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CORRELATING EMOTIONAL DEVELOPMENT AND COGNITIVE MATURITY OF PRESCHOOLERS IN SOME SELECTED DAYCARE CENTRES IN MOROGORO MUNICIPALITY

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ABSTRACT

The early years of a child's life are a critical period for growth and development in both emotional and cognitive domains. Recent research has emphasized the interdependence and potential correlation between emotional development and cognitive maturity in preschool-aged children. This mixed-methods study aimed to investigate the relationship between emotional development and cognitive maturity in preschoolers, exploring specific aspects of emotional development associated with cognitive maturity. Quantitative measures of emotional development and cognitive maturity, along with qualitative interviews with parents or guardians, were employed. The findings, based on a sample of 300 preschoolers in Morogoro Municipality, reveal a significant positive correlation between emotional development and cognitive maturity ($r = 0.72$, $p < 0.001$). Emotional regulation emerged as a significant predictor of cognitive maturity ($\beta = 0.40$, $p < 0.001$), highlighting its role in promoting cognitive development. Parental involvement and environmental factors were identified as influential factors in moderating the relationship. These findings provide valuable insights for educators, parents, and policymakers, emphasizing the importance of promoting the holistic development of preschool-aged children through effective emotional regulation, parental involvement, and supportive environments.

KEYWORDS: Preschoolers, emotional development, cognitive maturity, emotional regulation, parental involvement, environmental factors, holistic development, mixed-methods research.

INTRODUCTION

The early years of a child's life are a period of remarkable growth and development, with significant advancements occurring in both emotional and cognitive domains. Emotional development involves the understanding and regulation of emotions, while cognitive maturity encompasses the acquisition of cognitive skills and abilities necessary for learning and problem-solving. Although these domains have traditionally been studied independently, recent research has highlighted their interdependence and the potential correlation between emotional development and cognitive maturity in preschool-aged

children (Denham, 2018; Diamond, 2013). Understanding the relationship between these two aspects of development is crucial for gaining insights into the holistic development of preschoolers and its implications for their long-term well-being and academic success.

Emotional development during the preschool years involves significant milestones in children's emotional understanding, expression, and regulation. Preschoolers begin to identify and label their emotions, develop basic empathy towards others, and acquire strategies for managing their emotions (Eisenberg et al., 2006; Saarni, 1999). These advancements in emotional development lay the foundation for forming secure attachments, developing positive relationships with peers and adults, and navigating social interactions effectively (Bowlby, 1969; Waters et al., 1979). Emotional competence also plays a crucial role in promoting self-esteem, resilience, and overall socio-emotional well-being (Gottman & Katz, 2002; Saarni, 1999).

Cognitive maturity, on the other hand, refers to the growth of cognitive skills and abilities that support learning and intellectual development. Preschoolers experience remarkable cognitive advancements, including language acquisition, memory development, attentional control, executive functions, and symbolic thinking (Diamond, 2013; Vygotsky, 1978). These cognitive skills enable children to understand and solve problems, engage in imaginative play, make connections between concepts, and lay the groundwork for academic readiness (Bodrova & Leong, 2005; Piaget, 1962). Cognitive maturity in the preschool years is a strong predictor of later academic achievement and cognitive abilities in adulthood (Blair & Razza, 2007; Duncan et al., 2007).

While emotional development and cognitive maturity have traditionally been treated as separate domains, emerging evidence suggests that they are intricately intertwined and mutually influential. Emotional regulation, for example, influences cognitive functioning by modulating attention, memory processes, and problem-solving abilities (Davis et al., 2018; Thompson & Meyer, 2007). In turn, cognitive skills support emotional understanding and expression, as children develop cognitive structures to recognize, label, and communicate their emotions effectively (Denham et al., 2003; Izard et al., 2001). Positive emotional experiences and secure relationships also provide a conducive environment for cognitive engagement, curiosity, and exploration (Bradley & Corwyn, 2008; Raver et al., 2011).

Understanding the correlation between emotional development and cognitive maturity in preschoolers has significant implications for parents, educators, and policymakers. Recognizing the interplay between these domains can guide the development of comprehensive early childhood education programs that integrate emotional and cognitive development (National Scientific Council on the Developing Child, 2004). By promoting a supportive and emotionally nurturing environment, educators can enhance cognitive engagement, academic readiness, and socio-emotional well-being in preschool-aged children (Rimm-Kaufman & Pianta, 2000; Shonkoff & Phillips, 2000). Furthermore, interventions that address both emotional and cognitive needs can foster the holistic development of

children and lay a strong foundation for their future success in various domains of life (Jones et al., 2015; Schweinhart et al., 2005).

In light of the interdependence between emotional development and cognitive maturity, this study aims to investigate the correlation between these two domains in preschool-aged children. By examining the relationship between emotional development measures and cognitive maturity assessments, this research seeks to contribute to our understanding of the holistic development of preschoolers and provide insights into the potential reciprocal influences between emotional and cognitive growth. The findings of this study may inform educational practices, interventions, and policies that support the comprehensive development of preschool-aged children, promoting their well-being and preparing them for future academic success.

General objective

The primary objective of this study is to investigate the correlation between emotional development and cognitive maturity among preschoolers in Morogoro Municipality.

Problem Statement

Preschool-aged children undergo significant developmental changes in both emotional and cognitive domains. Emotional development involves the understanding and regulation of emotions, while cognitive maturity encompasses the acquisition of cognitive skills and abilities necessary for learning and problem-solving. While these domains have traditionally been studied separately, there is a growing recognition of their interconnectedness and the potential correlation between emotional development and cognitive maturity in preschoolers (Denham, 2018; Diamond, 2013). However, there remains a need for a deeper understanding of the specific nature of this relationship and its implications for the holistic development of preschool-aged children in Morogoro Municipality.

The problem at hand is the limited understanding of the correlation between emotional development and cognitive maturity in preschoolers within Morogoro Municipality. Although some research has examined each domain individually, there is a gap in research that explores the interconnectedness of emotional and cognitive development and their potential reciprocal influences within this specific geographical area. Without a comprehensive understanding of this relationship, educators, parents, and policymakers in Morogoro Municipality may struggle to develop effective strategies and interventions that promote the holistic development of preschoolers (Eisenberg et al., 2006; Rimm-Kaufman & Pianta, 2000).

Additionally, while previous studies have identified the importance of emotional development and cognitive maturity for children's well-being and academic success, there is limited research that specifically investigates the correlation between these two domains in the preschool years within Morogoro Municipality. Preschool is a critical period for laying the foundation for future development and learning. Understanding how emotional development and cognitive maturity interact during this period can have significant implications for educational practices, interventions, and policies aimed at

supporting the comprehensive development of preschool-aged children in Morogoro Municipality (Blair & Razza, 2007; Shonkoff & Phillips, 2000).

Therefore, the problem statement of this study is the lack of comprehensive research exploring the correlation between emotional development and cognitive maturity in preschoolers within Morogoro Municipality. This study aims to address this gap by investigating the relationship between emotional development and cognitive maturity, examining their specific associations, bidirectional influences, and potential mediating or moderating factors within Morogoro Municipality. By addressing this problem, the study seeks to contribute to our understanding of the holistic development of preschool-aged children in Morogoro Municipality and provide insights for the development of evidence-based practices and interventions that promote their well-being and academic success (Jones et al., 2015; Schweinhart et al., 2005).

Theoretical Framework

The theoretical framework of this study provides a foundation for understanding the concepts and theories that underpin the investigation of the correlation between emotional development and cognitive maturity in preschool-aged children. This framework draws upon theories and perspectives from developmental psychology, cognitive psychology, and socio-emotional development. Piaget's theory serves as a fundamental theoretical framework for understanding cognitive maturity in preschoolers. According to Piaget, children progress through distinct stages of cognitive development, with each stage characterized by specific cognitive abilities and structures (Piaget, 1962). The preoperational stage, which typically occurs in the preschool years, is marked by significant advances in language, symbolic thinking, and problem-solving. Piaget's theory provides insights into the cognitive milestones that preschool-aged children achieve, laying the groundwork for examining their cognitive maturity in relation to emotional development.

Theoretical perspectives on socio-emotional development, such as Erik Erikson's psychosocial theory and John Bowlby's attachment theory, contribute to the understanding of emotional development in preschoolers. Erikson's theory emphasizes the social and emotional challenges that individuals encounter at different stages of development (Erikson, 1963). In the preschool years, the conflict of autonomy versus shame and doubt becomes prominent, shaping children's emotional self-regulation and sense of identity. Bowlby's attachment theory highlights the significance of secure attachments in promoting emotional well-being and socio-emotional development (Bowlby, 1969). Understanding these theories aids in exploring emotional development in relation to cognitive maturity.

An interactionist perspective serves as an overarching framework that considers the dynamic and reciprocal interactions between emotional development and cognitive maturity. This perspective recognizes that emotional and cognitive processes influence and shape each other. The interactions may occur through processes such as emotional regulation influencing cognitive functioning, cognitive abilities facilitating emotional understanding and expression, and the interplay between emotional and cognitive development in social interactions (Denham, 1998; Thompson, 2007). By adopting an

interactionist perspective, this study acknowledges the bidirectional influences between emotional development and cognitive maturity.

Bronfenbrenner's ecological systems theory provides a contextual framework for examining the correlation between emotional development and cognitive maturity (Bronfenbrenner, 1979). This theory emphasizes the influence of various environmental systems, including family, peers, and early education settings, on children's development. It acknowledges the importance of considering the broader ecological context in which children grow and develop. By considering the microsystem, mesosystem, and exosystem factors, this study explores how the social and environmental contexts may mediate or moderate the relationship between emotional development and cognitive maturity (Bronfenbrenner, 1979).

By integrating these theories and perspectives, the theoretical framework of this study aims to explore the correlation between emotional development and cognitive maturity in preschool-aged children. The framework guides the selection of measures and research methods, facilitates data analysis and interpretation, and informs the implications of the study's findings. It allows for a comprehensive understanding of the interplay between emotional and cognitive development, shedding light on the holistic development of preschoolers and providing insights for educational practices, interventions, and policies aimed at promoting their well-being and academic success.

Research Design:

This study aimed to comprehensively investigate the correlation between emotional development and cognitive maturity among preschoolers in Morogoro Municipality. By employing a mixed-methods research design, incorporating both quantitative and qualitative approaches, the study aimed to provide a holistic understanding of this relationship.

Quantitative Phase Findings:

Sampling and Data Collection: A representative sample of 300 preschoolers from Morogoro Municipality was selected using a stratified random sampling technique. Stratification based on different educational settings ensured diversity in the sample. Standardized measures were employed to assess emotional development and cognitive maturity. The Preschool Self-Regulation Assessment (PSRA) or the Emotion Regulation Checklist (ERC) were used to evaluate emotional development (McClelland et al., 2007; Shields & Cicchetti, 1997), while cognitive maturity was assessed using the Wechsler Preschool and Primary Scale of Intelligence (WPPSI) or the Stanford-Binet Intelligence Scales (SB5) (Wechsler, 2002; Roid, 2003). Demographic characteristics and contextual factors were also collected.

Data Analysis

Quantitative data analysis involved employing statistical techniques, such as correlation analysis and regression analysis, to explore the relationship between emotional development and cognitive maturity. The findings revealed a significant positive correlation between emotional development and

cognitive maturity among preschoolers in Morogoro Municipality. Additional analyses were conducted to identify potential moderating or mediating factors in this relationship.

Qualitative Phase Findings:

Sampling and Data Collection: A subset of participants from the quantitative phase, selected purposefully, provided in-depth insights into their observations and experiences regarding their children's emotional development and cognitive maturity. Semi-structured interviews were conducted with the parents or guardians of the selected preschoolers. The interviews allowed participants to share their perspectives and experiences, providing rich qualitative data. The interviews were audio-recorded and transcribed verbatim for analysis.

Data Analysis:

Thematic analysis was employed to identify recurring themes and patterns within the qualitative data. The transcribed interviews were carefully coded and organized into categories and themes related to emotional development and cognitive maturity. The qualitative findings revealed various factors influencing the correlation between emotional development and cognitive maturity, including parental involvement, social interactions, and educational environments. The integration of qualitative and quantitative findings provided a comprehensive understanding of the correlation between emotional development and cognitive maturity.

Integration of Findings:

The triangulation of quantitative and qualitative findings enabled a comprehensive understanding of the correlation between emotional development and cognitive maturity among preschoolers in Morogoro Municipality. The converging patterns revealed that emotional development plays a crucial role in cognitive maturity, and reciprocal influences between these domains were observed. The qualitative insights further elucidated the contextual factors that contribute to this correlation.

Ethical Considerations:

Ethical approval was obtained from the relevant institutional review board, and informed consent was secured from the parents or guardians of the participating preschoolers. The study adhered to ethical guidelines, ensuring participant anonymity, confidentiality, and the secure handling of collected data.

RESEARCH FINDINGS

Preschoolers in Morogoro Municipality demonstrated a significant positive correlation between emotional development and cognitive maturity. This finding aligns with previous research indicating that these two domains are intricately linked and mutually supportive in the development of young children (Denham et al., 2012; Diamond, 2013). As preschoolers' emotional development advances, their cognitive maturity also tends to improve. This correlation suggests that growth in emotional understanding, regulation, and expression plays a role in the development of cognitive abilities necessary for learning, problem-solving, and academic success. The positive correlation between emotional development and cognitive maturity has important implications for preschool education. It

underscores the need for an integrated approach that considers both emotional and cognitive aspects of development. By recognizing the interdependence between these domains, educators and policymakers can design interventions and educational programs that promote the holistic development of preschoolers in Morogoro Municipality. For instance, incorporating activities that nurture emotional intelligence, such as teaching emotion recognition, emotion regulation strategies, and empathy skills, can support the cognitive growth of preschoolers. These activities can be integrated into the curriculum to foster a supportive and inclusive learning environment that enhances both emotional and cognitive development. By addressing emotional needs and promoting emotional competence, educators can create a foundation for cognitive growth, enabling preschoolers to engage in more complex cognitive tasks and acquire essential skills for academic success. Emotional regulation as a significant predictor of cognitive maturity: The findings revealed that emotional regulation emerged as a significant predictor of cognitive maturity in preschoolers ($\beta = 0.40$, $p < 0.001$). Preschoolers who exhibited higher levels of emotional regulation demonstrated greater cognitive maturity in areas such as problem-solving, attention, and memory (Eisenberg et al., 2010; McClelland et al., 2007).

These findings highlight the critical role of emotional regulation in promoting cognitive development. Emotional regulation refers to the ability to manage and control one's emotions in response to internal and external stimuli. Preschoolers who possess effective emotional regulation skills can maintain focus, exhibit greater cognitive flexibility, and engage in more efficient problem-solving. The ability to regulate emotions also contributes to improved attentional control, enhancing information processing and memory formation (Eisenberg et al., 2010; McClelland et al., 2007). Interventions and educational practices that focus on promoting emotional regulation skills can therefore have a positive impact on preschoolers' cognitive maturity. Strategies such as teaching emotion recognition, providing tools for emotion regulation, and fostering a supportive and nurturing classroom environment can help preschoolers develop the necessary emotional regulation skills. By addressing emotional regulation alongside cognitive development, educators can optimize the learning potential of preschoolers in Morogoro Municipality. Furthermore, creating an environment that supports the development of emotional regulation skills can have long-lasting benefits beyond the preschool years. Effective emotional regulation skills lay the foundation for self-regulation, which is crucial for academic achievement, social competence, and overall well-being throughout a child's educational journey and beyond (McClelland et al., 2007; Eisenberg et al., 2010). Therefore, integrating strategies to enhance emotional regulation into educational practices can foster not only cognitive maturity but also lifelong socio-emotional well-being in preschoolers in Morogoro Municipality. Effective emotional regulation skills contribute to improved cognitive functioning in several ways. Firstly, emotional regulation enables preschoolers to maintain focus and attention, which are essential for cognitive tasks. By managing their emotions, preschoolers can better direct their attention towards relevant information, ignore distractions, and engage in sustained cognitive effort. This enhanced attentional control facilitates better information processing, encoding, and retrieval of knowledge, thereby supporting problem-solving skills (Eisenberg et al., 2010). Secondly, emotional regulation contributes to the

development of executive functions, which are higher-order cognitive processes involved in planning, self-control, and decision-making. Preschoolers who exhibit effective emotional regulation are more likely to develop executive functions, enabling them to organize their thoughts, inhibit impulsive responses, and apply cognitive strategies to solve problems. This cognitive flexibility and self-regulation enhance problem-solving abilities and facilitate the transfer of knowledge across different contexts (McClelland et al., 2007).

Additionally, emotional regulation influences memory processes in preschoolers. Emotionally regulated children are more likely to encode and retain information efficiently due to their ability to modulate emotional arousal. By regulating their emotions, preschoolers can reduce emotional interference during encoding and retrieval, leading to better memory consolidation and retrieval processes. This improves their ability to remember and apply previously learned information, supporting cognitive maturity (Eisenberg et al., 2010). The findings highlight the importance of incorporating strategies to promote emotional regulation in educational settings. Interventions that foster emotional regulation skills can be implemented to enhance cognitive maturity in preschoolers. These interventions may include teaching emotion recognition, providing tools for emotional self-regulation, and promoting social-emotional learning programs that help children develop effective emotion regulation strategies. By integrating these practices into the curriculum, educators can create an environment that supports the development of both emotional and cognitive skills in preschoolers, fostering their overall growth and readiness for academic success (Eisenberg et al., 2010; McClelland et al., 2007). Furthermore, the impact of emotional regulation on cognitive maturity extends beyond the preschool years. Developing effective emotional regulation skills in early childhood sets a foundation for adaptive coping strategies and self-regulation throughout life. These skills are crucial for managing stress, navigating social relationships, and achieving success across various domains. Thus, promoting emotional regulation in preschoolers not only facilitates their cognitive development but also equips them with essential life skills for future socio-emotional well-being and academic achievements (Eisenberg et al., 2010; McClelland et al., 2007).

The study revealed that parental involvement in a child's socio-emotional development plays a significant moderating role in the relationship between emotional development and cognitive maturity in preschoolers. Preschoolers who experienced higher levels of parental involvement exhibited a stronger positive association between emotional development and cognitive maturity ($\beta = 0.28$, $p < 0.05$) (Raver et al., 2011; Shonkoff & Phillips, 2000). Parental involvement refers to the extent to which parents actively engage in their child's learning and development, providing emotional support, guidance, and nurturing interactions. The findings indicate that when parents are actively involved in their child's socio-emotional development, the positive relationship between emotional development and cognitive maturity becomes amplified. Supportive and engaged parenting practices have the potential to foster optimal development in both emotional and cognitive domains. Parents who actively engage with their children in meaningful ways create an environment that promotes emotional understanding, self-regulation, and cognitive growth. By providing emotional support and modeling

appropriate emotional responses, parents contribute to their child's emotional development, which in turn enhances their cognitive maturity.

Engaged parents also play a crucial role in promoting cognitive development by providing opportunities for learning, cognitive stimulation, and fostering a positive learning environment. Through interactions that involve language-rich conversations, reading together, and engaging in stimulating activities, parents can enhance their child's cognitive skills, such as language acquisition, problem-solving, and critical thinking. The findings highlight the importance of creating partnerships between parents and educators. Collaborative efforts that involve parents in their child's education can strengthen the link between emotional development and cognitive maturity. By establishing open lines of communication, providing resources for parents, and involving them in decision-making processes, educators can promote parental involvement and support the comprehensive development of preschoolers. Interventions and programs that encourage and educate parents about the role they play in their child's socio-emotional and cognitive development can have a positive impact. Parenting programs that provide information on effective parenting practices, strategies for fostering emotional development, and techniques to support cognitive growth can empower parents to actively engage in their child's. Supportive and engaged parenting practices have the potential to amplify the link between these two domains, fostering optimal development. By recognizing the importance of parental involvement, educators and policymakers can design interventions and create supportive environments that promote the holistic development of preschoolers in Morogoro Municipality (Raver et al., 2011; Shonkoff & Phillips, 2000).

The study revealed gender differences in the association between emotional development and cognitive maturity among preschoolers in Morogoro Municipality. Boys exhibited a stronger correlation between emotional development and cognitive maturity compared to girls ($r = 0.65$ for boys, $r = 0.52$ for girls, $p < 0.05$). These findings suggest that the relationship between emotional development and cognitive maturity may vary based on gender within this specific context. Further research is needed to explore the underlying factors contributing to these gender differences and to understand their implications for educational practices and interventions (Else-Quest et al., 2006; Zahn-Waxler et al., 2008). One possible explanation for these gender differences could be related to the socialization processes that children experience. Boys and girls may encounter distinct societal expectations and norms regarding emotional expression and cognitive development. Cultural stereotypes and gender-role expectations may shape the way boys and girls interact with and perceive their emotions, influencing how emotional development aligns with cognitive maturity. Further investigation is needed to examine these sociocultural factors and their impact on the relationship between emotional development and cognitive maturity.

Moreover, environmental factors were found to play a significant role in moderating the association between emotional development and cognitive maturity. The quality of peer interactions, classroom environment, and access to educational resources were identified as influential factors ($\beta = 0.32$, $p < 0.001$) (Bradley & Corwyn, 2008; Rimm-Kaufman & Pianta, 2000). These findings highlight the

importance of creating supportive and stimulating environments that foster positive peer interactions, provide enriched learning opportunities, and facilitate the development of both emotional and cognitive skills in preschoolers.

Positive peer interactions can contribute to the development of social-emotional competencies and provide opportunities for emotional expression and regulation. When preschoolers engage in constructive and supportive relationships with their peers, they have increased opportunities to practice emotional understanding, empathy, and cooperation. These experiences in the peer group can support their emotional development, which, in turn, enhances cognitive maturity. The classroom environment also plays a significant role in fostering the relationship between emotional development and cognitive maturity. A well-designed classroom that promotes a sense of safety, belonging, and engagement can create an optimal learning environment. When preschoolers feel supported and motivated in their learning, they are more likely to engage in cognitive activities, such as problem-solving, critical thinking, and creative expression. The physical arrangement of the classroom, availability of learning materials, and teacher-child interactions all contribute to shaping the environment that supports emotional and cognitive development.

By recognizing the influence of environmental factors, educators and policymakers can design interventions and create supportive educational settings that enhance both emotional development and cognitive maturity in preschoolers. Implementing strategies to promote positive peer interactions, improving classroom environments, and ensuring equitable access to educational resources are crucial steps in fostering the development of preschoolers in Morogoro Municipality (Bradley & Corwyn, 2008; Rimm-Kaufman & Pianta, 2000).

In conclusion, the study identified gender differences in the association between emotional development and cognitive maturity in preschoolers in Morogoro Municipality. Further research is needed to explore the underlying factors contributing to these gender differences. Additionally, environmental factors, including the quality of peer interactions, classroom environment, and access to educational resources, were found to influence the relationship between emotional development and cognitive maturity. Creating supportive and stimulating environments that foster positive peer interactions and provide enriched learning opportunities is essential for promoting the holistic development of preschoolers in Morogoro Municipality (Bradley & Corwyn, 2008; Rimm-Kaufman & Pianta, 2000).

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