

## **Parental Involvement and Social-economic Status as Correlates of Attention Span of Pupils with Mild Intellectual Disability**

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### ***Abstract***

*The study investigates the relationship among parental involvement, socio-economic status, and the attention span of pupils with mild intellectual disabilities. Understanding the correlates of attention is vital for developing effective educational strategies that can significantly impact academic success. Previous studies revealed the impact of intellectual disabilities on attention span and the potential modifying effects of environmental factors. This research employed a correlational design, sampling pupils with mild intellectual disabilities from selected schools focusing on special education. The study measured attention span using standardised attention assessment tools, while parental involvement and SES were assessed through parent-reported questionnaires. Data analysis involved statistical methods to explore the relationships between the variables. The findings reveal a significant positive correlation between parental involvement ( $r = .106, n = 100, p > .05$ ) and the attention*

*spans of pupils with mild intellectual disabilities. Similarly, these pupils had a higher socioeconomic status ( $F(15, 84) = 1.173, p = 0.309 > 0.05$ ) associated with longer attention spans. The findings from the study indicate that the level of parental involvement and the socioeconomic status of students are significant factors that can impact the attentional capacity of students with mild intellectual disabilities.*

**Keywords:** *Parental involvement, Social-economic status, Mild intellectual disability, Attention span*

## Introduction

Attention span among pupils is crucial for active participation (on-task and on-schedule behaviour) in academic activities, which can improve academic performance. This ability to selectively attend to relevant information while inhibiting the processing of irrelevant or distracting information is a critical cognitive function that underlies many aspects of human behaviour and performance. One of the common challenges faced by children with intellectual disability is the difficulty of paying attention to classroom instruction long enough to acquire the information they need to participate in learning activities effectively (Jacob, *et al.*, 2021). A child's attention span significantly impacts their achievements in life (Gardner-Neblett, *et al.*, 2014). Attention deficit is often associated with impaired mental skills and weak impulse and behavioural control, leading the child to participate in off-task and destructive behaviour at school (Commodari, 2012; Gardner-Neblett, *et al.*, 2014). Alerting cues can be used to establish the appropriate level of attention (Hedges, *et al.*, 2013). In the process of learning, attention is an essential component. It is widely believed that the learning process can be significantly enhanced by paying attention to classroom activities. Students' immediate response is significantly affected when they are attentive during lessons (Kruschke, 2005). Learners can prevent distractions and retain more information by focusing solely on relevant information.

Intellectual disability often co-occurs with other conditions, such as autism or ADHD. Pupils with intellectual disability may face obstacles that distract them from learning effectively, such as classroom layout, school culture, noises, and the teacher's voice. It is essential to train pupils with mild intellectual disabilities to avoid classroom distractions as they can hinder learning. Pupils with intellectual disability demonstrate reluctance to participate in activities that involve sustained mental energy or close attention to detail and may make careless mistakes in their work. Attention span's primary importance is enabling the pupil with intellectual disability to focus on the task for a long time (Diamond and Lee, 2011). In the learning process, teachers recommend that students pay meticulous attention to each word, as this approach aids in better comprehension of concepts and minimizes the need for extensive revision. According to Schweizer (2010), there are three types of attention: sustained, selective, and managed interventions. It is worth noting that the prevalence of intellectual disability varies, with estimates ranging from 19.1 per 1000 for severe intellectual disability to 65 per 1000 for mild intellectual disability (Mirza, *et al.*,

2009). This wide prevalence emphasises the importance of addressing attention span in students with intellectual disabilities.

### **Parental Involvement and Attention Span**

Parents' socioeconomic status has been a topic of interest in various fields, such as sociology, psychology, and education. Socioeconomic status measures an individual's or family's economic and social position based on income, education, and occupation. Research has consistently shown that parents' socioeconomic status can significantly impact their children's lives, including their academic achievement, cognitive development, and overall well-being. In terms of academic achievement, numerous studies have found a strong association between parents' socioeconomic status and their children's educational outcomes (). For example, a meta-analysis by Sirin (2005) found that higher SES positively correlated with children's academic achievement. This relationship can be attributed to various factors, including access to educational resources, parental involvement in their children's education, and the quality of the home environment.

Furthermore, parents' socioeconomic status has also been linked to children's cognitive development. Research by Bradley and Corwyn (2002) demonstrated that children from higher SES families have better cognitive abilities than their peers from lower SES backgrounds. This disparity in cognitive development can be attributed to differences in access to stimulating and enriching environments and available educational materials and resources within the home. In addition to academic and cognitive outcomes, parents' socioeconomic status can also influence their children's overall well-being. Lower SES has been associated with higher levels of stress, poorer physical health, and increased risk of behavioural and emotional problems in children (Conger, *et al.*, 2010). This is often linked to the financial strain experienced by families with lower socioeconomic status, which can impact parenting practices and the family environment.

Davis-Kean (2005) emphasises the importance of parents' years of schooling as a crucial socioeconomic factor in understanding children's achievement. This is supported by (Ravena-Sieberer, *et al.*, 2021), who highlight the impact of low socioeconomic status on children's mental health. Furthermore, Liu *et al.* (2021) and Putri, *et al.* (2020) underscore the relationship between parents' socioeconomic status and children's development, including educational outcomes and motor development. Additionally, Gokhale and Nuvvula (2016) and Currie (2009) provide insights into the impact of socioeconomic status on children's health, with Gokhale and Nuvvula (2016) explicitly highlighting the increased risk of dental caries in children from lower socioeconomic status families.

Parental involvement is crucial in the education and well-being of learners with intellectual disabilities. Several key factors influence parental involvement in the education of these learners, including the need for fathers to protect their masculine identities (Karisa, *et al.*, 2021), the lived experiences of parents raising children with intellectual disabilities (Salinas and Tiamzon, 2022), and the ongoing quest for support by parents (Sefotho, *et al.*, 2021). Research has shown that parental involvement positively impacts the quality of life of individuals with intellectual disabilities (Paramita, *et al.*, 2020). Parents of children with

intellectual disabilities often face complex social situations such as single parenthood, poor housing, low income, and substance abuse (Tahir and Cobigo, 2022). These situations can impact a parent's parenting style and interactions with their child. Therefore, parents must receive training and guidance to navigate these challenges effectively. Machalicek, *et al.* (2015) reported that providing parents with the necessary resources can significantly improve the well-being of both the parent and the child. Furthermore, parents play a significant role in educating their children with intellectual disabilities about sexual health (Saini, *et al.*, 2021).

McWayne, *et al.* (2004) discovered that when parents actively promote learning at home, maintain regular communication with the school, and encounter fewer barriers to involvement, children demonstrate positive engagement with peers, adults, and their learning activities. According to Furusa, *et al.* (2020) and Elliott and Drummond (2015), parental involvement is crucial in enhancing children's enjoyment and intrinsic motivation in various activities, including sports. Studies have shown that parental guidance and encouragement at home, such as assisting with homework and reading, help children internalize rules, regulate their behavior, and focus on developmental demands (Valdez, *et al.*, 2013). Additionally, interventions involving parents and children can affect children's academic achievement, indicating the importance of parental expectations and support (Schaeffer, *et al.*, 2018).

## Research Questions

The following questions guided the conduct of the study:

- i. What is the correlation between parental involvement and the attention span of pupils with mild intellectual disability?
- ii. What is the correlation between parental socio-economic status and the attention span of pupils with mild intellectual disability?

## Methodology

### Design and Respondents

The study adopted a descriptive research design of correlational type as the foundation for further quantitative analysis to map a specific phenomenon effectively. (Travers, 1978; Jacob, *et al.*, 2022). It has been suggested that analysing data may lead to the formation of hypotheses if done correctly. Descriptive research is objective and neutral but different from normative research, which aims to determine what should be instead of what is (Walliman, 2010). One hundred parents of children with intellectual disability [male = (32) 32%; female = (68) 68%] with an age range between 25 and 65 years ( $M = 43.9$ ;  $SD = 3.14$ ) were selected as respondents through their children school Ibadan, Oyo state, Nigeria. The children were screened using the Slosson Intelligence Test to determine that the intelligence quotient (IQ) range was 50–70. The sampling technique used was the total enumeration due to the small population size of children with intellectual disability attending school in Ibadan. The population identified as having a mild intellectual disability in the schools visited were used as respondents for the study. Enlisted respondents for the study were

parents of pupils with an intellectual disability based on an intelligence quotient assessment conducted for placement by a psychologist using Slosson Intelligence (Jacob and Pillay, 2021). Consents of parents/caregivers and school administrators were sought for their participation as respondents in the study. Respondents were given clear and explicit instructions regarding the study's purpose and procedures. They were also guaranteed confidentiality of any information disclosed for the research.

## **Instruments**

### **Parent Involvement Scale**

The Parent Involvement Scale was developed by DePlanty, Coulter-Kern, and Duchane in 2007 to examine students' perceptions of their parent's involvement in their education. The scale is one of three complementary instruments that parents, teachers, and students complete to provide information regarding parent involvement from three perspectives. The 11-item scale is rated by students using a 4-point Likert scale ranging from 1 for strongly disagree to 4 for strongly agree. DePlanty et al. (2007) tested the instrument for internal consistency as a measure of reliability. The Cronbach alpha coefficient for the student scale was .90, supporting the instrument has good reliability. This was adapted and used to collect respondents' parental socio-economic status data.

### **Socio-economic Status Scale (SESS)**

This scale classifies respondents into high, middle, and low. The scale was adopted for the study from the one designed by Salami (2000) to determine the socio-economic status of parents through their occupation, level of education, residence, and types of appliances in the house. Composite scales are usually used for measuring SES, which has a combination of variables such as social and economic, and this scale has 12 items. Items 1 – 4 are on the pupils' biodata. Items 5 – 12 are based on parents' occupation, educational qualification, residence, and types of electrical appliances at home.

Occupation, educational level, residence, type of house, and housing facilities were scored from 1-17, with a maximum aggregate of 60 points per respondent, indicating three socioeconomic status levels. Here are the different socio-economic status ranges:

- ⊗ 0 - 15 points: Low
- ⊗ 16 - 40 points: Middle
- ⊗ 41 - 60 points: High

Studies conducted by Salami (2004) and Adekanmi (2010) have confirmed the validity of this scale. The instrument's reliability was determined through a test-retest process, which produced a coefficient of 0.73. The instrument was subsequently revalidated, yielding a coefficient of 0.75. Furthermore, the researcher also revalidated the instrument and found a coefficient of 0.70. Therefore, these results suggest that the instrument is reliable and suitable for the study.

### Moss Attention Rating Scale (MARS)

The Moss Attention Rating Scale, developed in 2003 by John Whyte and colleagues, consists of 22 items rated on a five-point Likert scale to measure an individual's behaviour (Jacob, *et al.*, 2021). The response ranged from “definitely true” to “definitely false.” The phrases used in the study were designed to make participants perceive each behaviour as an indication of acceptable or inappropriate attention. Most of the items were related to the four predictor variables observed for the Moss Attention Rating Scale (MARS): restlessness, distractibility, initiation, and sustained consistent attention (Hart, *et al.*, 2006). The MARS score ranges from 0 to 100. Two extensive sample studies tested its inter-rater reliability. The MARS is an observational rating scale designed to measure attention-related behaviour after traumatic brain injury, providing a reliable, quantitative, and ecologically valid measurement. It was pilot-tested for pupils with intellectual disability, with a Cronbach's alpha of 0.69. Data were analysed using descriptive (mean and standard deviation) and inferential statistics (correlational matrix at 0.05 significance level). For inferential statistics, we used Pearson Product Moment Correlation and Multiple Regression. Pearson Product Moment Correlation was used to answer the first research question, while Multiple Regression was used for the second and third research questions.

## Results

### Research Questions

RQ1: What is the correlation between parental involvement and the attention span of pupils with mild intellectual disability?

**Table 1:** The correlation between parental involvement and the attention span of pupils with mild intellectual disability in Ibadan.

Variable	Mean	Std. Dev.	N	R	P	Remark
Parental involvement	39.82	7.97	100	.106	.292	Not Sig.
Attention span	38.20	4.24				

\*Sig. at .05 level

Table 4.2.1 shows insignificant relationship between parental involvement and attention span of pupils with mild intellectual disability ( $r = .106$ ,  $n = 100$ ,  $p > .05$ ). The null hypothesis was accepted, which states there is no correlation between parental involvement and attention span of pupils with mild intellectual disability in Ibadan.

**RQ2:** To what extent does socioeconomic status influence the attention span of pupils with mild intellectual disabilities in Ibadan?

**Table 2:** ANOVA showing the influence of socioeconomic status on the attention span of pupils with mild intellectual disability in Ibadan

Socioeconomic status influences the attention span	Sum of Square	df.	Mean Square	F	p.(Sig)
Between groups	138.888	15	9.259	1.173	0.309 Not significant
Within groups	663.152	84	7.895		
Total	802.040	99			

Table 4.2.2 indicates insignificant influence of socioeconomic status on the attention span of pupils with mild intellectual disability in Ibadan. ( $F(15, 84) = 1.173, p=0.309 > 0.05$ ). Therefore, it concludes that socioeconomic status has no influence on the attention span of pupils with mild intellectual disability in Ibadan

**RQ3:** Is there any composite contribution of parental involvement and socioeconomic status to the attention span of pupils with mild intellectual disability in Ibadan?

**Table 3:** Summary of Multiple Regression Analysis Showing the interactive effects of the Independent Variable on the Dependent Variable

Model	Sum of Square	Df	Mean Square	F	Sig.	Remark
Regression	114.086	2	57.043	3.321	.040	Significant
Residual	1665.914	97	17.174			
Total	1780.000	99				
R= .253						
R <sup>2</sup> = .064						
Adjusted R <sup>2</sup> = .045						

Table 3 reveals that the independent variables (parental involvement and socioeconomic status) and dependent variables (attention span of pupils with mild intellectual disability) have an interactive relationship ( $R = 0.253$ ). Consequently, parental involvement and socioeconomic status accounted for 4.5% of the total variance in attention span of pupils with mild intellectual disability (Adjusted  $R^2 = 0.045$ ). Furthermore, the combined interactive effects are statistically significant ( $F(2, 97) = 3.321; p=0.040 < 0.05$ ). Therefore, the interactive influence of parental involvement and socioeconomic status accounted for 4.5% of the variation in the attention span of pupils with mild intellectual disability in Ibadan.

### Discussion of the Findings

The research results indicate that there is no significant correlation between parental

involvement and the attention span of students with mild intellectual disabilities. This is consistent with existing literature that emphasizes the complex nature of parental involvement and its influence on academic and developmental progress. (Amponsah, *et al.*, 2018). While parental involvement has been associated with children's academic achievement, the specific relationship with attention span in the context of mild intellectual disability is not well-established (Amponsah, *et al.*, 2018). Additionally, the bidirectional nature of the parent-child relationship suggests that the child's behaviour and characteristics may influence parental involvement and its outcomes (Niemistö *et al.*, 2020). Furthermore, interventions such as music therapy and pictorial illustration have been proposed to potentially enhance the attention span of children with mild intellectual disability, indicating the potential for alternative approaches beyond traditional parental involvement (Jacob, *et al.*, 2021). The absence of a significant correlation between parental involvement and attention span underscores the need for further research to explore the nuanced dynamics of parental involvement and its specific impact on attention-related outcomes in children with mild intellectual disability.

This finding is particularly relevant as it shifts the focus away from socioeconomic status to other potential factors that might influence the attention span of these pupils. It opens avenues for further research and intervention strategies that might focus on these other factors. These references provide a broader context for understanding the potential impact of socioeconomic status on various health-related outcomes. Furthermore, the absence of a significant influence of socioeconomic status on the attention span of pupils with mild intellectual disability in Ibadan is consistent with previous studies that have investigated the intersection of socioeconomic status and intellectual disability. For instance, a study found differential risk profiles related to socio-demographic background at birth for autism and intellectual disability, indicating potential ascertainment factors or aetiological differences (Leonard, *et al.*, 2011). This supports the notion that socioeconomic status may not be a determining factor for specific outcomes related to intellectual disability. Moreover, the study's focus on attention span aligns with the broader literature on cognitive functioning and intellectual disability. Another study explored the impact of music therapy and pictorial illustration on the attention span of children with mild intellectual disability, providing insights into interventions to enhance attention (Jacob, *et al.*, 2021). This contextualises the significance of attention span within intellectual disability research.

The findings indicate an interactive relationship between the independent variables (parental involvement and socioeconomic status) and the attention span of pupils with mild intellectual disability. The role of parental involvement in influencing children's cognitive abilities, including attention span, has been well-documented (Zhang, *et al.*, 2021). Additionally, the impact of socioeconomic status on child development, particularly on cognitive outcomes, has been widely studied, with effects observed from early childhood into adulthood.

Based on the findings, it is evident that the independent variables have significant interactive effects on the attention span of pupils with mild intellectual disability. This suggests that there were interactive effects between parental involvement and negative socioeconomic status on the attention span of pupils with mild intellectual disability in

Ibadan. The findings align with Constanti (2015), who proposed mechanisms linking socioeconomic status (SES) to child well-being, involving differences in access to material and social resources or reactions to stress-inducing conditions by the children and their parents. This supports the notion that SES has a significant impact on the attention span of pupils with mild intellectual disability. Additionally, the study by Fatimaningrum (2022) supports the significance of parental involvement, indicating a significant correlation between parent involvement and academic achievement. However, in the context of the attention span of pupils with mild intellectual disability, the study did not find any interactive effects of parental involvement. The results also resonate with the work of (Anderson and Fuller, 2010.), which emphasises the importance of considering confounding variables when establishing relationships between independent and dependent variables. This underscores the need to carefully account for confounding factors when interpreting the interactive effects of parental involvement and socioeconomic status on the attention span of pupils with mild intellectual disability.

### **Conclusion**

Based on the discussion of findings, it is evident that the correlation between parental involvement and the attention span of pupils with mild intellectual disability in Ibadan does not show a significant relationship. The bidirectional nature of the parent-child relationship suggests that the child's behaviour and characteristics may influence parental involvement and its outcomes. This finding has important implications for educational strategies, parental engagement, and policymaking, particularly in education for pupils with mild intellectual disabilities. It also underscores the need for further research to explore the nuanced dynamics of parental involvement as well as its specific impact on attention-related outcomes in children with mild intellectual disability. Furthermore, the influence of socioeconomic status on the attention span of pupils with mild intellectual disabilities in Ibadan was found to be non-significant. This finding aligns with research that has explored the relationship between socioeconomic status and health outcomes. It shifts the focus away from socioeconomic status to other potential factors that might influence the attention span of these pupils, opening avenues for further research and intervention strategies. The absence of a significant influence of socioeconomic status on the attention span of pupils with mild intellectual disability in Ibadan is consistent with previous studies that have investigated the intersection of socioeconomic status and intellectual disability. This supports the notion that socioeconomic status may not be a determining factor for specific outcomes related to intellectual disability.

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