

THE INFLUENCE OF MOTHER-CHILD ATTACHMENT AND CAREGIVER-CHILD INTERACTION ON PRESCHOOL CHILDREN'S SOCIAL-EMOTIONAL DEVELOPMENT

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Abstract

In dual-earner families, mothers' role in supporting children's social-emotional development requires complementary support from caregivers, such as daycare staff, to achieve balanced developmental outcomes. This study explores the influence of child and family characteristics, the quality of mother-child attachment, and the nature of caregiver-child interactions on the social-emotional development of preschool children attending daycare. Conducted at a daycare facility in Bogor, Indonesia, this research employed a quantitative, cross-sectional approach with a sample of 40 mothers and their children, as well as 20 caregivers. Data collection utilized the Attachment Q-Sort Questionnaire (AQSQ) to evaluate mother-child attachment quality, the Caregiver Interaction Scale (CIS) to assess caregiver-child interaction quality, and the Social-Emotional Assessment/Evaluation Measure (SEAM) to measure children's social-emotional development outcomes. Correlation and regression analyses revealed a significant positive relationship between secure mother-child attachment and enhanced social-emotional development in children. Conversely, negative interactions between caregivers and children—particularly those characterized by harassment, detachment, and permissiveness—were shown to have a significantly detrimental effect on children's social-emotional development. These findings suggest that fostering secure mother-child attachment, along with minimizing negative caregiver behaviors, may substantially support positive social-emotional growth in children. The study highlights the need for structured caregiver training to enhance interaction quality and support children's development in daycare.

Keywords: caregiver-child interaction, daycare, mother-child attachment, social-emotional development

PENGARUH KELEKATAN IBU-ANAK DAN INTERAKSI PENGASUH-ANAK TERHADAP PERKEMBANGAN SOSIAL-EMOSIONAL ANAK PRASEKOLAH

Abstrak

Dalam keluarga dengan kedua orang tua yang bekerja, peran ibu dalam mendukung perkembangan sosial-emosional anak memerlukan dukungan tambahan dari pengasuh lainnya, seperti staf di fasilitas penitipan anak, untuk memastikan perkembangan anak yang seimbang. Penelitian ini mengeksplorasi pengaruh karakteristik anak dan keluarga, kualitas keterikatan ibu-anak, serta interaksi pengasuh-anak terhadap perkembangan sosial-emosional anak prasekolah yang mengikuti penitipan anak. Penelitian ini dilakukan di sebuah fasilitas penitipan anak di Bogor, Indonesia, dengan pendekatan kuantitatif menggunakan desain cross-sectional dan melibatkan 40 ibu beserta anak-anak mereka, serta 20 pengasuh. Pengumpulan data menggunakan Attachment Q-Sort Questionnaire (AQSQ) untuk mengevaluasi kualitas keterikatan ibu-anak, Caregiver Interaction Scale (CIS) untuk menilai kualitas interaksi pengasuh-anak, dan Social-Emotional Assessment/Evaluation Measure (SEAM) untuk mengukur hasil perkembangan sosial-emosional anak. Analisis korelasi dan regresi menunjukkan adanya hubungan positif yang signifikan antara keterikatan ibu-anak yang aman dengan peningkatan perkembangan sosial-emosional anak. Sebaliknya, interaksi negatif antara pengasuh dan anak—khususnya yang ditandai dengan perilaku pelecehan, keterasingan, dan permisif—terbukti memiliki dampak yang merugikan terhadap perkembangan sosial-emosional anak. Temuan ini menyarankan bahwa penguatan keterikatan ibu-anak yang aman, disertai dengan pengurangan perilaku negatif dari pengasuh, dapat secara substansial mendukung pertumbuhan sosial-emosional yang positif pada anak. Studi ini menekankan pentingnya pelatihan terstruktur bagi pengasuh untuk meningkatkan kualitas interaksi dan mendukung perkembangan anak di penitipan.

Kata kunci : interaksi pengasuh-anak, kelekatan ibu-anak, perkembangan sosial-emosional, tempat penitipan anak

INTRODUCTION

In early childhood, particularly during the preschool years, children experience significant developmental transformations that lay the foundation for their social-emotional growth. These formative years are characterized by heightened curiosity, a desire to explore, and a need for nurturing relationships that support children as they learn to navigate social environments. Understanding the impact of early interactions on a child's behavior and emotional health has been a longstanding focus in developmental psychology. Prominent theories, such as Erikson's (2013), underscore the importance of this period, identifying it as the stage of initiative versus guilt. During this phase, children actively explore their surroundings, engage in imaginative play, and begin forming meaningful connections with peers. Uce (2017) describes this period as a "golden age" for development, where physical, motor, cognitive, language, social, and emotional skills rapidly evolve.

However, when children experience delays in their social-emotional development during these critical years, they may face increased risks later in life, including antisocial behaviors, substance abuse, and potential involvement in criminal activities (Yenti, 2021). Yenti further suggests that many adolescent challenges can be traced back to behavioral issues rooted in early childhood, emphasizing the preschool years as a "sensitive period" essential for fostering emotional resilience. Consequently, nurturing social-emotional skills during this stage is crucial for supporting children's long-term well-being and behavioral outcomes.

Parental involvement, particularly the interactions with both parents, is fundamental to children's social-emotional development (Jeynes, 2016; Islamiah et al., 2023). Indanah and Yulisetyaningrum (2019) identify several factors that impact preschool children's social-emotional development, including environmental influences, heredity, and the interplay between genetics and environment. This study focuses on key environmental factors, specifically mother-child attachment and caregiver-child interaction. Wijirahayu et al. (2016) emphasize that a secure mother-child attachment fosters social-emotional growth, enabling children to approach new social situations with confidence. According to Ainsworth (1989), attachment is an enduring emotional bond characterized by closeness and specificity, shaping a child's responses to unfamiliar social environments. Research by Van der Voort et al. (2014) suggests that securely attached children face new situations with greater confidence, while those with insecure attachments may feel inadequate. This is consistent with findings by Irzalinda et al. (2021), which demonstrate a strong correlation between maternal attachment and social-emotional intelligence in children aged 5-6, underscoring the importance of early bonds for future relational patterns.

In contemporary society, the role of mothers has evolved significantly, with many balancing professional and familial responsibilities. As economic and social expectations shift, a growing number of women contribute to their household's financial stability while pursuing personal ambitions. The Central Bureau of Statistics (2022) reports that the proportion of women in formal employment rose from 34.65% in 2020 to 39.3% in 2022. While working mothers play an essential economic role, the demands of their work often reduce the quantity and quality of interactions with their children, potentially challenging the development of secure attachments. Research by Maulina (2023) suggests that non-working mothers provide more stimulation for their children's development compared to working mothers. Similarly, Agustina et al. (2022) found that parental employment status influences the social-emotional development of five-year-olds by 34.4%, illustrating how employment status can shape the caregiving environment and impact child developmental outcomes.

When both parents are employed, families often rely on alternative childcare arrangements, such as household helpers or daycare centers. However, many household assistants have limited educational backgrounds, restricting their capacity to support children's development beyond basic supervision (Supsiloani et al., 2016). This lack of educational engagement can hinder the growth of preschool-aged children, who require appropriate developmental stimulation during this critical period to support future growth (Santrock, 2011). In contrast, structured daycare facilities offering developmental programs and activities may provide a more enriching environment conducive to children's growth (Zainuddin et al., 2021).

In addition to maternal attachment, interactions with caregivers play a crucial role in shaping social-emotional development (Saputra et al., 2015; Cárcamo et al., 2016). Cárcamo et al. (2016) suggest that caregiver-child interactions in daycare settings can replicate the dynamics of parent-child relationships at home. Agustia et al. (2021) highlight that insufficient stimulation from both parents and daycare providers can impair psychosocial development in children. On the other hand, positive interactions with caregivers have been shown to enhance children's empathy, vocabulary, emotion regulation, cognitive skills, and overall social-emotional growth (Muñoz et al., 2017). Consequently, caregiver-child interactions represent a crucial aspect of a child's early social environment, particularly for children of working parents who may spend extended periods with caregivers in daycare settings.

While previous studies have explored either mother-child attachment or caregiver interactions independently, limited research has examined how these two factors collectively influence the social-emotional development of preschool children (Indanah & Yulisetyaningrum, 2019; Irzalinda et al., 2021). This gap indicates a need to investigate the combined effects of mother-child attachment and caregiver interactions on children's social-emotional development, particularly within daycare settings where many children spend substantial portions of their day. Additionally, the impact of care quality in daycare facilities—whether through structured developmental programs or basic supervision—has not been extensively examined in terms of its influence on social-emotional outcomes (Cárcamo et al., 2016; Maulina, 2023).

This study seeks to address these gaps by examining the interplay between mother-child attachment and caregiver-child interaction and their impact on the social-emotional development of preschool children in daycare environments. By exploring these relationships, this research offers novel insights into how attachment and caregiver dynamics collectively contribute to early social-emotional growth. This dual focus provides a more comprehensive understanding of the developmental environment of children in daycare settings, especially those with working mothers. The findings are expected to support targeted interventions that promote optimal childcare practices and contribute to the holistic development of preschool-aged children.

METHODS

This study employs an explanatory research design using a cross-sectional approach, conducted at a single point in time. The research was carried out in Bogor, strategically selected as it serves as a key buffer zone surrounding Jakarta, the capital city of Indonesia. Jakarta's sustained economic growth has notably influenced the socio-economic conditions of families in surrounding areas, including Bogor. This economic expansion has increased the employment rate among mothers, consequently raising the demand for supportive childcare facilities such as daycare centers. This study aims to address this evolving need by examining the role of daycare services in supporting children's socio-emotional development in the context of dual-income families.

The study involved a purposive selection of six daycare centers across the Bogor area, chosen based on specific criteria: each center offers a full-day program, is situated in a residential area, enrolls preschool children (ages 3-5), and has agreed to participate in the study. The research spanned from February to May 2024, focusing on families with preschool-age children who have two living parents and whose children are enrolled as full-time preschool students at the selected daycares. Preschool-aged children were chosen as the focus due to the critical importance of this developmental stage in adapting to environments outside the family unit. A sample of 40 children aged 3 to 5 years from families with full parental support was selected based on criteria that both parents are employed, the family has utilized daycare services consistently for at least three months, and the child is enrolled full-time, ensuring adequate observation of caregiver-child interactions and the impacts on development.

Data collection involved gathering information from 40 preschool-aged children and their mothers from the selected daycare centers. The children were chosen based on predefined respondent criteria using a non-probability purposive sampling method. Additionally, 20 daycare caregivers were selected as respondents, as they serve as primary caregivers for the children within the daycare settings. The study obtained permission from the mothers, who were asked to complete a structured questionnaire, which was then returned through the daycare caregivers. Primary data sources included information on child characteristics, family background, mother-child attachment, and socio-emotional development, collected through self-administered questionnaires completed by the mothers. Caregiver characteristics were also documented via self-administered forms, while caregiver-child interactions were assessed through direct observation by the researcher, with assistance from an enumerator. Observational data collection was conducted over a full day at each of the six daycare centers, ensuring consistency in the observation process across locations.

To measure mother-child attachment, the study utilized the Attachment Q-Sort Questionnaire (AQSQ) developed by Robinson (1994), which includes 12 statements rated on a Likert scale from 1 (very unlike my child) to 5 (very like my child). The reliability coefficient for this instrument in the study was 0.640, indicating moderate reliability. Caregiver-child interactions were measured using the Caregiver Interaction Scale (CIS) by Arnett (1989), which consists of 26 items across four dimensions: sensitivity, harshness, non-attachment, and permissiveness. Each item was rated on a 1 to 4 scale (1 = very unsuitable; 4 = very suitable), and the CIS demonstrated a reliability coefficient of 0.861, indicating high reliability. Children's socio-emotional development was evaluated using the Social-Emotional Assessment/Evaluation Measure (SEAM) developed by Squires et al. (2014), which contains 41 statements assessing 10 dimensions of social-emotional

skills. Respondents rated each characteristic on a 1 to 4 scale, with the SEAM instrument displaying a high reliability value of 0.872.

Data processing and analysis were conducted using Microsoft Excel and SPSS version 25.0 for Windows. The data processing workflow encompassed editing, coding, scoring, data entry, data cleaning, analysis, and interpretation. Descriptive analyses included calculations of minimum, maximum, mean, standard deviation, and frequency distributions to summarize the characteristics of the sample. Inferential analyses utilized Pearson correlation tests and multiple linear regression analysis via the enter method to explore relationships and predictive factors among the variables. Prior to statistical analysis, scores for mother-child attachment, caregiver-child interaction, and children's socio-emotional development were computed. Negatively worded items were reverse-coded to align with positive scores, and total scores for each variable were then calculated and transformed into index scores.

The study categorized caregiver-child interactions and children's socio-emotional development based on index scores, following the classification standards set by Yimer et al. (2014), where scores below 80 indicated low levels. For mother-child attachment, the classification was adapted from Robinson (1994): scores above 39 were considered indicative of secure attachment, while scores below this threshold signified insecure attachment. By employing these classification thresholds, the study aimed to provide a nuanced understanding of attachment security and socio-emotional development in the daycare context.

This methodologically rigorous approach enables an in-depth examination of mother-child attachment, caregiver-child interactions, and their influence on socio-emotional development within a daycare setting. The findings from this study are expected to provide valuable insights into the role of daycare services in supporting children's social-emotional growth, particularly for families where both parents are employed, highlighting the importance of quality caregiver interactions in early childhood development.

RESULTS

Child Characteristics

The study sample consisted of 40 preschool-aged children, including 28 boys (70%) and 12 girls (30%). The average age of the participants was 3.65 years, with the majority (27.5%) being 3 years old. Among these children, 21 had been attending daycare for over a year, with an average duration in care of 15.75 months. This indicates that a significant portion of the children had established familiarity with the daycare environment, providing a consistent setting to observe social-emotional development.

Family Characteristics

The findings revealed that most fathers (77.5%) and mothers (90%) belonged to the young adult age category, suggesting a relatively young parental demographic. Educational attainment among fathers was notably high, with 67.5% holding at least a bachelor's degree, while among mothers, 50% had completed a bachelor's degree (S1), and the remaining 50% held advanced degrees (master's or doctoral, S2/S3). Financially, nearly all families (95%) reported a per capita income above Rp 5,000,000, reflecting a relatively stable socio-economic status. Family size was predominantly small, with 75% comprising four or fewer members, which may positively influence the level of individual attention each child receives.

Caregiver Characteristics

The caregiver sample included 20 female caregivers, with the majority (80%) in the young adult age range. Most caregivers had completed high school, and 40% had 1-5 years of experience in daycare settings, primarily in their current institution. Interestingly, over half of the caregivers (70%) reported no prior formal training, potentially limiting their ability to deliver developmentally appropriate interactions. The caregiver-to-child ratios primarily ranged between 1:2 and 1:3 (35%), enabling focused interactions conducive to observing the socio-emotional dynamics between caregivers and children.

Mother-Child Attachment

The results indicated a range of mother-child attachment scores from 37 to 52, with an average score of 42.52. Attachment classification, as detailed in Table 1, revealed that the majority of children (80%) displayed secure attachment to their mothers, while 20% showed insecure attachment. These findings underscore the prominence of secure attachment among the sample, which can play a foundational role in children's adaptability to social environments and interactions.

Table 1 Distribution of respondents by mother-child attachment category

Mother-Child Attachment	n	%
Secure	32	80,0
Insecure	8	20,0
Mean±Standard deviation		42,52±3,97
Min-Max		37-52

Caregiver-Child Interaction and Social-Emotional Development

Caregiver-child interaction was assessed across four dimensions: sensitivity, harshness, non-attachment, and permissiveness. Overall, the interaction scores indicated that 87.5% of caregiver-child interactions fell within the moderate range, with an average score of 66.06. Specifically, the sensitivity dimension was also moderate (62.5%), averaging 67.08. However, dimensions such as harshness, non-attachment, and permissiveness scored lower, with violence at 45.74 (90% in the low category), non-attachment at 31.45 (97.5% in the low category), and permissiveness at 51.39 (80% in the low category). These results suggest that, while caregivers demonstrated moderate sensitivity, other interaction dimensions may require improvement to foster a more nurturing environment.

In terms of children's social-emotional development, which was divided into 10 dimensions, index scores ranged from 48.78 to 83.74, with an average index score of 66.13. A majority of children (77.5%) fell within the moderate category for social-emotional development, while 15% were in the low category, and only 7.5% were in the high category. A dimensional analysis showed that expressive ability scored the highest, placing it in the high category, whereas dimensions such as healthy interaction, sharing and involvement, positive self-image, and adjustment to routines were moderate. Conversely, dimensions like social-emotional response, empathy, independence, focus, and adaptive ability scored low, indicating areas where further developmental support may be beneficial.

Table 2 Distribution of respondents by category, minimum and maximum value, mean, and standard deviation for mother-child attachment and caregiver-child interaction

Dimensions	Category						Min-Max	Mean±SD
	Low		Medium		High			
	n	%	n	%	n	%		
Caregiver-Child Interaction	5	12.5	35	87.5	0	00.0	45.00-78.00	66.06±7.37
Sensitivity	11	27.5	25	62.5	4	10.0	36.67-93.33	67.08±12.70
Violence	36	90.0	4	10.0	0	00.0	18.52-70.37	45.74±11.81
Disattachment	39	97.5	1	2.5	0	00.0	00.00-66.67	31.45±12.72
Permissive	32	80.0	8	20.0	0	00.0	22.22-77.78	51.39±13.70
Social-Emotional Development	6	15.0	31	77.5	3	7.5	48.78-83.74	66.13±8.35
Healthy Interaction	4	10.0	19	47.5	17	42.5	46.67-100.00	75.66±12.12
Expressive Ability	5	12.5	16	40.0	19	47.5	33.33-100.00	77.08±14.94
Social-Emotional Response	24	60.0	14	35.0	2	5.0	33.33-91.67	56.66±14.27
Empathy	22	55.0	12	30.0	6	15.0	33.33-83.33	55.41±17.45
Sharing and Engagement	9	22.5	22	55.0	9	22.5	33.33-100.00	70.20±13.19
Independence	20	50.0	11	27.5	9	22.5	33.33-100.00	65.41±15.62
Positive Self-Image	4	10.0	31	77.5	5	12.5	33.33-100.00	69.16±13.42
Focus and Activity Level	22	55.0	15	37.5	3	7.5	46.67-86.67	64.00±9.76
	8	20.0	26	65.0	6	15.0	22.22-100.00	69.16±16.20
	23	57.5	14	35.0	3	7.5	38.10-80.95	58.57±12.58

These findings offer a comprehensive view of the caregiver-child interaction quality and socio-emotional development levels among preschool-aged children in daycare. While sensitivity in caregiver interactions was moderate, other dimensions like harshness, non-attachment, and permissiveness require attention to promote healthier socio-emotional outcomes. Moreover, while the majority of children showed moderate social-emotional development, specific skills such as empathy, social-emotional response, and adaptive abilities scored lower, suggesting these areas as potential focal points for future developmental support. These insights provide a foundational basis for developing targeted interventions aimed at enhancing socio-emotional development in early childhood daycare settings.

Relationship Between Variables

This study explored the influence of various factors—including child, family, and caregiver characteristics, mother-child attachment, and caregiver-child interactions—on the social-emotional development of preschool-aged children in daycare settings. The analysis revealed several significant relationships among these variables. Notably, maternal education level exhibited a significant positive correlation with children's social-emotional development ($r=0.370$; $p<0.05$), indicating that higher maternal education is associated with enhanced children's socio-emotional outcomes. Additionally, the number of children cared for by a caregiver was found to have a significant negative correlation with caregiver-child interaction ($r=-0.366$; $p<0.05$), suggesting that a lower caregiver-to-child ratio facilitates more meaningful interactions. Interestingly, this same variable demonstrated a significant positive correlation with children's social-emotional development ($r=0.344$; $p<0.05$), indicating that as the number of children under a caregiver's supervision increases, there may be a corresponding enhancement in children's social-emotional outcomes.

The study also identified a significant positive association between mother-child attachment and children's social-emotional development ($r=0.346$; $p<0.05$), implying that more secure attachment fosters higher socio-emotional development in children. Conversely, caregiver-child interactions involving violent behaviors exhibited a significant negative correlation with children's social-emotional development ($r=-0.448$; $p<0.01$), highlighting that reductions in violent behaviors in daycare settings are linked to improvements in children's social-emotional outcomes. Additionally, lower attachment security showed a significant negative correlation with children's socio-emotional development ($r=-0.588$; $p<0.01$), suggesting that deficiencies in attachment security may detrimentally impact children's emotional health. The correlation coefficients for various child, family, and caregiver characteristics, as well as mother-child attachment and caregiver-child interaction, and their relationships to children's social-emotional development are summarized in Table 3.

Table 3 Correlation coefficients of child characteristics, family characteristics, caregiver characteristics, mother-child attachment, caregiver-child interaction, and children's social-emotional development

Variables	Mother-Child Attachment	Caregiver-Child Interaction	Social-Emotional Development
Child's age (years)	-0.115	0.301	-0.170
Gender (0=male. 1=female)	-0.199	0.223	-0.243
Length of time in daycare (months)	-0.082	0.134	-0.157
Father's age (years)	0.183	0.196	-0.109
Mother's age (years)	-0.130	0.135	-0.042
Years of father's education (years)	0.041	0.092	-0.020
Mother's years of education (years)	0.006	-0.027	0.370*
Per capita income	0.094	-0.036	0.226
Family size (people)	-0.156	-0.229	0.083
Age of carer (years)	-0.133	-0.080	0.146
Length of education of caregivers (years)	-0.141	-0.098	0.120
Number of children held by caregivers	0.190	-0.366*	0.344*
Length of time in current daycare (1=<1 year. 2=1-5 years. 3=>5 years)	-0.039	0.253	0.100
Training experience (0=never. 1=ever)	0.010	0.198	0.235
Experience working as a carer	-0.039	0.253	0.100
Mother-child attachment	1	0.154	0.346*
Sensitivity dimension of caregiver-child interactions	0.200	-	-0.194
Caregiver-child interaction	0.102	-	-0.448**
	-0.136	-	-0.588**
	0.104	-	-0.022

Notes: *Significant at $p<0.05$ (2-tailed); **Significant at $p<0.01$ (2-tailed)

Influence of Independent Variables on Children's Social-Emotional Development

To further explore these relationships, multiple linear regression analysis was conducted. The model's significance level of 0.006 and an Adjusted R Square of 0.504 indicate that the examined variables collectively account for 50.4% of the variance in children's social-emotional development, with the remaining 49.6% attributed to other unexamined factors. Results (Table 4) indicate that mother-child attachment significantly positively influences social-emotional development ($p<0.05$; $\beta = 0.386$), meaning that each one-unit increase in attachment results in a 0.38-point increase in development. Conversely, the non-attachment dimension in caregiver-child interactions significantly negatively

affects children's development ($p < 0.05$; $\beta = -0.473$), with a one-unit increase associated with a 0.47-point decrease in socio-emotional outcomes. Additionally, a permissive caregiver interaction style demonstrated a significant negative effect on social-emotional development ($p < 0.1$; $\beta = -0.328$), where a one-unit increase in permissiveness correlates with a 0.32-point reduction in development. Maternal education also had a significant positive effect on social-emotional outcomes ($p < 0.1$; $\beta = 0.293$), suggesting that each additional year of education corresponds to a 0.29-point increase in children's social-emotional development.

Table 4 The result of the effect of family characteristics, caregiver characteristics, mother-child attachment, and caregiver-child interactions on children's social-emotional development

Variables	Unstandardised Coefficient (B)	Std. Error	Beta Standardised Coefficient (β)	Sig
Child's age (years)	-1.527	1.899	-0.119	0.430
Child's gender (0=male. 1=female)	2.289	3.033	0.127	0.459
Length of time in daycare (month)	0.110	0.112	0.144	0.335
Mother's age (years)	-0.002	0.317	-0.001	0.996
Father's education level (years)	0.296	0.964	0.048	0.762
Mother's education level (years)	2.415	1.216	0.293	0.069*
Income per capita (IDR)	9.934E-9	0.000	0.006	0.964
Family size (people)	0.630	1.432	0.073	0.665
Age of Caregiver (years)	-0.179	0.153	-0.241	0.254
Caregiver education level (years)	0.672	0.700	0.180	0.348
Number of children held by caregivers	1.154	1.875	0.111	0.545
Training experience (0=never. 1=ever)	5.493	4.945	0.305	0.279
Expreience working as a caregiver	0.600	2.812	0.058	0.833
Mother-child attachment	0.389	0.144	0.386	0.013**
Sensitivity dimension of caregiver-child interactions	-0.161	0.171	-0.245	0.356
Violence dimension of caregiver-child interactions	-0.132	0.197	-0.187	0.511
Detachment dimension of caregiver-child interactions	-0.310	0.113	-0.473	0.012**
Permissive dimension of caregiver-child interactions	-0.200	0.108	-0.328	0.078*
R Square				0.733
Adjusted R Square				0.504
F				3.201
Sig				0.006***

Notes: *Significant at $p < 0.1$ (2-tailed); **Significant at $p < 0.05$ (2-tailed); ***Significant at $p < 0.01$ (2-tailed)

These results illustrate the complex interplay between family and caregiver characteristics in shaping children's social-emotional development. The significant positive influence of mother-child attachment and maternal education underscores the importance of supportive family relationships and parental education in enhancing socio-emotional growth in children. Conversely, the negative impact of non-attachment and permissive caregiver behaviors highlights the potential adverse effects of certain caregiving practices. These findings collectively suggest that holistic support systems in daycare settings, which include both family engagement and targeted caregiver training, are essential for fostering optimal environments for young children's socio-emotional development.

DISCUSSION

This study explored the effects of mother-child attachment and caregiver-child interactions on the social-emotional development of preschool-aged children within daycare environments, grounded in Bronfenbrenner's ecological theory. This theory asserts that children's development is influenced by interactions within their microsystem, primarily family and close environmental elements (Santrock, 2011). Given the proximity and influence of mothers in early childhood, their role becomes critical in shaping children's social-emotional competencies.

The findings confirmed a significant positive relationship between mother-child attachment and social-emotional development, aligning with prior research that supports the impact of secure attachment on children's adaptive social and emotional skills. According to Wijirahayu et al. (2016), securely attached children tend to exhibit higher social-emotional competence, greater confidence in new social settings, and an improved ability to regulate emotions and demonstrate empathy. Further research by Akmalia and Rahayuningsih (2018) corroborates this, showing that children with secure maternal attachments generally perform better in social-emotional domains. The attachment security provides children with a foundational sense of safety and trust, enabling them to interact more independently with their environment, develop healthy relationships, and regulate their own emotions effectively (Santrock, 2011). Such attachments contribute to a child's resilience, allowing them to manage stress and navigate complex social dynamics with greater ease. This aspect is crucial, particularly in early childhood, when social-emotional skills form the basis for later developmental milestones.

The daycare environment, another central context in this study, demonstrated significant impacts on social-emotional development based on the nature of caregiver-child interactions. Specifically, the violent dimension of these interactions displayed a marked negative association with children's social-emotional development. This finding aligns with Taswiyah and Imron's (2023) study, which emphasized the necessity of a positive, child-friendly daycare environment that minimizes adverse interactions. Such environments support children's sense of safety, which is critical for their socio-emotional growth. Negative interactions, particularly those involving violence, undermine a child's trust in caregivers and can foster fear, anxiety, and insecurity, hampering their ability to develop positive social relationships. Caregiver sensitivity, or the extent to which caregivers can attune themselves to children's emotional and behavioral cues, forms a key dimension of secure attachments within daycare settings (Handayani, 2014). Sensitivity to children's cues—whether regarding interests, needs, or opinions—fosters secure, positive attachment and enables children to feel valued and understood. It also allows caregivers to provide appropriate encouragement, recognize accomplishments, and offer non-intrusive guidance, all of which bolster children's confidence and socio-emotional competencies.

Further, this study revealed that the non-attachment and permissive interaction dimensions between caregivers and children also exerted a significant negative impact on children's social-emotional outcomes. Non-attachment interactions reflect a lack of close emotional bonds, leaving children feeling detached and less likely to rely on caregivers for emotional support or guidance. This finding is supported by Puspita (2019), who argued that children benefit from secure attachments, which foster positive social and emotional behaviors, while non-attachment interactions can hinder the formation of social skills and empathy. Meanwhile, the negative effects of permissive caregiver interactions—where limits and boundaries are less defined—also pose risks for children's social-emotional regulation. According to Fadhillah et al. (2021), permissive caregiver behaviors, which often lack structure or clear guidance, may lead to unregulated emotions and antisocial tendencies in children. Permissive interactions may leave children without a framework for managing emotions constructively, increasing the likelihood of impulsive or disruptive behaviors. This dynamic may negatively affect children's abilities to interact cooperatively with peers, handle conflicts, and develop empathy.

Demographic factors, particularly maternal education level, also demonstrated significant correlations with children's social-emotional development. Higher maternal education not only reflects enhanced knowledge and awareness of child-rearing practices but also often correlates with an enriched home environment that provides varied learning experiences. Simanjuntak et al. (2022) noted that maternal education influences children's development by improving the quality of life and access to resources that enhance cognitive and emotional stimulation. Likewise, Indanah and Yulisetyaningrum (2019) emphasized that a mother's educational background contributes to a child's developmental trajectory, affecting emotional, cognitive, and social dimensions. Educated mothers are more likely to engage in behaviors that promote positive attachment and provide environments that support emotional regulation and learning.

The study also observed a significant inverse relationship between the number of children under a caregiver's supervision and the quality of caregiver-child interaction. Prior research by Groeneveld et al. (2016) and Morrissey (2010) highlights that when caregivers manage fewer children, they can offer more focused, responsive, and individualized care. This lower ratio allows caregivers to attune more closely to each child's needs, leading to more meaningful interactions that are fundamental to socio-emotional development. Anteni et al. (2018) further noted that lower child-to-caregiver ratios enable caregivers to form bonds with children, contributing to an emotionally supportive environment. However, the presence of more children may foster social skills like cooperation, empathy, and communication, as noted by Parker et al. (2022), though it may reduce individual attention from caregivers. This dynamic suggests an optimal balance where children have opportunities to interact with peers while still receiving adequate caregiver attention.

CONCLUSION AND SUGGESTION

This study, which involved 40 preschool children, their mothers, and 20 caregivers, sheds light on the multifaceted nature of social-emotional development within daycare environments. Findings indicate that mother-child attachment and maternal education level positively contribute to children's socio-emotional outcomes. Conversely, certain caregiver-child interaction dimensions, particularly those marked by non-attachment and permissiveness, negatively impacted children's development. These results underscore the critical role of both mothers and caregivers in fostering an environment conducive to healthy social-emotional growth. Specifically, mothers, as primary attachment figures, are encouraged to engage in quality daily interactions that reinforce trust and emotional security. Simple acts, such as accompanying children to daycare, playing together, and showing affection, can enhance attachment security, which is fundamental to children's confidence and resilience.

Daycare centers, serving as extensions of the caregiving environment, should prioritize caregiver training programs that emphasize effective, non-violent, and structured interaction strategies. Given that approximately 70% of caregivers in this study had not received formal training, comprehensive education programs are essential for equipping caregivers with skills to promote children's social-emotional competencies. Training should cover positive communication techniques, responsive caregiving, conflict resolution, and developmental knowledge. Daycare centers can also establish regular caregiver performance evaluations and developmental assessments for children, with feedback shared with parents to ensure alignment in developmental goals. Such measures would reinforce a holistic approach to children's social-emotional growth.

Intervention programs within daycare, focusing on empathy-building, teamwork, and emotional regulation activities, could further support children's social-emotional development. Structured play and group activities encourage children to practice skills like sharing, conflict resolution, and empathy, which are foundational for long-term social adjustment. Activities tailored to the developmental stages of preschoolers, such as role-playing, cooperative games, and emotion-focused discussions, can enhance their abilities to navigate social situations with confidence and empathy.

For future research, expanding the sample size to include diverse socio-economic backgrounds and various types of daycare settings would provide broader insights into the generalizability of the findings. Additionally, examining the influence of other factors, such as the quality of caregiver-parent communication, paternal attachment, and in-home caregiver interactions, would deepen the understanding of variables affecting children's socio-emotional outcomes. Further studies could explore additional dimensions of development, including language, cognitive, and motor skills, to build a more comprehensive model of early childhood development within daycare environments.

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