

Article

Evaluating the Development Skills in Early Childhood Education among Kindergarten Learners

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Abstract: This study investigates the relationship between various demographic and early childhood development skills among learners. Through a detailed analysis of age & gender distribution, parental education, family income, sibling number, and early childhood proficiency levels across different skill sets, the study aims to uncover patterns and potential disparities. Notably, it explores the gender disparity among learners and in parental education levels, with a significant emphasis on the impact of socioeconomic status on educational access and opportunities. Despite initial assumptions, statistical analysis reveals that demographic and socioeconomic factors do not significantly influence early childhood development skills, suggesting the critical role of quality education and inclusive environments. This research underscores the importance of equal access to quality educational resources and opportunities for all children, emphasizing that early childhood development transcends demographic and socioeconomic boundaries. The findings advocate for educational policies and interventions that focus on holistic child development, aiming to provide every child with a strong foundation for future learning and success.

Keywords: development skills, socioeconomic status, developmental proficiency

Introduction

Early childhood education is widely recognized as the cornerstone of lifelong learning and development, providing the essential building blocks upon which all future academic, social, and emotional growth is constructed (Taimur & Sattar, 2020). De Gracia et al. (2023) emphasized that during the critical early years of a child's life, foundational skills such as language acquisition, cognitive development, and social interaction are established. These formative experiences profoundly shape a child's abilities, attitudes, and behaviors well into adulthood (Aytkaliyevna, 2023). Research consistently demonstrates that high-quality early childhood education programs yield long-term benefits, including higher academic



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achievement, improved socio-emotional skills, and decreased rates of delinquency and crime (Mondi et al., 2021). Furthermore, early childhood education has been shown to narrow the achievement gap, particularly among children from disadvantaged backgrounds, thereby promoting equity and social mobility (Henry et al., 2020). Given its transformative potential, investing in early childhood education is not only an investment in individual children but also in the future prosperity and well-being of society as a whole (Vintimilla & Pacini-Ketchabaw, 2020).

According to Taylor & Boyer (2020) the early childhood development skills in kindergarten holds significant importance as it provides valuable insights into each child's unique strengths and areas needing support and these assessments play a crucial role in informing personalized teaching strategies tailored to meet the diverse needs of students. Understanding the specific developmental progress of each child, educators can adapt their instructional approaches to maximize learning outcomes and foster individual growth (Wackerle-Hollman et al., 2021). Additionally, early childhood assessments facilitate early intervention by identifying any potential delays or challenges in a timely manner, allowing for targeted support and interventions to be implemented effectively (Bricker et al., 2022). Ultimately, these assessments contribute to the overall educational success of children by ensuring that they receive the necessary support and resources to thrive academically, socially, and emotionally from the outset of their educational journey (Duchesneau, 2020).

Assessing the diverse range of skills among young learners, including gross motor skills, fine motor skills, self-help skills, receptive and expressive language skills, cognitive abilities, and socio-emotional skills, presents several challenges and considerations. Mondy et al. (2021) reported that the developmental trajectory varies widely among children, making it challenging to establish universal benchmarks for assessment. Additionally, cultural and linguistic differences may impact how skills manifest, requiring assessment tools and methods to be culturally and linguistically sensitive (Adewusi et al., 2023). Furthermore, the assessment process must consider individual learning styles and preferences to ensure fair and equitable evaluations. Moreover, young children may exhibit varying levels of engagement and attention during assessments, necessitating creative and child-friendly approaches to capture their abilities accurately (Leung et al., 2024). Finally, socio-emotional skills, such as self-regulation and social competence, are inherently complex and may be more challenging to assess objectively compared to more tangible skills (Colliver & Veraksa, 2022). Therefore, addressing these challenges requires a holistic and multidimensional approach that considers the individual needs, backgrounds, and contexts of young learners to ensure accurate and meaningful assessment of their developmental skills.

Educators and researchers encounter significant challenges when assessing development skills, primarily due to the diverse learning needs, cultural differences, and varying educational backgrounds of the students. Cultural differences further complicate the assessment process, as norms and expectations regarding child development may vary across different cultural contexts. Additionally, students from varying educational backgrounds may possess different levels of exposure to educational resources and experiences, influencing their performance on standardized assessments. To address these challenges, educators and researchers must prioritize culturally responsive assessment practices that recognize and value diverse perspectives and backgrounds. Acknowledging and addressing these challenges, educators and researchers can strive to create more equitable and effective assessment practices that support the diverse needs of all students.

The findings from comprehensive assessments of early childhood development skills hold immense potential to drive positive changes in educational practices, support early childhood development, and enhance learning outcomes. Identifying specific areas of strength and areas needing improvement for each child, teachers can tailor their teaching strategies to better meet individual needs, thus promoting more effective and engaging learning experiences.

Methodology

The objective of this study was to examine the association between kindergarten students' profiles and their early childhood development skills, employing a descriptive-correlational research approach. Utilizing a survey questionnaire, the study aimed to determine the significance of learners' profiles and early childhood skills at identified school in Cebu City Division. Following the methodology outlined by Pyrczack & Oh (2018), the research sought to establish relationships between various situational components through thorough enumeration. Data collection was conducted using the SPSS program, ensuring statistical handling aligned with the study's objectives. The study was conducted within the Cebu City Division, encompassing both kindergarten learners and their teachers. Assessment of early development skills utilized a modified version of the Early Childhood Care and Development (ECCD) checklist, comprising questions related to demographic profiles and various developmental domains. The checklist, designed for ease of administration by service providers, helped determine children's developmental progress and identified risks for developmental delays. Numerical and descriptive procedures, including a 5-point Likert scale, were employed to analyze the data effectively.

Results and Discussion

Table 1. Age and Gender of the Learners

Age (in years)	Female		Male		Total	
	f	%	f	%	f	%
6	3	9.38	4	12.50	7	21.88
5	16	50.00	9	28.13	25	78.13
Total	19	59.38	13	40.63	32	100.00

The data presented in Table 1 depicts the age and gender distribution among learners, with a total sample size of 32 individuals. Notably, there is a higher representation of females (59.38%) compared to males (40.63%). Analyzing the age distribution reveals interesting patterns. Among 6-year-olds, there are slightly more males (12.50%) than females (9.38%), contributing to a total of 21.88% of this age group. However, the majority of learners fall within the 5-year-old category, where females significantly outnumber males (50.00% versus 28.13%), constituting 78.13% of the total population. Further exploration into the underlying factors contributing to this gender disparity, such as educational preferences, societal norms, or program accessibility, could provide valuable insights for educational initiatives aimed at promoting gender equity and inclusivity.

Table 2. Parents' Highest Educational Attainment

Educational Attainment	Mother		Father	
	f	%	f	%
College Graduate	5	15.63	3	9.38
College Level	13	40.63	15	46.88
High School Graduate	8	25.00	6	18.75
High School Level	5	15.63	4	12.50
Elementary Graduate	1	3.13	3	9.38
Elementary Level	0	0.00	1	3.13
Total	32	100.00	32	100.00

Table 2 provides insight into the highest educational attainment of the parents of the learners, highlighting a diverse range of educational backgrounds within the sample of 32 families. Among mothers, the most prevalent educational level is at the college level, with 40.63% having attained this degree, followed closely by high school graduates at 25.00%. Fathers also exhibit a similar trend, with college-level education being the most common at 46.88%, and high school graduates comprising 18.75% of the total. Interestingly, the data show a higher proportion of mothers with college-level education compared to fathers, indicating a potential gender disparity in educational attainment within the parental cohort. Moreover, it is substantial that a significant portion of parents have attained education up to the high school level or below, with smaller percentages at the elementary level. These findings underscore the importance of considering parental educational backgrounds in educational interventions and policies, as

they can significantly influence children's educational outcomes and aspirations.

Table 3. Number of Siblings of the Learners

Number of Siblings	f	%
5 and up	5	15.63
3-4	7	21.88
1-2	19	59.38
None	1	3.13
Total	32	100.00

Table 3 provides an overview of the number of siblings among the learners, indicating a varied family size within the sample of 32 individuals. The majority of learners (59.38%) have between one to two siblings, reflecting a common family structure in the dataset. This suggests that a significant portion of the learners may experience dynamics influenced by sibling interactions and relationships, potentially impacting their social and emotional development. Additionally, a considerable proportion of learners (21.88%) have between three to four siblings, indicating larger family sizes for a notable portion of the sample. Furthermore, a small percentage of learners (15.63%) come from families with five or more siblings, representing a relatively smaller but still notable portion of the cohort. Interestingly, only one learner (3.13%) reports having no siblings. This data underscores the importance of understanding family dynamics and their potential implications on children's learning experiences and overall development. Further research could explore the specific dynamics within different family sizes and their impact on children's academic performance and socio-emotional well-being.

Table 4. Combined Family Monthly Income

Monthly Income (in pesos)	f	%
Above 30,000	1	3.13
25,001-30,000	2	6.25
20,001-25,000	6	18.75
15,001-20,000	4	12.50
10,001-15,000	10	31.25
10,000 and below	9	28.13
Total	32	100.00

Table 4 illustrates the combined family monthly income among the learners' households, offering insight into the economic backgrounds within the sample of 32 families. The data reveal a diverse range of income levels, with the majority (59.38%) of families earning 15,000 pesos per month or less. This suggests a significant portion of the sample is situated within lower-income brackets, which could have implications for the learners' access to resources, educational opportunities, and overall well-being. Additionally, a notable proportion of families (18.75%) fall within the 20,001-25,000-peso range,

while smaller percentages are distributed across higher income brackets. Interestingly, only one family (3.13%) reports a monthly income above 30,000 pesos. These findings underscore the importance of considering socioeconomic factors in education, as they can profoundly influence students' academic performance, educational attainment, and overall life outcomes.

Table 5. Learner's Level of Proficiency of the Early Childhood Development Skills

Components	WM	Verbal Description
Gross Motor Skills	3.06	Approaching Proficiency
Fine Motor Skills	3.11	Approaching Proficiency
Self-help Skills	3.06	Approaching Proficiency
Receptive Language Skills	3.14	Approaching Proficiency
Expressive Language Skills	3.03	Approaching Proficiency
Cognitive Skills	3.04	Approaching Proficiency
Socio-emotional Skills	3.01	Approaching Proficiency

The data present the Learner's Level of Proficiency of Early Childhood Development Skills reveals that children are generally approaching proficiency across various skill sets. The weighted means for each component indicate a close proximity in skill levels, with scores ranging from 3.01 to 3.14 on a likely 5-point scale, where higher scores would signify greater proficiency. The lowest score is observed in Socio-emotional Skills at 3.01, suggesting that while children are nearing proficiency, this area might need slightly more attention compared to others. Conversely, Receptive Language Skills scored the highest at 3.14, indicating that children are relatively better at understanding and processing information they receive. Gross Motor Skills, Fine Motor Skills, Self-help Skills, Cognitive Skills, and Expressive Language Skills also display scores above 3.0, all classified under the approaching proficiency. The relatively close range of scores (3.01 to 3.14) across various developmental domains suggests a balanced developmental approach in early childhood education. This reflects the principles outlined in recent literature emphasizing the importance of a holistic approach to child development, where equal attention is given to physical, cognitive, and emotional development (National Association for the Education of Young Children, 2022).

Moreover, the slightly lower score in Socio-emotional Skills highlights a critical area for development. Research in the early 2020s has increasingly pointed to the foundational role of socio-emotional skills in early childhood for later success in school and life, suggesting that emotional and social competencies are crucial for academic achievement, mental health, and relationships (Jones, Greenberg, & Crowley, 2020). While, the slightly lower score in Socio-emotional Skills highlights a critical area for development. Research in the early 2020s has increasingly pointed to the foundational role of socio-emotional skills in early childhood for later success in school and life, suggesting that emotional and social competencies are crucial for academic

achievement, mental health, and relationships (Jones, Greenberg, & Crowley, 2020). These results underscore the importance of targeted educational and developmental programs to enhance all areas of early childhood development, with particular attention to slightly lagging domains like Socio-emotional Skills.

Table 6. Test of Relationship between the Learners' Profile and their Early Childhood Development Skills

Early Childhood Development Skills VS:	χ^2 -value	p - value	Decision	Remarks
Age	0.110	0.740	Do not reject Ho	Not Significant
Gender	0.423	0.515	Do not reject Ho	Not Significant
Mother's Highest Educational Attainment	0.847	0.358	Do not reject Ho	Not Significant
Father's Highest Educational Attainment	0.847	0.358	Do not reject Ho	Not Significant
Number of Siblings	0.142	0.706	Do not reject Ho	Not Significant
Combined Family Monthly Income	0.700	0.403	Do not reject Ho	Not Significant

*Significant at $p < 0.05$

The data presented in Table 6 examines the relationship between learners' profiles, including Age, Gender, Parents' Educational Attainment, Number of Siblings, and Combined Family Monthly Income, and their Early Childhood Development Skills. The analysis utilizes p-values to determine the statistical significance of these relationships, with a significance level set at $p < 0.05$. Across all variables examined—Age, Gender, Mother's Highest Educational Attainment, Father's Highest Educational Attainment, Number of Siblings, and Combined Family Monthly Income—the results consistently show p-values well above the 0.05 threshold. Specifically, Age ($p = 0.740$), Gender ($p = 0.515$), Mother's Highest Educational Attainment ($p = 0.358$), Father's Highest Educational Attainment ($p = 0.358$), Number of Siblings ($p = 0.706$), and Combined Family Monthly Income ($p = 0.403$) all have p-values indicating that the relationships between these variables and Early Childhood Development Skills are not statistically significant.

The lack of significant correlations underscores the multifaceted nature of early childhood development. While demographic and socioeconomic factors are commonly explored, this result suggests that early childhood development is influenced by a broader range of factors, possibly including environmental, genetic, and experiential variables. This aligns with research suggesting the significant role of early experiences and environmental stimuli in shaping cognitive and socio-emotional development (Belsky and de Haan, 2021).

The findings suggest that children from varying demographics and socioeconomic backgrounds have similar potential for developing early childhood skills when factors like age, gender, parental education,

family income, and the number of siblings are not significant barriers. This challenges assumptions about the deterministic role of these factors and emphasizes the importance of equal access to quality early childhood education and developmental opportunities (UNICEF, 2022).

Given that traditional demographic and socioeconomic indicators do not significantly impact early childhood development skills, the importance of early interventions, quality childcare, and education becomes even more pronounced. This is supported by studies indicating that high-quality early childhood education programs can significantly enhance development across all children, irrespective of their background (National Institute for Early Education Research, 2023). The results highlight the need for ongoing professional development for early childhood educators. Training should not only focus on delivering curriculum but also on creating inclusive, stimulating environments that cater to the developmental needs of every child, regardless of their background. Moreover, findings indicate This suggests that factors outside of the learner's immediate demographic and socioeconomic profile may play a more critical role in early childhood development, highlighting the need for further research to identify what these factors might be and how they influence development.

Conclusion

The results of the analysis reveal comprehensive insights into the demographics, socioeconomic status, educational background of parents, and the developmental proficiencies of learners. Notably, there exists a gender disparity in both the learner and parental education levels, with females generally showing higher representation and attainment. Moreover, the majority of families fall within lower to middle-income brackets, which could potentially influence access to educational resources and opportunities. Despite these variances, the analysis of early childhood development skills and the lack of significant relationships between these skills and various demographic and socioeconomic factors suggest that early development is influenced by a complex interplay of factors beyond just demographics and socioeconomic status. The findings underscore the importance of providing equal access to quality early childhood education and developmental opportunities, emphasizing that factors such as quality of education and inclusive learning environments might play a more crucial role in early development than previously considered. This calls for targeted educational policies and programs that focus on holistic development and equal opportunities for all children, regardless of their background, to foster a foundation for lifelong learning and success.

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