of prosocial behaviour in children and its broader implications for society. Additional research is necessary to examine these interactions to understand young children's social and emotional development comprehensively.

Emotional Intelligence and Prosocial Behaviour

The analysis of the correlation between emotional intelligence and prosocial behaviour in young children is a subject that has garnered significant attention and academic debate within the field of psychology. According to Kanesan and Fauzan (2019), emotional intelligence refers to an individual's capacity to recognize and effectively use emotional information to shape cognitive processes and behavioural responses. The process includes evaluating an individual's ability to perceive and articulate their own emotions, as well as comprehending the emotions of others. Multiple research investigations have shown a significant association between emotional intelligence and prosocial behaviour among young children. For instance, research done by Guo (2018); Li et al (2023) showed that children exhibiting elevated levels of emotional intelligence had a greater propensity towards engaging in prosocial behaviours, such as acts of assistance and sharing with their peers.

The earlier-mentioned children had an enhanced capacity to take into account the needs of others and exhibited more favourable interpersonal connections with their classmates. In addition, research conducted by Wang et al (2021); Zhao et al (2022) revealed a notable association between emotional intelligence and the manifestation of positive behaviours in young children. According to a study by Gallitto and Leth-Steensen (2019), a positive correlation exists between elevated levels of emotional intelligence in children and their persistent demonstration of prosocial behaviour over an extended period. The proposition posits that emotional intelligence is a significant factor in cultivating and sustaining prosocial behaviour among children. The precise causal pathway by which emotional intelligence impacts prosocial behaviour remains incompletely acknowledged (Gallitto & Leth-Steensen,

2019; Marti-Vilar et al., 2022). Nevertheless, recent studies by Zhang et al (2020) and Serrano-Montilla et al (2021) indicate that emotional comprehension is significant in many contexts.

Research has shown that children who possess a more comprehensive comprehension of emotions, including both their own emotional experiences as well as the feelings of others, have a higher propensity to exhibit prosocial behaviours (Barnett & Thompson, 1985; Song et al., 2020; Batool & Lewis, 2020). This comprehension enables individuals to cultivate empathy towards others and see the significance of providing assistance and support to those who need it. A significant positive relationship exists between emotional intelligence and prosocial behaviours among early children. A positive correlation exists between elevated levels of emotional intelligence in children and their propensity to exhibit prosocial behaviour and nurture stronger social interactions. The comprehension of emotions, including self-awareness and empathy towards others, emerges as a fundamental element within this interpersonal connection. Further investigation is required to delve into the impact of emotional intelligence on prosocial behaviour among young children.

Emotional Intelligence and Parent-Child Attachment

Understanding the correlation between parent-child attachment and prosocial behaviour in young children has significance in comprehending child development and fostering favourable social relationships. Multiple research has provided evidence supporting the positive association between secure attachment to parents and the emergence of prosocial behaviour in children (Shi et al., 2020; Lu et al., 2023; Malonda et al., 2019). Emotional connection between parents and children is a fundamental component of attachment theory (Liotti, 2011; Thompson et al., 2022). The establishment of emotional connection plays a vital role in the development of children's self-perception and their interactions with others. Research suggests that when children experience a feeling of security and affection from their parents, they are more prone to instil qualities such as empathy, compassion, and a sense of responsibility towards others (Flanagan, 2003; Zahn-Waxler & Radke-Yarrow, 1990; Haslip et al., 2019; Leedham et al., 2020).

In addition, there is a correlation between establishing secure connections with parents and developing emotional intelligence in children (Houtmeyers, 2000; Nanu, 2015). Emotional intelligence defines the capacity to identify, comprehend, and manage one's own emotions as well as the emotions of others (Heffernan et al., 2010). According to Howe (2006) and Raikes & Thompson (2006), parents who provide a secure attachment setting are likelier to facilitate emotional expression and transfer knowledgeable emotional management skills to their children. Conversely, negative parenting methodologies, such as neglect or excessive disciplinary actions, might develop insecure attachment patterns and behavioural challenges among children. Children with insecure attachments may have challenges regulating their emotions and establishing healthy connections with others, hindering the development of prosocial behaviour (Shaver et al., 2019; Mortazavizadeh et al., 2022).

It is essential to acknowledge a bidirectional association between parent-child attachment and prosocial behaviour, as Newton et al (2014) show Children engaging in prosocial behaviour can potentially enhance their relationship with their parents. When children participate in acts of kindness and collaboration, their parents provide positive reinforcement and validation, enhancing the attachment connection (Di Folco et al., 2017; Deneault & Hammond, 2021). In brief, the association between parent-child attachment and prosocial

behaviours in young children is complex and dynamic. The establishment of a secure connection with parents serves as a fundamental basis for the development of emotional intelligence and the facilitation of pleasant social interactions. Conversely, an insecure attachment style may give reason for behavioural challenges and hinder the development of prosocial behaviours. The comprehension and cultivation of healthy parent-child attachment connections are of the utmost significance in developing prosocial behaviour among young children.

Parent-Child Attachment and Prosocial Behaviour

Research has shown that establishing secure parent-child attachments is crucial in fostering empathy among young children, a fundamental aspect of prosocial behaviour (Gross et al., 2017). The concept of empathy encompasses the cognitive and affective processes of understanding and experiencing the feelings of others. Research suggests that children with secure attachments are more motivated to develop this capacity (Stern & Cassidy, 2018). They can recognize and respond to the needs and emotions of others, leading to more frequent acts of prosocial behaviour. (Gonzales, 2022; Walker et al., 2022; Del Giudice & Haltigan, 2023). On the other hand, insecure attachments, such as ambivalent or avoidant attachments, have been associated with lower levels of prosocial behaviour in young children (Seiberts & Kerns, 2015). Inconsistent or distant parental care characterizes these attachment styles, leading to difficulties in forming close relationships and understanding the emotions of others (Lavin et al., 2020; Hill-Soderlund et al., 2008). Children with insecure attachment may be less motivated to engage in prosocial behaviour because they may not have received consistent emotional support or learned appropriate social skills from their parents (Gastelle & Kerns, 2022; Goffin et al., 2018; Yanti, & Mariyati, 2023).

Research has also shown that the quality of parent-child attachment can have long-term effects on prosocial behaviour (Hintsanen et al., 2019). Children securely attached to their parents are more likely to continue engaging in prosocial behaviour throughout childhood and adolescence (Wong et al., 2021). It suggests that early attachment experiences with parents lay the foundation for future social behaviour. (Gonzales, 2022; Walker et al., 2022; Del Giudice & Haltigan, 2023) In summary, the relationship between parent-child attachment and prosocial behaviour in young children is significant. Secure attachments contribute to developing empathy and the internalization of positive relationship models, promoting prosocial behaviour. In contrast, insecure attachments may hinder the development of empathy and social skills, leading to lower levels of prosocial behaviour. The quality of parent-child attachment has long-lasting effects on prosocial behaviour, highlighting the importance of early attachment experiences in shaping social development.

Problem Statement

Prosocial behaviour is crucial for children's development, influencing their social interactions from infancy to adulthood (Williams & Berthelsen, 2017). Understanding the gaps in the association between parent-child attachment, emotional intelligence and prosocial behaviour in early childhood is essential for optimal development (Silke et al., 2018). Despite progress, unresolved questions remain about environmental factors, individual differences, and fundamental systems (Zheng et al., 2021). Therefore, systematic research is needed to investigate the association between parent-child attachment, emotional intelligence, and prosocial behaviour in children. This study aims to fill research gaps by analysing scholarly publications on the relationship between parent-child attachment, emotional intelligence,

and prosocial behaviour among young children from the last decade. The researcher will use thematic analysis to identify gaps and classify themes related to these gaps. This study aims to comprehensively analyse prosocial behaviour development among young children and identify gaps needing further exploration. The findings will enhance scholarly literature and provide valuable suggestions for future research, contributing to understanding the development of prosocial behaviour and its societal implications towards humans, especially young children. A comprehensive systematic review facilitates this study and has formulated two central research questions to guide this study: (1) How many relevant articles have been published in the last decades on the study of the relationship between parent-child attachment, emotional intelligence and prosocial behaviour among children, as identified through the systematic review using the PRISMA method? (2) How many themes of gaps were identified using thematic analysis within the identified articles from the last decades?

Methodology

This research uses a qualitative approach using PRISMA methodology to conduct a comprehensive systematic literature review on identifying research gaps in the relationship between parent-child attachment, emotional intelligence and prosocial behaviour among young children. The research focused on a comprehensive review of studies conducted over the last decades. To ensure the production of a thorough and comprehensive systematic review, a systematic literature review (SLR) must incorporate numerous essential components. These include clearly defining research objectives, structuring the methodology effectively, selecting a representative sample, identifying significant findings, and pinpointing research gaps. Conversely, this study deliberately excludes unnecessary or irrelevant issues from the review process.

Databases and Resources

The evaluation followed the PRISMA statement and the guidelines that Buang and Abu Samah (2020) presented. This research uses a review process based on a major journal database, Scopus. Scopus is a globally recognized abstract and citation database with a vast collection of 22,800 peer-reviewed publications from over 5,000 publishers (Buang & Abu Samah, 2020). In addition, this database covers various subject areas, including business, management and accounting, arts and humanities, social sciences, and economics (Buang & Abu Samah, 2020).

Eligibility and Exclusion Criteria

Table 1 outlines the determination of eligibility and exclusion criteria. Initially, the selection process focused only on journals, namely research papers. This intentional selection excluded systematic review articles, books, and conference proceedings. Furthermore, this study directed the research choices solely toward papers published in English to minimize any potential misunderstanding or challenges associated with translation. Furthermore, it is appropriate to include studies conducted from 2014 to 2023, encompassing the last decades, to evaluate the progression of research and its associated publications thoroughly. This duration of more than five years allows for enough intervals to carry out systematic review updates, as suggested by Buang and Abu Samah (2020) and supported by (Bashir et al., 2018).

Table. 1

The inclusion and exclusion criteria (Adapted from Buang & Abu Samah, 2020)

Criterion	Eligibility (Inclusion)	Exclusion
Literature Type	Journals (Research Articles)	Journals (Systematic Review), Books, Conference Proceedings
Language	English	Non-English
Timeline	Between 2014 and 2023	< 2014
Variables	Related to Parent-Child Attachment, Emotional Intelligence, Prosocial Behaviour	Non-related to Parent-Child Attachment, Emotional Intelligence, Prosocial Behaviour
Participants	< 6 Years	> 6 Years

Systematic Review Process

The systematic review process occurred in September 2023 and consisted of four phases. In the first stage, the researcher identified keywords for the search process. The use of terms related to 'parent-child attachment', 'emotional intelligence' and 'prosocial behaviour' had been observed in earlier research. The researcher searched the database using specific keywords to identify variants of these phrases. Tables 2 and 3 display the results of this search. At this point, this study had identified a cumulative total of 82 items by searching the databases. After an extensive review, this study eliminated a total of 29 articles. Exclusion criteria included systematic reviews published in journals (systematic review), books, conference proceedings and non-English publications before 2014. Additionally, the researcher excluded participants over six years and studies unrelated to parent-child attachment, emotional intelligence, and prosocial behaviour.

Table. 2

Search terms and strategy used to search relevant literature

Main Keywords	Search Terms
Parent-Child Attachment	"Parent-Child Attachment" OR "Parent-Child Relationship" OR "Parents Attachment" OR "Child Attachment"
Emotional Intelligence	"Emotional Intelligence" OR "Emotional Ability" OR "Emotion" OR "Emotional Regulation" OR "Empathy" OR "Sympathy" OR "Emotional Expression" OR "Self-Awareness" OR "Self-Regulation"
Prosocial Behaviour	"Prosocial Behaviour" OR "Prosocial" OR "Prosocial" OR "Altruism" OR "Prosocial Behaviour" OR "Helping" OR "Sharing" OR "Collaborating" OR "Comforting"

Table. 3

The search strings used for the systematic review process

Databased	Keywords Used
Scopus	"Parent-Child Attachment" OR "Parent-Child Relationship" OR "Parents Attachment" OR "Child Attachment" OR "Emotional Intelligence" OR "Emotional Ability" OR "Emotion" OR "Emotional Regulation" OR "Empathy" OR "Sympathy" OR "Emotional Expression" OR "Self-Awareness" OR "Self-Regulation" OR "Prosocial Behaviour" OR "Prosocial" OR "Prosocial" OR "Altruism" OR "Prosocial Behaviour" OR "Helping" OR "Sharing" OR "Collaborating" OR "Comforting"

The second stage was screening the titles and abstract to suit the research goal. At this stage, 53 articles are eligible to be reviewed. The third stage is eligibility, where the full articles are accessed. The researcher excluded 25 articles due to full-text articles, including journals (research articles), English publications between 2014 and 2023, participants under six years, and studies related to parent-child attachment, emotional intelligence, and prosocial behaviour. The last stage of review resulted in a total of 12 articles that were used for the systematic literature review analysis (see Figure 1 and Table 3).

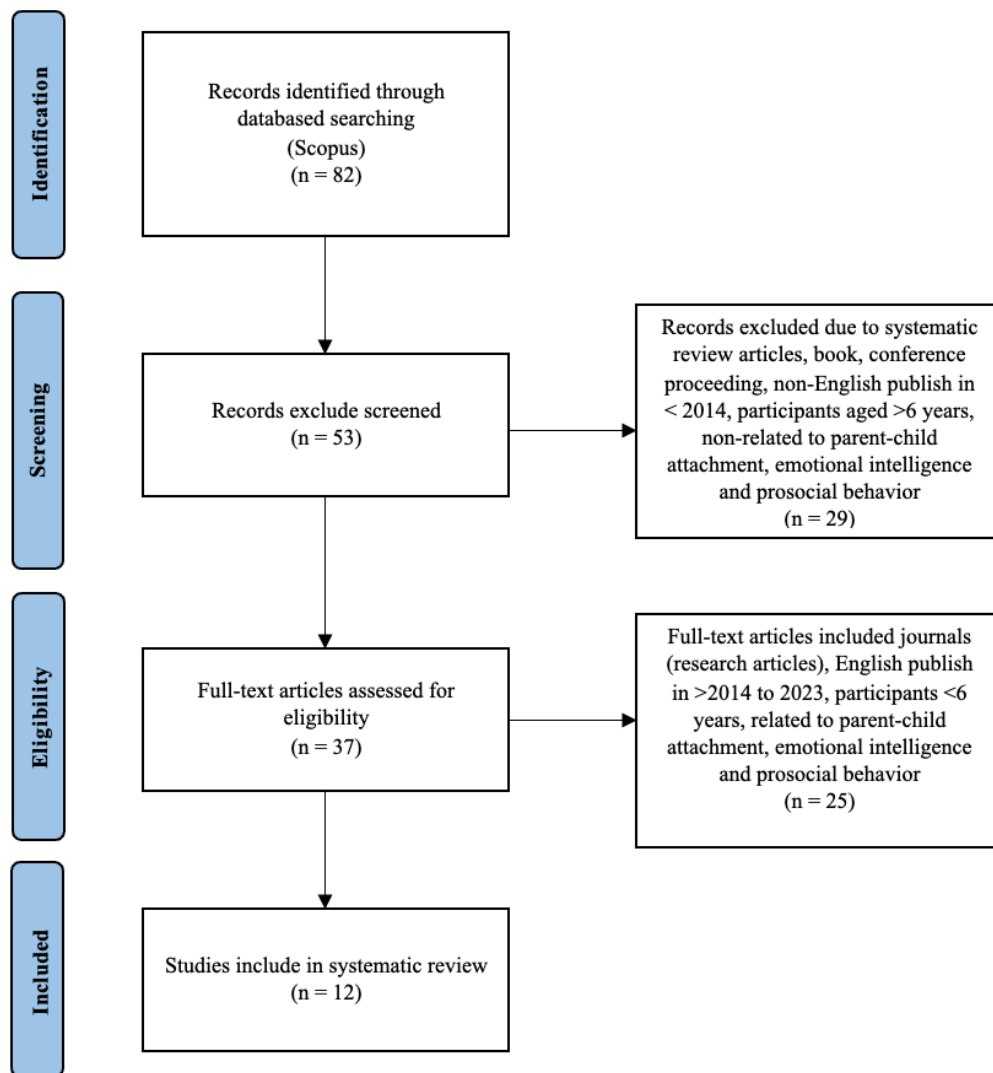


Figure. 1. The flow diagram of the study (Adapted from Buang & Abu Samah, 2020)

Table. 3

List of included studies for Systematic Review.

No.	Author (Year, Nation)	Journal
1	Bonnie E. Brett, Jessica A. Stern, Jacquelyn T. Gross & Jude Cassidy (2022), African American	Journal of Clinical Child & Adolescent Psychology
2	Sohayla Elhousseini, Kyle Rawn, Mona El-Sheikh & Peggy S. Keller (2022), USA	Journal of Experimental Child Psychology
3	Anat Shoshani, Shahar Braverman & Galya Meirow (2021), Israel	Computers in Human Behaviour
4	Jessica A. Stern, Jessica L. Borelli & Patricia A. Smiley (2014), USA	Attachment & Human Development
5	Belinda M Keenan, Louise K Newman, Kylie M Gray & Nicole J Rinehart (2016), Australia	Attachment & Human Development
6	Valerie Carson, Nicholas Kuzik (2019), Canada	Child: Care, Health and Development

7	Eva Yi Hung Lau, Jian-Bin and Derwin King Chung Chan (2023), Hong Kong	Frontiers in Public Health
8	Sabine Little (2023), UK	International Journal of Bilingualism
9	Khirsten J. Wilson, Tram H. Nguyen, Cliff McKinney (2023), US	Current Psychology
10	Belen Mesurado & Maria Cristina Richaud (2016), Argentina	Journal of Happiness Study
11	Catrinel A. Stefan, Julia Avram & Mircea Miclea (2017), Romania	Social Development
12	Lisa Loheide-Niesmann, Jasmijn de Lijster, Ruby Hall, Hedwig van Bakel, Maaïke Cima (2020), Netherlands	Social Development

Results of Systematic Review Analysis

The researcher identified 12 articles for identifying research gaps in the relationship between parent-child attachment, emotional intelligence and prosocial behaviour among children. The obtained results have been systematically summarised (see Table 4).

Table. 4

Systematic Review Analysis

Author	Title	Objectives	Method	Participants	Instruments	Findings	Limitations/Gaps
1	Maternal Depressive Symptoms and Preschoolers' Helping, Sharing, and Comforting: The Moderating Role of Child Attachment	The study aimed to investigate the relationship between maternal depressive symptoms and preschoolers' prosocial behaviour, focusing on the moderating role of child attachment.	Quasi-experimental design	164 mothers and their preschool-aged children	Centre for Epidemiological Studies – Depression Scale The Preschool Strange Situation Children Prosocial Behaviour	The study found that maternal depressive symptoms were negatively associated with preschoolers' helping and sharing behaviour but not with comforting behaviour. Child attachment moderated the relationship between maternal depressive symptoms and helping behaviour, such that the negative association was stronger for children with less secure attachment. The study also found that the intervention did not significantly affect children's prosocial behaviour.	The study had several limitations, including a relatively small sample size, a focus on a specific population (low-income African-American families), and a lab-based assessment of children's prosocial behaviour. The study also did not examine the potential mechanisms underlying the relationship between maternal depressive symptoms and children's prosocial behaviour.
2	Attachment and Prosocial Behaviour in Middle Childhood: The Role of Emotion Regulation	This study aimed to examine the role of emotion regulation in promoting prosocial behaviour in children aged 6-12 years, focusing on the impact of attachment security with	Cross-sectional design	106 children aged 6-12 years and their parents	The Attachment Q-Sort The Emotion Regulation Checklist The prosocial Tendencies Measure	The study found that attachment security with fathers, not mothers, was positively associated with children's prosocial behaviour. In addition, the study found that children's emotion regulation mediated the relationship between attachment security with fathers and prosocial behaviour.	The study had several limitations, including a relatively small sample size, a cross-sectional design that limits causal inference, and a focus on a specific age range and cultural context. The authors note that future research should aim to

		mothers and fathers.					replicate and extend these findings in larger and more diverse samples.
3	Video games and close relations: Attachment and empathy as predictors of children's and adolescents' video game social play and socio-emotional functioning	The study aimed to investigate the relationship between video game play and social functioning in children and adolescents, focusing on attachment, empathy, and prosocial behaviour.	Correlational design	506 Israeli students in grades 5-11 (ages 10-17)	The Experiences in Close Relationships Scale The Basic Empathy Scale The Prosocial Video Game Measure The Social Satisfaction and Support Scale The School Aggressive Behavior Scale	The study found several significant associations between video game play and social functioning, including prosocial gameplay, which was positively associated with attachment security, empathy, social satisfaction, and peer support and negatively associated with aggressive behaviour in school. Violent gameplay was negatively associated with attachment security, empathy, and social satisfaction and positively associated with aggressive behaviour in school. Attachment security was positively associated with empathy, social satisfaction, and peer support and negatively associated with aggressive behaviour in school.	The correlational design does not allow for causal inferences, so it is unclear whether video game play causes changes in social functioning or vice versa. The study relied on self-report measures, which are subject to biases and may not accurately reflect actual behaviour. The study did not control for other factors influencing social functioning, such as family background, personality traits, or other media use.
4	Assessing Parental Empathy: A Role for Empathy in Child Attachment	This study aimed to investigate the relationship between parental empathy and child attachment in middle childhood and to develop a new method for measuring parental empathy.	Cross-sectional design	60 primary caregivers (54 mothers, 6 fathers) and their children, aged 7 to 12 years.	Parental Affective and Cognitive Empathy Scale Child Attachment Interview Parental Bonding Instrument for Children	The study discovered a positive association between parental empathy and child attachment security, with parental sensitivity mediating this relationship. The study also found that parental empathy was negatively associated with child attachment anxiety and avoidance. However, the study had limited data on some of the measures used, which may have affected the reliability of the findings.	The study had several limitations, including a relatively small sample size, a cross-sectional design that limited the ability to draw causal conclusions, and limited data on some of the measures used. Additionally, the study relied on self-report measures of attachment anxiety and avoidance, which may be subject to bias. Finally, the study utilized a convenience sample of caregivers, potentially limiting the generalizability of the findings.
5	A Qualitative Study of Attachment Relationships in Autism Spectrum Disorders during Middle Childhood	The study's objective was to explore the attachment relationships of children with Autism Spectrum Disorder	Mixed-method design	44 children with ASD and 30 typically developing children, all between the ages of 7 and 13	Disturbances of Attachment Interview Cognitive Assessment and Questionnaire	The study found that children with ASD exhibited more attachment difficulties than typically developing children, particularly in emotional regulation, social	The study had several limitations, including a relatively small sample size, a lack of diversity, and the use of a single assessment tool

		(ASD) during middle childhood and to compare these relationships to those of typically developing children.				reciprocity, and behaviour towards the caregiver. The study also identified several themes related to attachment relationships in children with ASD, including difficulties with emotional expression, social understanding, and sensory processing.	(the DAI) to measure attachment behaviours. Additionally, the study did not include a longitudinal follow-up, which would have provided more information about the stability of attachment relationships over time.
6	The Association between Parent-Child Technology Interference and Cognitive and Social-Emotional Development in Preschool-Aged Children	This study examined the associations between parent-child technology interference and cognitive and social-emotional development in preschool-aged children (3-5 years).	Cross-sectional design	131 parents with children aged 3 to 5 years	Cell Phone and Tablet Usage Questionnaire Television and Computer Usage Questionnaire Parent-Child Interaction Coding System Early Years Evaluation-Teacher Assessment	The study found that parent-child technology interference was associated with lower response inhibition, emotional self-regulation, and higher externalizing and internalizing behaviours in preschool-aged children. However, the observed effect sizes were small. The study also found that the cell phone/smartphone was the most commonly used device that interrupted parents' conversations and activities with their children multiple times daily.	The study's main limitation is the cross-sectional design, which means it is unknown whether observed associations are causal and whether any bidirectional associations existed. The parental-report measure of parent-child technology interference also limited the study because it had the potential for measurement and social desirability biases. It can also say the same about the parental-report measure of social-emotional development.
7	Children infected vs. uninfected with COVID-19: Differences in parent reports of using mobile phones to calm children, routines, parent-child relationships and developmental outcomes.	The study compared parent reports of children infected vs. uninfected with COVID-19 on various outcomes related to child and family well-being and adjustment during the pandemic.	Longitudinal design	816 parents' children were infected with COVID-19, while 371 children were not.	Child Routine Inventory Child-Parent Relationship Scale Strength and Difficulties Questionnaire Gratitude Questionnaire General Happiness Scale	The study found no significant differences between the Infected and Uninfected groups on most measured outcomes. However, parents in the Infected group reported significantly higher levels of parent-child conflict than parents in the Uninfected group.	The study had several limitations, including that it relied on parent reports rather than objective measures of child behaviour. It was conducted in Hong Kong and may not be generalizable to other populations. Additionally, the study did not control for other factors that may have influenced the outcomes measured, such as socioeconomic status or pre-existing mental health conditions.
8	'Half of who you are': Parent and child reflections on the emotional experiences of reversing familial language shift.	This study aimed to explore the emotional experiences of a mother and son during the re-introduction of their heritage	Autoethnographic design	a mother and her son, who 5 years old	The main instrument used was a research diary, in which the mother and son wrote down their exchanges shortly after they happened. The data was then	The study found that a collaborative and emotionally sensitive approach to family language policy positively impacted Toby's attitude towards learning his heritage language. The study also highlighted the	The study had limitations regarding its sample size, as it drew on the views and opinions of one mother and her son. The study also acknowledged that working with

		language and to highlight the importance of a collaborative and emotionally sensitive approach to family language policy.			thematically analyzed using a coding scheme focused on emotions.	importance of creating a 'safe space' where both child and parent could step back and seek to explore and articulate emotions linked to emergent family language policies. The study identified a way to create a 'fusion of horizons' that facilitated mutual understanding, i.e., an environment where parent and child can meet in an attempt to shed pre-supposed roles: the parent admitting that they might not have all the answers, the child adopting the role of the expert concerning their context and experiences.	Toby on the study for 2.5 years had undoubtedly affected his ability to discuss, share his views, and examine his emotions in a manner which may not necessarily make him comparable to other children. It was also difficult to unpick where and how these views might have been shaped through parental input, however well-intended.
9	Parent-Child Relationship Quality and Emerging Adult Internalizing and Externalizing Problems: Empathy as a Pathway	This study aimed to examine the relationship between parent-child relationship quality and empathy and how this relationship influences prosocial behaviour and internalizing and externalizing problems in emerging adults.	Cross-sectional design	469 emerging adults aged 18 to 25 years old	Parental Bonding Instrument Interpersonal Reactivity Index Prosocial Tendencies Measure Brief Symptom Inventory	The study found that parent-child relationship quality was positively associated with empathy, which in turn was positively associated with prosocial behaviour and negatively associated with internalizing and externalizing problems. The relationship between parent-child relationship quality and empathy was stronger for women than men. The study also discovered that emotional warmth and rejection partially mediated the relationship between parent-child relationship quality and empathy.	When interpreting the findings, it should consider several limitations of the study. The cross-sectional design cannot infer causality, and future longitudinal research must confirm these findings. The sample was predominantly White and college-attending, which limits the generalizability of the findings to other populations. Finally, conducting the study in a specific geographical region may limit the generalizability of the findings to other cultural contexts.
10	The Relationship Between Parental Variables, Empathy and Prosocial-Flow with Prosocial Behaviour Toward Strangers, Friends and Family	This study investigated the relationship between parental variables (support and challenge), empathy, and prosocial behaviour towards strangers, friends, and family.	Cross-sectional design	1,000 undergraduate students	Parents Questionnaire Interpersonal Reactivity Index Prosocial Flow Scale.	This study's findings suggest that parental support and challenge are positively associated with empathy and prosocial behaviour towards strangers, friends, and family. Empathy and prosocial flow mediate the relationship between parental variables and prosocial behaviour.	One limitation of this study is that the sample only included undergraduate students from one university in Chile, which may limit the generalizability of the findings to other populations. Additionally, self-report measures may have introduced bias into the results. Finally, the study's cross-sectional design prevents the inference of causality from the results.

11	Children's Awareness Concerning Emotion Regulation Strategies: Effects of Attachment Status	This study investigated how attachment status affects preschoolers' ability to generate emotion regulation strategies for negative emotions.	Cross-sectional design	212 preschoolers (ages 3-5)	Attachment Story Completion Task Kids' Empathic Development Scale	The study found that securely attached children were more likely to generate self-regulatory strategies for negative emotions than insecurely attached children. The study also demonstrated that the effects of attachment status on emotion regulation strategies varied depending on the specific negative emotion generated in real-life assessment.	The study had several limitations, including a relatively small sample size, a lack of diversity, and a reliance on self-report measures of emotion regulation strategies. The study also did not assess whether children implemented the strategies they generated in real-life situations.
12	Toddlers' Preference for Prosocial versus Antisocial Agents: No Associations with Empathy or Attachment Security	The present study examined whether 24-month-old toddlers prefer a prosocial to an antisocial agent.	Correlational design	107 toddlers	Attachment Q-Sort Empathy Questionnaire	Of the 107 infants in this study, 60.7% chose the prosocial agent over the antisocial agent. Neither empathy nor parent-child attachment was associated with children's preference. These results show a slight overall preference for the prosocial agent but with notable inter-individual differences that empathy or attachment cannot explain. Surprisingly, how much they cared about others or how close they felt to their parents did not affect their choice. It also means that while many children preferred kindness, some had reasons for choosing the doll, unrelated to how much they cared about others or how attached they were to their parents.	The study's limitations include a sample primarily composed of highly educated Dutch cohabiting parents, reducing its generalizability. The inability to establish significant links between attachment, empathy, and sociomoral preferences may result from smaller effect sizes or limited sample sizes. Despite having adequate statistical power, the study may have overlooked only modestly sized effects. In contrast, previous research reported more substantial effects, implying that attachment and empathy may have less relevance in understanding variations in toddlers' sociomoral preferences than previously believed. Thus, future investigations should explore additional factors beyond child empathy and parent-child attachment in explaining these preferences.

Results of Thematic Analysis

Based on 12 articles, the study identified four themes of crucial gaps in the relationship between parent-child attachment, emotional intelligence, and prosocial behaviour among children: 1) influencing factors, 2) population and sampling, 3) methodology, and 4)

outcomes. Table 5 and Figure 2 identify four gaps in the study relationship between parent-child attachment, emotional intelligence, and prosocial behaviour among children.

Table. 5
Themes of Gaps

Author	Year	Influencing Factors	Population and Sampling	Methodology	Outcomes
1	2022		x		x
2	2022	x	x		x
3	2021	x		x	x
4	2014		x	x	x
5	2016		x	x	x
6	2019			x	x
7	2023	x	x	x	x
8	2023	x	x		
9	2023		x	x	x
10	2016		x	x	x
11	2017		x	x	x
12	2020	x	x		x
Total		5	10	8	11

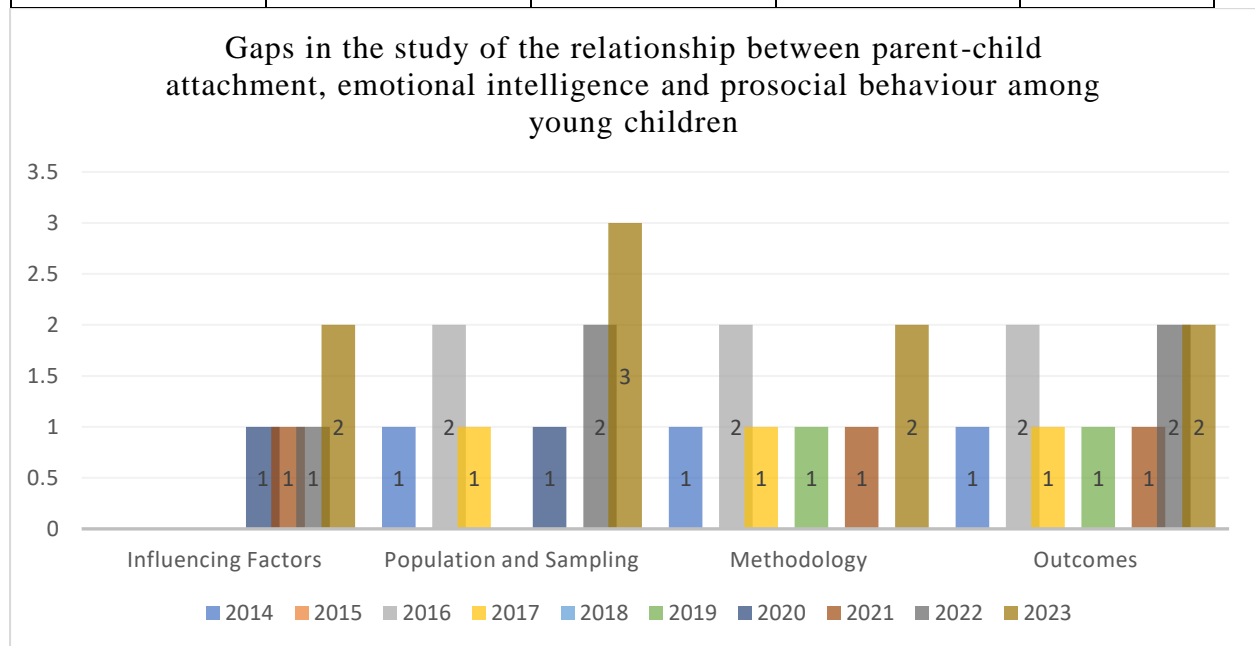


Figure. 2. Gaps in the study of the relationship between parent-child attachment, emotional intelligence, and prosocial behaviour among young children

Discussion

The systematic literature review allowed for a critical examination and comparison of previous research on the relationship between parent-child attachment, emotional intelligence, and prosocial behaviour in children. This comprehensive analysis of the existing literature aims to identify areas for further research and highlight the gaps in understanding this relationship. These identified gaps derive from the findings presented in Table 5. The researcher has carefully scrutinized and categorized all the research studies in this review to identify the specific gaps that require attention. After analyzing the data, there are gaps in

several aspects of the research. The first column shows that of the 12 studies selected, only 5 have gaps concerning influencing factors. The second column shows that 10 of the 12 studies have gaps related to populations and sampling. The third column highlights that 8 of the 12 studies have methodological gaps. The fourth column is particularly striking, with 11 studies showing gaps in outcomes. Therefore, in the following discussion, the current study will address these identified gaps to shed light on the critical areas that require further exploration and research in the relationship between parent-child attachment, emotional intelligence, and prosocial behaviour in children.

Gaps 1: Influencing Factors

A critical examination of the gaps in influencing factors in the relationships between parent-child attachment, emotional intelligence and prosocial behaviour in young children reveals several important considerations. Many studies in this area focus on specific age groups or cultural contexts. It limits the generalisability of the findings to a wider population. Research should include a wider variety of age groups and cultural backgrounds to understand better these relationships' universality (Elhusseini et al., 2023). Failure to control for various influencing factors such as family background, personality traits, media use, socioeconomic status and pre-existing mental health conditions can introduce confounding. These confounds may obscure the relationship between parent-child attachment, emotional intelligence and prosocial behaviour (Shoshani et al., 2021; Lau et al., 2023). Future research should employ rigorous controls to isolate the specific effects of these factors. Understanding how much parental input shapes a child's views is challenging. The interplay between parental behaviour, child temperament and other environmental factors is complex and requires nuanced investigation (Little, 2023). Researchers should use more sophisticated research designs to tease out these complexities. Loheide-Niesmann et al (2021) question the relevance of attachment and empathy in understanding young children's sociomoral preferences. It suggests that researchers should explore additional, potentially overlooked factors that may play an important role in shaping prosocial behaviour. In short, addressing these gaps in influencing factors is essential to advance understanding of the complex relationship between parent-child attachment, emotional intelligence, and prosocial behaviour in young children. Comprehensive research that considers different age groups and cultural contexts, controls for confounding variables, and explores the complexity of parental influence will contribute to a more nuanced understanding of these critical developmental processes.

Gaps 2: Population and Sampling

The identified population and sampling research gaps in the relationship between parent-child attachment, emotional intelligence and prosocial behaviour in young children reveal several critical limitations. Many studies suffer from small sample sizes, which can undermine their findings' statistical power and generalisability. Researchers need to consider larger and more diverse samples to ensure robust and applicable findings (Bret et al., 2022; Elhusseini et al., 2023; Stern et al., 2015; Keenan et al., 2017; Lau et al., 2023; Little, 2023; Wilson et al., 2023; Mesurado & Richaud, 2017; Stefan et al., 2017; Loheide-Niesmann et al., 2021). Focusing on specific populations, age groups and cultural contexts, such as low-income African-American families or specific countries, limits the generalisability of research findings. It is critical to study a more diverse range of populations to understand the broader implications of these relationships (Bret et al., 2022; Elhusseini et al., 2023; Stern et al., 2015; Keenan et al., 2017; Lau et al., 2023; Wilson et al., 2023; Mesurado & Richaud, 2017; Stefan

et al., 2017; Loheide-Niesmann et al., 2021). Some studies use cross-sectional designs, making it difficult to establish causal relationships. Using longitudinal or experimental designs would help clarify the temporal nature of these associations (Elhusseini et al., 2023; Stern et al., 2015). Limited diversity within samples may bias results and limit the applicability of findings. Researchers should aim for more diverse participant pools to capture a wider range of experiences and backgrounds (Keenan et al., 2017; Stefan et al., 2017). Relying on convenience samples can lead to selection bias, as these participants may not accurately represent the larger population. Researchers should aim for more representative sampling methods (Stern et al., 2015). Studies that only include participants from a single university further limit the scope of their findings. Expanding the participant base to include a more diverse society is essential for robust research (Mesurado & Richaud, 2017). In short, addressing these population and sampling limitations is critical to understanding the complex relationship between parent-child attachment, emotional intelligence, and prosocial behaviour in young children. Researchers should aim for larger, more diverse and representative samples, use longitudinal or experimental designs, and explore a wider range of cultural contexts to generate comprehensive and applicable findings.

Gaps 3: Methodology

Methodological gaps in the study of the relationship between parent-child attachment, emotional intelligence and prosocial behaviour in young children highlight several limitations. Numerous research significantly depend on cross-sectional designs, posing challenges in establishing causation and monitoring the progression of these interactions over time. The use of longitudinal research would provide a more thorough comprehension of the developmental trajectories of attachment, emotional intelligence, and prosocial behaviour (Shoshani et al., 2021; Stern et al., 2015; Keenan et al., 2017; Carson & Kuzik, 2021; Wilson et al., 2023; Mesurado & Richaud, 2017; Stefan et al., 2017). One often encountered methodological constraint is the significant dependence on self-report measures. This methodology has inherent biases and may not correctly represent actual behaviours. The use of objective evaluations or observational techniques has been suggested as a means to get more dependable and accurate data about children's prosocial behaviour (Shoshani et al., 2021; Stern et al., 2015; Carson & Kuzik, 2021; Lau et al., 2023; Mesurado & Richaud, 2017; Stefan et al., 2017). Certain research uses a single evaluation instrument to assess attachment behaviour, thereby failing to capture this construct's complexity comprehensively. To increase the comprehensiveness of the approach, the researcher recommend using various evaluation methods to establish the validity of the measurements (Keenan et al., 2017). The exclusive use of parental reports to assess children's emotional intelligence and prosocial behaviour gives reasons for concerns about the possibility of bias. Including evaluations from many sources, such as educators or peers, would enhance the dependability of the data (Lau et al., 2023). This study recommended that future investigations use longitudinal designs to monitor variations over time and overcome the methodological limitations mentioned. Various measuring methodologies, such as objective evaluations and observational methods, have the potential to provide a more precise depiction of children's behaviour. Furthermore, the use of different measures for evaluating attachment behaviour, together with the gathering of information from diverse sources, might enhance the validity and comprehensiveness of research outcomes. By acknowledging and rectifying these methodological constraints, researchers can enhance the comprehensiveness of their findings about the intricate association between parent-child attachment, emotional intelligence, and prosocial behaviour in young children.

Gaps 4: Outcomes

Analyzing the effects of the association between parent-child attachment, emotional intelligence, and prosocial behaviour in young children unveils several significant deficiencies in current research. One prevalent aspect seen in numerous research is the use of cross-sectional designs, which constrain the capacity to establish causal connections among variables. The presence of this particular design constraint poses challenges in establishing the causal relationship between parent-child attachment, emotional intelligence, and prosocial behaviour (Bret et al., 2022; Elhusseini et al., 2023; Shoshani et al., 2021; Stern et al., 2015; Carson & Kuzik, 2021; Wilson et al., 2023; Mesurado & Richaud, 2017). The limited amount of various and sufficiently large samples in some research raises concerns over the applicability of their results to broader populations. The authors of the cited studies (Elhusseini et al., 2023; Stern et al., 2015; Loheide-Niesmann et al., 2021) took measures to guarantee that their study findings could apply to a wider range of individuals, including more diversity and representative samples. Some studies omit relevant control variables, such as socioeconomic status and pre-existing mental health conditions. This omission can lead to confounding and weaken the validity of the results (Lau et al., 2023). The lack of longitudinal follow-up in many studies hinders the understanding of the stability of attachment relationships over time. Longitudinal designs would provide valuable insights into how these relationships evolve throughout a child's development (Keenan et al., 2017). Some studies do not examine whether children use the strategies they develop in real-life situations. Understanding the practical implications of attachment and emotional intelligence for prosocial behaviour is crucial for translating research findings into practical interventions (Stefan et al., 2017). The review of parental input and individual characteristics of participants is often insufficiently studied in academic research. Taking into account the influence given by parents and the different attributes shown by each child may contribute to a more thorough comprehension of the complicated interactions in the process (Little, 2023).

In summary, the above-mentioned systematic reviews provide useful insights, emphasizing the need for future research to include rigorous approaches, such as longitudinal designs and larger, more varied samples. By accounting for relevant variables, examining the practical implications, and conducting a more comprehensive investigation into the impact of parental influence and personality traits, it is possible to address existing gaps in the literature and attain a deeper comprehension of the correlation between parent-child attachment, emotional intelligence, and prosocial behaviour in young children.

Conclusion

The present systematic review examines the existing body of research regarding the association between parent-child attachment, emotional intelligence, and prosocial behaviour in children. This analysis has highlighted significant deficiencies in the literature, indicating the need for more exploration in these areas. The previously mentioned gaps include several aspects, such as variable confounding, restrictions in population and sampling, methodological deficiencies, and gaps in outcomes. Comprehending these associations is vital for enhancing children's emotional intelligence, fostering favourable parent-child attachment, and nurturing prosocial behaviour. The study highlights the need to research beyond certain age groups and cultural settings while also considering potential confounding variables such as familial history, personality characteristics, and socioeconomic status. The generalizability of results limited by restrictions related to population and sampling, including small sample sizes and low variety. It is essential to overcome methodological limitations,

such as excessive reliance on cross-sectional designs and self-report measures, using longitudinal techniques, integrating numerous measurements, and including objective evaluations. The study illustrates the need to include research methodologies that examine causal linkages, practical consequences, and the influence of parental engagement and individual participant characteristics. It is essential to acknowledge and rectify these deficiencies to enhance the understanding of the complicated connections between parent-child attachment, emotional intelligence, and prosocial behaviours in children and enhance the well-being of children and families.

Conflict of Interest

The author declares no conflict of interest related to this research.

Acknowledgement

This study is part of research entitled 'The Mediating Role of Parent-Child Attachment on the Relationship between Emotional Intelligence and Prosocial Behaviour among Children' under SLAB/SLAI of Universiti Pendidikan Sultan Idris. Sincere gratitude extended to Universiti Pendidikan Sultan Idris (UPSI) and the Ministry of Higher Education for sponsoring the scholarship to conduct this research at the Doctor of Philosophy level.

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