EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2025): 8.57 ISSN: 2348 – 814X
Volume: 12 | Issue:11 |November 2025 -Peer Reviewed Journal

COMPARATIVE ANALYSIS OF PARENTAL INVOLVEMENT AND K STAGE 1 ACHIEVEMENT IN VARYING SOCIOECONOMIC CONTEXTS: A TWO-WAY ANCOVA STUDY

Niña Luz C. Pasa
Master of Arts in Educational Management, Rizal Memorial Colleges, Inc.

Article DOI: https://doi.org/10.36713/epra25101
DOI No: 10.36713/epra25101

ABSTRACT
This study explored the impact of parental involvement and socioeconomic status on the academic achievement of kindergarten pupils in North District, Panabo City, while controlling for demographic variables. A total of 69 kindergarten pupils were selected as participants using a convenience sampling technique. Data were collected using an adapted and refined survey questionnaire, which was pilot tested to ensure reliability and internal consistency. The findings revealed that parental involvement among kindergarten pupils was generally rated as moderate, with parents from higher socioeconomic backgrounds showing greater engagement. Moreover, academic achievement was generally rated as moving towards mastery, with pupils from high socioeconomic status demonstrating the highest performance. Further analysis indicated no significant relationship between parental involvement and academic achievement when socioeconomic status was controlled, contradicting Epstein's (1995) Parental Involvement Framework. Additionally, there was no significant difference in academic achievement across varying levels of parental involvement when controlling for socioeconomic status. However, both parental involvement and socioeconomic status significantly influenced academic achievement independently, supporting Bronfenbrenner's Ecological Systems Theory (1979) but contradicting Vygotsky's Sociocultural Theory (1978). These findings emphasize the importance of addressing socioeconomic disparities and promoting active parental support to enhance early childhood education.

KEYWORDS: *Parental Involvement; Socioeconomic Status; Academic Achievement; Kindergarten Pupils; Early Childhood Education*

INTRODUCTION

In many parts of the world, low academic achievement among kindergarten pupils has become a pressing concern. Various factors contribute to this issue, including limited access to quality educational resources, insufficient parental support, and a lack of early intervention programs. Kindergarten pupils who perform below expectations often struggle with foundational literacy, numeracy, and social skills, which are crucial for their future academic success. Teachers and school administrators report that these pupils face challenges in maintaining consistent academic progress, and many of them come from families with limited financial means. This scenario underscores the importance of addressing the factors that influence early childhood education outcomes, particularly in a community where access to resources is uneven.

In the United States, research has highlighted the role of early childhood education in shaping academic outcomes. Cortázar et al. (2020) emphasized that early childhood education has a significant effect on academic achievement, with quality preschool programs reducing the risk of grade retention and school dropouts. Similarly, Woods et al. (2020) examined how early academic performance in kindergarten predicts later outcomes, noting that early academic struggles often persist into later grades without targeted interventions, particularly for students with low executive functioning. Both studies suggest that early interventions and educational quality are critical to addressing low academic achievement in young children.

In the United Kingdom, studies have explored the impact of both environmental and individual factors on children's pre-academic achievement. Orr et al. (2023) highlighted that socio-economic status and family support play crucial roles in shaping kindergarten achievement, with children from low-income households at a greater risk of underperformance. Zambrana et al. (2020) similarly found that engaging children in pre-academic activities in early childhood education programs could mitigate academic risks, particularly for children in disadvantaged communities. These studies underscore the importance of early support systems and socio-economic interventions in improving educational outcomes.

In Arabian countries, particularly in the Gulf region, Fateel et al. (2021) analyzed the relationship between socioeconomic status, preschool education, and later academic success. They discovered that children from wealthier families with access to high-quality preschool education performed significantly better in elementary school. Alghamdi (2020) explored how teacher quality and parental education correlate with academic achievement in mathematics, finding that both factors play

a pivotal role in the educational success of young students. These findings indicate that both the quality of early education and family background are key to overcoming academic challenges.

In Asia, studies have also pointed to the influence of socio-economic factors and preschool education on academic outcomes. Chen et al. (2019) investigated the long-term effects of China's "One Village One Preschool" program, showing that children who attended preschool had better academic performance in elementary school compared to those who did not. Jackson (2019) looked at the impact of kindergarten students' executive functions on academic success, revealing that children with stronger self-regulation and executive functioning skills were more likely to excel academically. These studies emphasize the critical role of structured early childhood education in improving kindergarten performance.

In the Philippines, Ramos and Vicera (2019) conducted a study on the achievements of kindergarten students, linking classroom quality to better academic outcomes. They found that well-structured classroom environments significantly contributed to improved literacy and numeracy skills among young learners. Tayag-Binuya and Tongson (2021) explored the challenges faced by low-income peri-urban mothers in preparing their children for kindergarten, noting that limited resources and support contributed to lower school readiness and achievement. These studies highlight the need for addressing socio-economic disparities to improve academic success in young Filipino learners.

In the researcher's setting, the low academic achievement among kindergarten pupils has become a growing concern for educators and parents alike. This issue significantly impacts the foundational learning experiences of young children, as early education is critical for setting the stage for future academic success. Poor performance at this stage can hinder the development of essential literacy, numeracy, and social skills, leading to long-term challenges in their educational journey. Additionally, pupils who struggle early on may face difficulties in adapting to the structured learning environments of higher grade levels, increasing the risk of continued underachievement. Addressing this concern is crucial to improving overall educational outcomes and ensuring that kindergarten pupils receive the support they need to thrive academically.

Despite extensive research on the role of parental involvement in early childhood education, few studies have focused on how this involvement interacts with varying socioeconomic contexts to influence kindergarten achievement. Many existing studies primarily examine either the general effects of parental involvement or focus on individual socioeconomic groups, neglecting a comparative approach that could offer deeper insights into how these variables work together. The lack of research that specifically addresses the relationship between parental involvement and kindergarten achievement across different socioeconomic backgrounds in the Philippine context, particularly in Panabo North District, underscores a significant research gap. This absence of localized studies makes it difficult to develop effective interventions that are tailored to the unique needs and challenges of diverse communities in this district.

Given these challenges, it is crucial to explore how socioeconomic status and parental involvement impact kindergarten achievement in the district. Socioeconomic status plays a significant role in determining the kind of support and resources parents can provide, from educational materials to involvement in school activities. At the same time, parental involvement, such as helping with schoolwork or attending school meetings, directly influences children's motivation and engagement in learning. Understanding the interplay between these factors is essential for developing targeted interventions that can improve academic outcomes for kindergarten pupils in Panabo North District. Exploring these relationships through empirical research will offer valuable insights that can guide educators, policymakers, and families in creating a more equitable and supportive educational environment for all children.

The urgency to conduct this study in Panabo North District arises from the growing concern about the educational disparities that have been observed in the area, particularly among young learners from different socioeconomic backgrounds. The district represents a mix of families from varying socioeconomic statuses, making it an ideal setting to explore how these differences impact early educational outcomes. Given the vital role that kindergarten education plays in shaping future academic success, understanding the factors that contribute to low achievement is crucial. By examining how parental involvement influences kindergarten achievement through the lens of socioeconomic diversity, this study aims to provide valuable insights that can inform targeted educational policies and strategies. The findings will be instrumental in helping educators and policymakers in Panabo North District develop programs that foster parental engagement across all socioeconomic groups, ultimately enhancing the educational experience and outcomes for all children.

REVIEW OF SIGNIFICANT LITERATURE

The related literature and study section provides an overview of existing research relevant to the key variables of this study, offering insights into their interconnections and implications for educational outcomes. This section aims to highlight the foundational theories and previous findings that support the current research, particularly in relation to parental involvement, socioeconomic status, and kindergarten academic achievement.

Academic Achievement of Pupils

Research on the relevance of moderate levels of academic achievement in kindergarten highlights the critical role early education plays in shaping later success. Sierens et al. (2020) explored the impact of preschool participation on fourth-grade academic outcomes and found that moderate pre-schooling involvement can promote equity in education, contributing to more consistent academic performance. The study underscores how moderate achievement at an early age

can act as a foundation for future academic success, especially when pre-school programs are designed to address diverse educational needs. Similarly, Ferrero et al. (2021) conducted a systematic review on project-based learning and determined that this approach can be effective in fostering moderate academic achievements in kindergarten and elementary students. Their findings suggest that project-based learning cultivates critical thinking skills, which can sustain a moderate yet steady progression in academic performance during early childhood education.

Quílez-Robres et al. (2021) performed a meta-analysis that examined the motivational, emotional, and social factors contributing to academic achievement in children aged 6–12. Their study highlighted that moderate levels of academic achievement are often influenced by a balance between social interaction and emotional regulation, which are essential during the formative kindergarten years. This suggests that moderate academic achievement is not only about cognitive development but also about fostering positive social and emotional environments for young learners. Similarly, Fishstrom et al. (2022) conducted a meta-analysis on the effects of academic interventions on elementary students, showing that moderate academic interventions can reduce academic anxiety and contribute to stable achievement patterns. This research supports the idea that consistent, moderate academic progress helps children develop resilience and confidence, laying a strong foundation for future learning.

Filges et al. (2022) explored service learning's impact on academic success, particularly in K-12 students, and concluded that moderate levels of achievement often arise from community-based learning interventions. Their findings indicate that hands-on experiences, coupled with academic learning, are more likely to result in sustainable and moderate academic improvement, even at early education levels. Ramos and Vicera (2019), in their study of kindergarten achievements in Leyte District I, found that moderate academic achievement among young learners is often associated with the quality of the classroom environment. Their research highlights the importance of teacher-pupil interactions and learning materials in fostering moderate yet effective academic growth during the early stages of education.

Kaya and Erdem (2021) focused on the relationship between student well-being and academic achievement, finding that a balanced well-being approach tends to produce moderate academic results in young learners. Their meta-analysis underscores the importance of maintaining student well-being to support stable academic performance, particularly in early childhood education where emotional and psychological factors are deeply intertwined with learning outcomes. Wu et al. (2021) investigated the longitudinal relationship between academic self-concept and achievement, showing that moderate levels of self-concept are positively correlated with consistent academic achievement over time. This suggests that cultivating a healthy academic self-concept during kindergarten can contribute to moderate academic success, which provides a stable base for more advanced learning in later years.

Meanwhile,literature on the relationship between literacy and academic achievement in kindergarten pupils emphasizes the significant impact of early literacy skills on overall academic progress. Brower (2020) explored the relationship between entrance age and academic achievement in literacy skills for kindergarten students, finding that younger entrants often struggle with literacy, which in turn affects their academic success in other subjects. Similarly, Eutsler et al. (2020) conducted a systematic review of the influence of mobile technologies on children's literacy achievement, concluding that mobile technologies can positively impact literacy skills when used effectively. Their findings suggest that technological interventions could enhance early literacy, leading to improved academic performance among kindergarten pupils.

Research by Mumba and Mkandawire (2020) compared reading achievements between pupils with preschool backgrounds and those without in Zambia, revealing that pupils with preschool experience exhibited better literacy skills, which positively influenced their academic achievement in primary school. Mickelson (2019) further explored the effects of play-based learning on behavior and academic progress in kindergarten classrooms, demonstrating that literacy activities integrated into play-based learning significantly improve literacy skills and foster overall academic growth. Both studies highlight the importance of early literacy experiences in shaping long-term academic success for young learners.

Silinskas et al. (2020) examined the role of home literacy activities in children's reading skills and interest in literacy from kindergarten to grade 2. Their findings indicated that consistent home literacy engagement significantly contributes to the development of reading skills, which supports academic achievement in later years. Similarly, Spiegel et al. (2021) conducted a meta-analysis on the relationship between executive functions and academic outcomes, finding that literacy development is closely linked to cognitive skills like memory and attention, which are crucial for academic achievement in elementary school. These studies underscore the importance of both home and cognitive factors in fostering literacy and academic success.

Abd Ghani et al. (2020) explored the effects of gender and academic achievement on reading fluency among Malaysian school children, finding that reading fluency is a key predictor of overall academic success, with gender playing a less significant role than expected. In a similar vein, Kim et al. (2021) conducted a meta-analysis on the effects of educational apps on literacy and math skills in preschool to grade 3 children, concluding that well-designed apps can enhance literacy

skills, leading to better academic outcomes. Both studies highlight the importance of literacy as a foundational skill that supports broader academic achievement, particularly when aided by effective instructional tools.
On a different view, the relationship between numeracy and academic achievement in early childhood education has been a focal point for many researchers, who highlight the importance of early numeracy skills for future academic success. Nelson and McMaster (2019) conducted a meta-analysis that revealed the significant effects of early numeracy interventions on students in preschool and early elementary grades. Their study found that interventions targeting basic numeracy skills can significantly improve overall academic performance, suggesting that strong early numeracy foundations are critical for later academic success. Similarly, de Chambrier et al. (2021) examined the impact of a play-based numerical intervention both in kindergarten and at home. Their quasi-experimental study showed that children who participated in these playful, numeracy-focused activities demonstrated significant gains in their numerical skills, which positively influenced their broader academic achievements.

Tomul et al. (2021) explored the effect of various factors, including student, family, and school-related factors, on math achievement. Their findings highlighted the relative importance of home and school environments in shaping numeracy skills, suggesting that a supportive environment can lead to higher academic achievement in mathematics. Akçay et al. (2021) further contributed to this discussion by conducting a meta-analysis on the use of technology in primary school math teaching. Their study found that integrating technology in math instruction had a positive effect on students' academic achievement, demonstrating that the incorporation of digital tools into numeracy education can enhance learning outcomes, particularly for young learners.

Bottia et al. (2014) emphasized the role of instructional practices in shaping the numeracy achievements of diverse kindergarten students. Their research showed that differentiated instructional methods that cater to the varying needs of students can significantly improve their numeracy skills and overall academic performance. Barham et al. (2019) assessed first-grade students' literacy and numeracy levels and highlighted the influence of key factors such as early education experiences and family involvement. Their study underscored the critical role that early numeracy skills play in determining students' future academic success, reinforcing the need for targeted interventions at the kindergarten level.

Kim et al. (2021) conducted a meta-analysis examining the effects of educational apps on literacy and math skills in preschool to grade 3 children. Their findings suggest that the use of educational apps can significantly enhance both literacy and numeracy skills, with math-specific apps showing a particularly strong impact on young learners' academic achievement. Di Martino (2019) explored how children's perceptions of math problems evolve from kindergarten to the end of primary school, noting that positive early experiences with numeracy can shape students' long-term attitudes toward math and contribute to sustained academic success. These studies collectively highlight the foundational role that early numeracy skills play in supporting academic achievement throughout a child's educational journey.

Social and emotional development plays a crucial role in the academic achievement of young children, as highlighted by several studies. Blewitt et al. (2018) conducted a systematic review and meta-analysis, showing that social and emotional learning (SEL) interventions in early childhood education significantly enhance both social skills and academic outcomes. Their research found that universal, curriculum-based SEL programs in early childhood education centers improved children's ability to manage emotions and form positive relationships, which, in turn, contributed to better academic performance. Similarly, Bozgün and Akın-Köstereliоğlu (2021) emphasized that social-emotional development, alongside academic grit and subjective well-being, is a significant predictor of reading and writing motivation in primary school students. Their study suggests that students who develop emotional regulation and social competence are more motivated to engage in academic tasks, leading to enhanced literacy skills.

Additionally, Alwaely, Yousif, and Mikhaylov (2021) explored the relationship between emotional development and socialization in preschoolers, concluding that emotional regulation is essential for positive peer interactions, which are closely tied to academic success. Their findings highlight the interconnectedness of emotional development and social skills, both of which are foundational for academic achievement in early education. D'Emidio-Caston (2019) further argued that teacher education programs should focus on fostering social and emotional resilience in students, as these skills are critical for both personal and academic growth. By addressing SEL in teacher training, educators are better equipped to support students' emotional needs, which positively influences their academic outcomes. These studies collectively underscore the importance of integrating social and emotional development into early education to promote holistic academic success.

Cognitive development and problem-solving skills are integral to early childhood education and have a direct impact on academic achievement. Çiftci and Bildiren (2020) explored the effect of coding courses on the cognitive abilities and problem-solving skills of preschool children, revealing that coding not only enhances logical thinking but also strengthens children's ability to approach complex problems with creative solutions. Their study highlights the importance of incorporating technology-based learning activities in early childhood to foster cognitive growth. Similarly, Di Martino (2019) examined the evolution of children's views on problem-solving from kindergarten to primary school, noting that children's problem-solving strategies become more sophisticated as they age, influenced by their exposure to structured academic activities. The study underscores the link between early problem-solving experiences and later academic performance, suggesting that fostering these skills early can improve long-term educational outcomes.

In another study, Bildiren and Kargın (2019) focused on the effects of a project-based approach in early intervention programs on the problem-solving abilities of gifted children. Their findings indicated that engaging children in hands-on, project-based learning significantly enhances their problem-solving skills, which in turn contributes to higher academic achievement. This approach helps children to think critically and develop independent learning strategies. Çakır et al. (2021) further emphasized the role of robotic coding education in enhancing preschoolers' problem-solving and creative thinking skills, demonstrating that interactive and experiential learning methods improve both cognitive development and academic performance. These studies collectively indicate that problem-solving and cognitive skills are crucial for academic success, and innovative, interactive learning methods can significantly boost these abilities in young learners.

STATEMENT OF THE PROBLEM

The main aim of this study was to explore the difference in the academic achievement of kindergarten pupils across different levels of parental involvement and socioeconomic status when the influence of demographic variables is controlled. To achieve this, the study addressed the following research question:

1. What is the level of parental involvement among kindergarten pupils across the four socioeconomic statuses?
2. What is the level of academic achievement of kindergarten pupils across the four socioeconomic statuses?
3. Is there a significant relationship between parental involvement and kindergarten achievement within varying socioeconomic contexts?
4. Is there a significant difference in K-Stage 1 achievement across varying levels of parental involvement when controlling for socioeconomic status?
5. Is there a significant difference in the academic achievement of kindergarten pupils across different levels of parental involvement and socioeconomic status when the influence of demographic variables is controlled (using Two-Way ANCOVA)?

METHODOLOGY

This section contained the research design, research respondents, research ethics, research instrument, research procedure, data collection, and data analysis.

Research Design

This study adopted a quantitative research approach, focusing on the descriptive-comparative-correlational technique to collect and analyze data related to the variables of this study. Quantitative research referred to the systematic investigation of phenomena by collecting and analyzing numerical data to identify patterns, relationships, and trends. It used statistical tools to objectively measure variables, often seeking to establish cause-and-effect relationships or correlations between them (Watson, 2015). In this study, quantitative research was appropriate as it allowed for the precise measurement of parental involvement and academic achievement across different socioeconomic groups. The use of a Two-Way ANCOVA enabled the researcher to control for confounding variables and assess the interaction effects between parental involvement and socioeconomic status on K-Stage 1 achievement. This approach provided objective, data-driven insights into how these variables were related, which was essential for drawing generalizable conclusions.

The descriptive research method was the systematic process of describing a situation, phenomenon, or population by gathering data that provided a detailed picture of current conditions without manipulating variables. It focused on "what" was happening rather than explaining "why" or "how," using tools such as surveys, observations, and questionnaires to collect factual information (Remler & Van Ryzin, 2021). The descriptive method was appropriate in this study as it helped capture the current levels of parental involvement and academic performance across diverse socioeconomic groups. By collecting detailed, factual data on these variables, the study accurately described existing relationships and differences without altering any conditions. This approach was essential for understanding the patterns and dynamics at play before delving into inferential analyses such as the Two-Way ANCOVA.

Meanwhile, the correlational research method was a non-experimental approach that examined the relationship between two or more variables to determine whether they were associated and how strongly they were related. This method did not establish cause-and-effect but identified patterns and correlations between variables based on observed data (Ellis & Levy, 2009). In this study, the correlational method was appropriate as it helped in examining the relationship between parental involvement and K-Stage 1 achievement across different socioeconomic groups. It allowed the researcher to assess the strength and direction of the association between these variables without manipulating any conditions. This method provided valuable insights into how these variables interacted, guiding further exploration through inferential techniques such as Two-Way ANCOVA.

Finally, the comparative research method was a systematic approach to analyzing the similarities and differences between two or more groups or variables to identify patterns and relationships. It was often used to compare how different factors influenced outcomes across various contexts or populations (Keman & Pennings, 2014). The comparative method was appropriate for this study as it enabled the researcher to examine how parental involvement differed across socioeconomic groups and how these differences affected kindergarten achievement. By comparing these variables, the study highlighted

whether socioeconomic status moderated the impact of parental involvement on academic performance. This method provided valuable insights into the dynamics of these relationships, allowing for a better understanding of their interactions.

Research Respondents

The respondents of the study were 138 K-Stage 1 pupils from North District, Panabo City. To obtain a sample of 69 kindergarten pupils from a total population of 75, the Finite Population Correction (FPC) formula was applied. The FPC formula was used to adjust the sample size in cases where the population was relatively small and finite, ensuring that the sample accurately represented the population while reducing the margin of error. By using this approach, the sample size was reduced from what would typically be required for larger populations, making it more practical for studies with smaller groups. The calculation ensured that the study maintained a high level of precision while being efficient in terms of time and resources. This method was appropriate because the population size (75) was small enough to justify the adjustment, allowing for accurate and reliable results without oversampling.

In this study, the researcher employed convenience sampling in selecting the respondents. Convenience sampling was a non-probability sampling technique where respondents were selected based on their accessibility and proximity to the researcher, without randomization. This method allowed for easy and quick data collection from a readily available group of respondents (Simkus, 2022). Convenience sampling was appropriate for this study because it enabled the researcher to gather data from a group of K-Stage 1 pupils and their parents who were easily accessible within the Panabo North District. This technique was particularly useful when time and resources were limited, as it allowed for efficient data collection. However, the researcher acknowledged the potential limitations of generalizability due to the non-random nature of this sampling method.

In selecting K-Stage 1 pupils as respondents for this study, the following inclusion criteria were considered:
The respondents were required to be enrolled in any public K-Stage 1 school within the Panabo North District.The pupils must have been attending kindergarten for at least six months, ensuring they had experienced enough classroom instruction and parental involvement for the study's purpose.The respondents' parents or guardians must have been willing to participate by providing consent and relevant information about their involvement in their child's education.Pupils from diverse socioeconomic backgrounds were selected to ensure variation in the socioeconomic contexts being analyzed in the study.

Research Instrument

The study employed questionnaires that fitted the context of the respondents of this study. The first part of the instrument focused on the socioeconomic status of the respondents. The Socioeconomic Status Scale Questionnaire assessed the socioeconomic standing of households across various dimensions, including income, education, occupation, housing, access to healthcare, ability to meet basic needs, living conditions, social participation, access to educational resources, and perceived social status. Each question offered five response options, ranging from lower to higher levels of socioeconomic indicators.

The scoring interpretation allowed respondents to be categorized into different socioeconomic groups: low, middle, and high, based on their majority scores across the questions. Respondents who predominantly scored 1 and 2 were classified into the low socioeconomic group, while those scoring 4 and 5 were categorized under the high socioeconomic group. A middle socioeconomic group was identified by scores mostly in the range of 3.

The tool also included a special category for marginalized groups, characterized by predominantly low scores in key areas such as income, education, and access to resources. This questionnaire served as a comprehensive tool for measuring socioeconomic status and its influence on related outcomes in research settings.

The second part of the questionnaire focused on parental involvement. The Parental Involvement Questionnaire was designed to assess the level of parental engagement in the education of K-Stage 1 pupils. The questionnaire was translated into Bisaya Dabawenyo to ensure comprehension among respondents in the Panabo North District, enhancing the reliability and validity of the responses. Respondents, in this case, kindergarten pupils, evaluated their parents' involvement based on their own experiences using a 5-point Likert scale.

Data Analysis

The following were the statistical tools that were utilized by the researcher in processing the gathered data:
Mean. The mean was used to calculate the average levels of parental involvement and K-Stage 1 achievement across the respondents. It helped summarize central tendencies in the data, allowing the researcher to identify overall trends in parental involvement and academic performance.

Partial Correlation. It was used to examine the relationship between parental involvement and K-Stage 1 achievement while controlling for the influence of other variables, such as socioeconomic status. This method allowed the researcher to isolate the direct impact of parental involvement on academic outcomes.

Analysis of Covariance (ANCOVA). The researcher used Two-Way ANCOVA to explore the combined effect of parental involvement and socioeconomic contexts on K-Stage 1 achievement, while controlling for covariates such as age or prior academic performance. This statistical method helped in identifying whether there were significant differences in achievement across different groups, adjusting for other influential factors.

RESULTS AND DISCUSSIONS

This chapter presents the results generated from the data gathered. It is sequenced based on the objectives of the study as presented in the first chapter. Thus, it presents the level of parental involvement among kindergarten pupils across the four socioeconomic statuses; level of academic achievement of kindergarten pupils across the four socioeconomic statuses; relationship between parental involvement and kindergarten achievement within varying socioeconomic contexts; difference in K-Stage 1 achievement across varying levels of parental involvement when controlling for socioeconomic status; and difference in the academic achievement of kindergarten pupils across different levels of parental involvement and socioeconomic status when the influence of demographic variables is controlled (using Two-Way ANCOVA).

Parental Involvement among Kindergarten Pupils Across the Four Socioeconomic Statuses

The findings presented in Table 1 reveal that the overall extent of parental involvement among kindergarten pupils across the four socioeconomic statuses is generally rated as moderate, with an overall mean of 3.53. This indicates that parents, regardless of their socioeconomic status, are generally involved in their children's education to a reasonable extent. The moderate level of parental involvement suggests that while many parents support their children's learning at home, communicate with teachers, and participate in school activities, there may still be opportunities to further enhance their engagement. According to Victor and Mweru (2019), parental involvement is a critical factor in supporting children's academic success, but its effectiveness relies on the quality and consistency of parent participation.

CONCLUSIONS AND RECOMMENDATIONS

This part of the paper presents the conclusion and recommendation of the researcher. The discussion is supported by the literature presented in the first chapters and the conclusion is in accordance with statements of the problem presented in this study.

Findings

This study aimed to explore the difference in the academic achievement of kindergarten pupils across different levels of parental involvement and socioeconomic status when the influence of demographic variables is controlled. A total of 69 kindergarten pupils from North District, Panabo City, were chosen as participants through a convenience sampling technique. To gather data, the researcher utilized an adapted and refined survey questionnaire, which underwent pilot testing in a nearby school to verify its reliability and ensure the internal consistency of the items. The result of the study are summarize as follows:

The findings of this study reveal that the overall extent of parental involvement among kindergarten pupils across the four socioeconomic statuses is generally rated as moderate, indicating that parents are somewhat engaged in their children's education. Among the groups, parents from high socioeconomic status demonstrate the highest level of involvement, while those from marginal socioeconomic status exhibit the lowest. This suggests that parental support tends to increase with higher socioeconomic capacity, providing more opportunities for educational engagement.

More so, the results show that the overall academic achievement of kindergarten pupils across the four socioeconomic statuses is generally rated as moving towards mastery suggesting that most pupils are making steady progress in their learning. Pupils from high socioeconomic status achieve the highest academic performance, categorized as closely approximating mastery while those from marginal socioeconomic status show the lowest achievement. These findings imply that socioeconomic factors significantly influence pupils' learning outcomes, with better-resourced families contributing to higher academic success.

Further, the analysis reveals that there is no significant relationship between parental involvement and kindergarten achievement when controlling for socioeconomic status, as the null hypothesis is accepted. This finding suggests that the impact of parental involvement on kindergarten pupils' academic performance may be minimal when socioeconomic factors are considered. It highlights the possibility that financial capacity, educational resources, and home environments may have a more substantial impact on pupils' achievement than parental support alone.

Furthermore, results show indicate that there is no significant difference in K-Stage 1 achievement across varying levels of parental involvement when controlling for socioeconomic status, with equal variances confirmed. This means that regardless of parental involvement levels, kindergarten pupils achieve similar academic outcomes, suggesting that other factors may be more influential. These results may reflect that instructional quality, peer interactions, and individual learning styles are critical determinants of early childhood academic success.

Finally, the study demonstrates that both parental involvement and socioeconomic status have a significant impact on the academic achievement of kindergarten pupils, while their interaction is not significant. This means that while these two factors individually influence pupils' academic performance, their combined effect does not vary significantly across different socioeconomic levels. These findings emphasize that parental support and financial capacity are both essential in promoting academic success, but they operate independently of each other.

Conclusions

Based on the findings of this study several conclusions were generated:

The analysis reveals that parental involvement among kindergarten pupils across various socioeconomic statuses is generally at a moderate level, with parents from higher socioeconomic backgrounds demonstrating greater engagement. This finding implies that financial capacity and educational awareness significantly influence parents' ability to support their children's learning. To enhance educational outcomes, schools are encouraged to develop programs that promote active parental engagement, particularly for parents from lower socioeconomic backgrounds who may benefit from additional guidance.

Moreover, the study indicates that the academic achievement of kindergarten pupils is generally rated as moving towards mastery, with those from higher socioeconomic status achieving better performance. This suggests that socioeconomic factors play a critical role in determining pupils' learning outcomes, as better-resourced families can provide more educational support and opportunities. In light of this, schools should consider offering targeted support and learning resources to pupils from disadvantaged backgrounds, ensuring equitable access to quality education.

In addition, the results demonstrate that there is no significant relationship between parental involvement and kindergarten achievement when controlling for socioeconomic status, leading to the acceptance of the null hypothesis. This outcome contradicts Epstein's (1995) Parental Involvement Framework, which posits that parental engagement directly influences student achievement. The finding implies that while parental support is valuable, its impact on academic performance may be overshadowed by socioeconomic factors, highlighting the importance of addressing broader educational inequalities.

Further, the findings indicate that there is no significant difference in kindergarten achievement across varying levels of parental involvement when controlling for socioeconomic status, with equal variances confirmed. This result further contradicts Epstein's (1995) Parental Involvement Framework, which emphasizes the importance of parental involvement in enhancing academic success. The outcome suggests that other factors, such as instructional quality, peer interactions, and the home learning environment, may play a more substantial role in shaping pupils' academic outcomes.

Furthermore, the analysis confirms that both parental involvement and socioeconomic status significantly influence the academic achievement of kindergarten pupils, but their interaction is not significant. This finding supports Bronfenbrenner's Ecological Systems Theory (1979), which highlights the influence of multiple interacting systems on child development, as parental support and financial capacity are both important factors. However, it contradicts Vygotsky's Sociocultural Theory (1978), which emphasizes that social interactions and cultural contexts are primary drivers of learning, suggesting instead that the direct effects of parental support and financial resources are more influential than their combined social context.

Recommendations

In light of the study's findings, the following recommendations are offered to inform policy, school leadership, teaching practice, and future research:

Given the findings on parental involvement, which is generally rated as moderate, it is recommended that schools develop targeted programs that encourage more active parental engagement, particularly among parents from lower socioeconomic backgrounds. Schools can conduct parent education seminars that highlight effective strategies for supporting children's learning at home and maintaining regular communication with teachers. Moreover, partnerships with community organizations can be explored to provide additional support and resources for parents who may lack educational knowledge or face financial constraints.

Considering the academic achievement of kindergarten pupils, which is generally rated as moving towards mastery schools should implement targeted interventions to further enhance pupils' learning outcomes, especially for those from marginal and low socioeconomic backgrounds. Remedial programs, peer tutoring, and access to quality learning materials can help bridge the achievement gap. Additionally, teachers should receive training on differentiated instruction to better support pupils with diverse learning needs.

In light of the non-significant relationship between parental involvement and kindergarten achievement when controlling for socioeconomic status, schools should adopt a more holistic approach that goes beyond parental involvement. Interventions should focus on improving instructional quality, providing enriching learning environments, and offering direct support to pupils, particularly those from disadvantaged backgrounds. Likewise, schools can collaborate with parents to create consistent home-school learning practices that directly benefit pupils' academic progress.

Given the non-significant difference in kindergarten achievement across varying levels of parental involvement when controlling for socioeconomic status, schools are encouraged to focus on enhancing the quality of classroom instruction and providing pupils with engaging and meaningful learning experiences. Professional development programs for teachers should emphasize evidence-based instructional strategies that promote active learning. Moreover, schools can strengthen their home-school communication channels to ensure that parents remain informed and engaged, even if direct parental involvement has limited impact on academic performance.

Finally, recognizing that both parental involvement and socioeconomic status significantly influence academic achievement, schools should continue to promote active parent-school partnerships while also providing targeted support for pupils from lower socioeconomic backgrounds. Parent education programs should emphasize the importance of consistent support, encouragement, and engagement in children's learning. At the same time, schools should explore external support, such as government subsidies or community partnerships, to help disadvantaged pupils access quality educational resources.

REFERENCES

1. *Abd Ghani, A., Muslim, N. H., & Zakaria, M. N. (2020). The effects of gender and academic achievement on reading fluency among Year 2 Malaysian school children. International Journal of Pediatric Otorhinolaryngology, 132, 109907.*
2. *Akçay, A. O., Karahan, E., & Bozan, M. A. (2021, September). The effect of using technology in primary school math teaching on students' academic achievement: A meta-analysis study. In FIRE: Forum for International Research in Education (Vol. 7, No. 2, pp. 1-21).*
3. *Alghamdi, A. (2020). Teacher quality and parent education: their relationship to student achievement in mathematics. https://gupea.ub.gu.se/handle/2077/66369*
4. *Ali, N., Mukhtar, S., Khan, Y., Ahmad, M., & Khan, Z. U. (2022). Analysis of secondary school students' academic performance and parental involvement in children education at home. Образование и наука, 24(9), 118-142.*
5. *Ali, N., Ullah, A., Khan, A. M., Khan, Y., Ali, S., Khan, A., ... & Ahmad, M. (2023). Academic performance of children in relation to gender, parenting styles, and socioeconomic status: What attributes are important. Plos one, 18(11), e0286823. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0286823*
6. *Alwaely, S. A., Yousif, N. B. A., & Mikhaylov, A. (2021). Emotional development inpreschoolers and socialization. Early child development and care, 191(16), 2484-2493*
7. *Aytac, P., Demirbas-Celik, N., & Kiracioglu, D. (2019). Effectiveness of family involvement activities in pre-school education. Global Journal of Guidance and Counseling in Schools: Current Perspectives, 9(3), 131-137.*
8. *Barham, A. I., Ihmeideh, F., Al-Falasi, M., & Alabdallah, A. (2019). Assessment of first-grade students' literacy and numeracy levels and the influence of key factors. International Journal of Learning, Teaching and Educational Research, 18(12), 174-195.*
9. *Bildiren, A., & Kargın, T. (2019). The effects of project based approach in early intervention program on the problem solving ability of gifted children. Egitim ve Bilim, 44(198).*
10. *Blewitt, C., Fuller-Tyszkiewicz, M., Nolan, A., Bergmeier, H., Vicary, D., Huang, T., ... & Skouteris, H. (2018). Social and emotional learning associated with universal curriculum-based interventions in early childhood education and care centers: A systematic review and meta-analysis. JAMA network open, 1(8), e185727-e185727.*
11. *Bottia, M. C., Moller, S., Mickelson, R. A., & Stearns, E. (2014). Foundations of mathematics achievement: Instructional practices and diverse kindergarten students. the elementary school journal, 115(1), 124-150. https://www.journals.uchicago.edu/doi/abs/10.1086/676950*
12. *Bozgün, K., & Akın-Kösterelioğlu, M. (2021). The roles of social-emotional development, academic grit and subjective well-being in primary school students' reading-writing motivation. Reading Psychology, 42(8), 836-857.*
13. *Brower, R. A. (2020). The relationship between entrance age and academic achievement in literacy skills for kindergarten students in a rural school. https://digitalcommons.liberty.edu/doctoral/2347/*
14. *Çakır, R., Korkmaz, Ö., İdil, Ö., & Erdoğmuş, F. U. (2021). The effect of robotic coding education on preschoolers' problem solving and creative thinking skills. Thinking Skills and Creativity, 40, 100812.*
15. *Cakir, C. S., & Uludag, G. (2022). Parent Involvement in Pre-School Science Activities: What Do Parents Think about It?. Journal of Science Learning, 5(1), 141-153. https://eric.ed.gov/?id=EJ1342843*
16. *Chen, S., Chen, Z., Shi, J., Chen, C., Snow, C. E., & Lu, M. (2019). Long-term effects of China's one village one preschool program on elementary academic achievement. Early Childhood Research Quarterly, 49, 218-228.*
17. *Çiftci, S., & Bildiren, A. (2020). The effect of coding courses on the cognitive abilities and problem-solving skills of preschool children. Computer science education, 30(1), 3-21.*
18. *Cortázar, A., Molina, M. D. L. Á., Sélman, J., & Manosalva, A. (2020). Early childhood education effects on school outcomes: Academic achievement,grade retention and school drop Out. Early Education and Development, 31(3), 376-394. https://www.tandfonline.com/doi/abs/10.1080/10409289.2019.1666445*
19. *D'Emidio-Caston, M. (2019). Addressing social, emotional development, and resilience at the heart of teacher education. Teacher Education Quarterly, 46(4), 116-149.*
20. *de Chambrier, A. F., Baye, A., Tinnes-Vigne, M., Tazouti, Y., Vlassis, J., Poncelet, D., ... & Dierendonck, C. (2021). Enhancing children's numerical skills through a play-based intervention at kindergarten and at home: a quasi-experimental study. Early Childhood Research Quarterly, 54, 164-178. https://www.sciencedirect.com/science/article/abs/pii/S088520062030106X*

21. *Di Martino, P. (2019). Pupils' view of problems: The evolution from kindergarten to the end of primary school. Educational Studies in Mathematics, 100(3), 291-307.*
22. *Ellis, T. J., & Levy, Y. (2009). Towards a Guide for Novice Researchers on Research Methodology: Review and Proposed Methods. Issues in Informing Science & Information Technology, 6.*
23. *Eutsler, L., Mitchell, C., Stamm, B., & Kogut, A. (2020). The influence of mobile technologies on preschool and elementary children's literacy achievement: a systematic review spanning 2007–2019. Educational Technology Research and Development, 68, 1739-1768.*
24. *Fateel, M. J., Mukallid, S., & Arora, B. (2021). The Interaction between Socioeconomic Status and Preschool Education on Academic Achievement of Elementary School Students. International Education Studies, 14(8), 60-66. https://eric.ed.gov/?id=EJ1309400*
25. *Ferrero, M., Vadillo, M. A., & León, S. P. (2021). Is project-based learning effective among kindergarten and elementary students? A systematic review. PloS one, 16(4), e0249627. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0249627*
26. *Filges, T., Dietrichson, J., Viinholt, B. C., & Dalgaard, N. T. (2022). Service learning for improving academic success in students in grade K to 12: A systematic review. Campbell Systematic Reviews, 18(1), e1210. https://onlinelibrary.wiley.com/doi/full/10.1002/cl2.1210*
27. *Fishstrom, S., Wang, H. H., Bhat, B. H., Daniel, J., Dille, J., Capin, P., & Vaughn, S. (2022). A meta-analysis of the effects of academic interventions on academic achievement and academic anxiety outcomes in elementary school children. Journal of school psychology, 92, 265-284. https://www.sciencedirect.com/science/article/abs/pii/S0022440522000310*
28. *Garvis, S., Phillipson, S., Harju-Luukkainen, H., & Sadownik, A. R. (Eds.). (2021). Parental engagement and early childhood education around the world. London: Routledge.*
29. *Hakyemez-Paul, S. (2019). Parental involvement in early childhood education: Turkish and Finnish context. Doctoral Dissertations, University of Turku, Finland. https://core.ac.uk/download/pdf/225776694.pdf*
30. *Jackson, G. N. (2019). The Impact of Kindergarten Students' Executive Functions on Academic Success: A Secondary Data Analysis on At-Risk Children (Doctoral dissertation, Fielding Graduate University).*
31. *Kamal, S. S. L. A., Masnan, A. H., & Hashim, N. H. (2022). Parental involvement in young children's education in Malaysia: A systematic literature review. International Journal of Learning, Teaching and Educational Research, 21(3), 319-341.*
32. *Kaya, M., & Erdem, C. (2021). Students' well-being and academic achievement: A meta-analysis study. Child Indicators Research, 14(5), 1743-1767. https://link.springer.com/article/10.1007/s12187-021-09821-4*
33. *Keman, H., & Pennings, P. (2014). Comparative research methods. Comparative politics, 3, 47-59.*
34. *Kim, J., Gilbert, J., Yu, Q., & Gale, C. (2021). Measures matter: A meta-analysis of the effects of educational apps on preschool to grade 3 children's literacy and math skills. Aera Open, 7, 23328584211004183.*
35. *Kwarteng, P., Asiamah, F., Twumasi, A. O., Nkansah, J. O., Issaka, J., & Afetorgbor, S. K. (2022). Parental involvement in the academic performance of students in Ghana: socio-economic status. Open Journal of Educational Research, 114-125. https://www.scipublications.com/journal/index.php/ojer/article/view/305*
36. *Mickelson, E. L. (2019). The effects of play-based learning on behavior and academic progress in the kindergarten classroom (Doctoral dissertation, Doctoral dissertation, Baker University).*
37. *Mumba, M., & Mkandawire, S. B. (2020). Reading achievements of pupils with preschool bakground and those without at a primary school in Lusaka District of Zambia.*
38. *Nagavci, M. (2019). Educational partnership in Kosovo: Organisational efforts,teacher beliefs and perceived experiences with parental involvement in schools with varying levels of socioeconomic status and cultural student compositions (Master's thesis).*
39. *Nelson, G., & McMaster, K. L. (2019). The effects of early numeracy interventions for students in preschool and early elementary: A meta-analysis. Journal of Educational Psychology, 111(6), 1001 https://psycnet.apa.org/record/2018-63406-001*
40. *Nguyen, T. M., Xiao, X., Xiong, S., Guo, C., & Cheng, G. (2020). Effects of parental educational involvement on classroom peer status among Chinese primary school students: A moderated mediation model of psychological Suzhi and family socioeconomic status. Children and Youth Services Review, 111, 104881.*
41. *nihal Lindberg, E., & Güven, P. (2021). The impact of parental involvement and expectations on elementary school students' academic achievement. İnönü Üniversitesi Eğitim Fakültesi Dergisi, 22(1), 809-840. https://dergipark.org.tr/en/pub/inuefd/issue/61234/888292*
42. *Orr, E., Shapira, A. A., & Caspi, R. (2023). The role of environmental and individual factors in pre-academic achievement for kindergarten children. Early child development and care, 193(2), 289-303. https://www.tandfonline.com/doi/abs/10.1080/03004430.2022.2085258*
43. *Özgünlü, M., & Metindoğan, A. (2022). The relationship between the quality of early childhood education and socioeconomic background of children. Bogazici University Journal of Education, 39(1), 105-130.*
44. *Quílez-Robres, A., Moyano, N., & Cortés-Pascual, A. (2021). Motivational, emotional, and social factors explain academic achievement in children aged 6–12 years: A meta-analysis. Education Sciences, 11(9), 513. https://www.mdpi.com/2227-7102/11/9/513*
45. *Ramos, R., & Vicera, C. (2019). Achievements of the Kindergarten Vis-à-vis Classroom Quality in Leyte District I. International Journal of Sciences: Basic and Applied Research, 45(2), 21-30.*
46. *Remler, D. K., & Van Ryzin, G. G. (2021). Research methods in practice: Strategies for description and causation. Sage Publications*
47. *Sierens, S., Van Avermaet, P., Van Houtte, M., & Agirdag, O. (2020). Does pre-schooling contribute to equity in education? Participation in universal pre-school and fourth-grade academic achievement. European Educational*

Research Journal, 19(6), 564-586. https://journals.sagepub.com/doi/full/10.1177/1474904120925981

48. *Silinskas, G., Sénéchal, M., Torppa, M., & Lerkkanen, M. K. (2020). Home literacy activities and children's reading skills, independent reading, and interest in literacy activities from kindergarten to grade 2. Frontiers in Psychology, 11, 1508.*
49. *Simkus, J. (2022). Convenience sampling: Definition, method and examples. Retrieved Oktober, 6, 2022. https://www.simplypsychology.org/convenience-sampling.html*
50. *Spiegel, J. A., Goodrich, J. M., Morris, B. M., Osborne, C. M., & Lonigan, C. J. (2021). Relations between executive functions and academic outcomes in elementary school children: A meta-analysis. Psychological bulletin, 147(4), 329.*
51. *Stutzel, M. (2019). Impact of parental involvement on literacy skills in early childhood. https://nwcommons.nwciowa.edu/education_masters/143/*
52. *Tayag-Binuya, H., & Tongson, E. C. (2021). Preparing children for Kindergarten: Practices and concerns of low-income stay-at-home peri-urban mothers. Social Science Diliman, 17(2).*
53. *Tomul, E., Önder, E., & Taslidere, E. (2021). The relative effect of student, family and school-related factors on math achievement by location of the school. Large-scale Assessments in Education, 9(1), 22.*
54. *Uusimäki, L., Yngvesson, T. E., Garvis, S., & Harju-Luukkainen, H. (2019). Parental involvement in ECEC in Finland and in Sweden. Nordic families, children and early childhood education, 81-99. https://link.springer.com/chapter/10.1007/978-3-030-16866-7_5*
55. *Victor, S. N., & Mweru, M. (2019). Influence of parental level of education on theirinvolvement in pre-school children's educational activities in Sikalame zone, Siaya County, Kenya. European Journal of Education Studies. https://oapub.org/edu/index.php/ejes/article/view/2693*
56. *Watson, R. (2015). Quantitative research. Nursing standard, 29(31). https://hull-repository.worktribe.com/output/374637/quantitative-research*
57. *Woods, A. D., Ahmed, S. F., Katz, B. D., & Morrison, F. J. (2020). How stable is early academic performance? Using cluster analysis to classify low achievement and EF. Journal of learning disabilities, 53(1), 19-35. https://journals.sagepub.com/doi/full/10.1177/0022219419881632*
58. *Wu, H., Guo, Y., Yang, Y., Zhao, L., & Guo, C. (2021). A meta-analysis of the longitudinal relationship between academic self-concept and academic achievement. Educational Psychology Review, 1-30. https://link.springer.com/article/10.1007/s10648-021-09600-1*
59. *Zambrana, I. M., Ogden, T., & Zachrisson, H. D. (2020). Can pre-academic activities in Norway's early childhood education and care program boost later academic achievements in preschoolers at risk?. Scandinavian journal of educational research, 64(3), 440-456.*