

Parental Education Level, Income and Family Size on Social Skills Development of Children with Autism Spectrum Disorder

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Abstract

Background: The ability of learners with Autism Spectrum Disorder (ASD) to build and sustain social relationships with peers, both at home and in school, has become a growing challenge for parents and teachers in recent years. Therefore, identifying and providing early intervention for potential parental-related factors can improve the social skills of learners.

Aim and Objectives: Parental education level, income and family size on social skills development of children with Autism Spectrum Disorder in Ogoja and Bekwarra areas, Cross River State, Nigeria. **Methods:** The study adopted the descriptive survey research design. The population of the study consisted of 93 parents/guardians of children diagnosed with Autism Spectrum Disorder (ASD). The sample included all 93 parents/guardians of identified children with ASD in the study area. Social Skill Rating form of TRIAD was used for data collection. The instrument was validated by two experts, one in Research, Measurement and Evaluation Unit and the other in the Department of Special Education University of Calabar. The reliability of the instruments was determined using the test-retest method. Descriptive statistics of frequency count was used to analyse the responses from the participants.

Results: Findings revealed that parental education significantly influences the development of social skills in children with ASD, parental income substantially influences the social skills development of children with ASD in the study area and family size exerts a dual influence, providing both opportunities and constraints in the social skills development of children with ASD. **Recommendations:** Future research should explore the specific mechanisms through which income influences social skills, such as access to therapies, parental stress levels, and educational quality.

Keywords: Autism Spectrum Disorder, Bekwarra, Cross River, Family Size, Ogoja, Parental Education Level, Parents Income, Social Interaction, Social Skills Development

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by challenges in social communication, interaction, and repetitive behaviours. ASD exists on a spectrum, meaning that individuals experience varying degrees of disabilities in social functioning, communication, and behavioural patterns (Preece & Trajkovski, 2017). The disorder typically manifests in early childhood, and while some learners with ASD can develop coping mechanisms, many continue to experience social challenges throughout developmental stages of lives (American Psychiatric Association, 2021). Social skills development is crucial for effective communication, relationship-building, and successful integration into society. However, learners with ASD often struggle with fundamental aspects of social interaction, including: difficulty interpreting verbal and non-verbal communication (Emerson & Brigham, 2021), such as tone of voice, gestures, and facial expressions; disabilities in reciprocal social interactions, such as initiating and maintaining conversations and limited ability to understand social norms and cues, leading to inappropriate interactions.

Learners' deficits in such social skills may hinder interpersonal relationships, resulting in difficulties in making friends, participating in group activities, and forming connections in educational or workplace settings (Al-Khalaf & Dempsey, 2016; William, 2021). Without adequate support and intervention, learners with ASD may experience social isolation, low self-esteem, and increased risk of mental health issues such as anxiety and depression (Bauminger & Kasari, 2000). For learners with ASD to build and maintain relationships requires effective communication and the ability to understand and respond to social cues (Afrin, Akter, Akter, Akhter & Akhter, 2021). Many individuals with ASD struggle with these aspects, making social relationships particularly challenging. Studies have shown that individuals with ASD often face rejection from peers, difficulty in establishing friendships, and social exclusion in school and work environments (Farmer & Reupert, 2013). Furthermore, the lack of appropriate social skills may affect family relationships, as parents and siblings may find it difficult to engage in meaningful interactions with individuals with ASD.

One of the most significant aspects of development for learners with ASD is social skills, which influence their ability to interact effectively with others and participate in community life. Numerous factors contribute to the social skills development of individuals with ASD, including therapeutic interventions, educational opportunities, and familial influences (Egan, Bisong, Odey & Umaru, 2022). In Nigeria, parental socio-economic status (SES) emerged as a critical determinant of social skills development of learners with ASD. This is so, because access to these interventions is often influenced by socioeconomic factors

such as parental level of education, parental income, parental occupation and even family size.

These parental variables play a significant role in determining access to interventions that support social skills development in individuals with ASD (Neece, Green & Baker, 2017). These factors are more likely to determine access to intervention by individuals with ASD. This study is therefore, designed to investigate the influence of parental educational level, income and family size on social skills development of persons with ASD, with the aim of understanding how economic and social disparities may influence developmental outcomes in this population.

Parents' level of education can significantly determine the quality of intervention services that learners with ASD will access. Educated parents have opportunity to access information that can predispose them to sources of services for their children (Elliott, DiPerna, Mroch & Lang, 2024). Such opportunity may be available for parents that are less educated. Also, through education, adequate knowledge of the condition may be clearer to the parents (Müller, Bába, Židek, Lengye, Lakó, Laoues-Czimbalmos, Molnár & Boda, 2024). One of the problems associated with disabilities in Nigeria is the belief system that often consider ASD as product of witch craft that requires traditional means to cure, making it relatively difficulty for most parents, especially the uneducated parents to take their children for appropriate intervention that can help reduce the impact of the disorder (Sedgewick, Øzerk, Özerk & Silveira-Zaldivar, 2016). It is likely that children with ASD from educated parents will have access to early diagnosis and early intervention earlier than children from uneducated parents. Moreover, educational attainment of parents influences their ability to understand and navigate complex service systems, advocate for their children, and implement effective home-based strategies.

Parental income is another component that determines the extent to which families can afford necessary therapies, educational services, and healthcare in Nigeria (Sood, LaVesser & Schranz, 2014) Studies have shown that higher-income families are more likely to access early intervention services and specialized care, which are crucial for fostering social development in children with ASD (Wright and Benigno, 2019; Shimomura, Hasunuma, Tokunaga, Taniguchi, Taniguchi, Fujino, Utsunomiya, Tanaka, Tokuda, Okuda, Shima, & Takeshima, 2022) . Income level directly affects access to essential ASD interventions such as speech therapy, social skills training, and Applied Behaviour Analysis (ABA) therapy (Yang, Schorpp, Boen, Johnson and Harris, 2022). Families with lower income levels often face financial constraints that limit their ability to afford these services. Parents in stable, high-paying jobs with health benefits are more likely to access ASD-related services, while those in low-income or unstable jobs may struggle to afford specialized care

(O'Brien, Bana & Asorey, 2021). Families living in low-income areas may have limited access to healthcare professionals, ASD specialists, and high-quality educational programmes that support social skills development (Montes, 2018). These disparities can widen the gap in social skills development outcomes for children with ASD. This variable reflects the economic capacity of families to access services and resources necessary for social skills development. Hence, higher income levels may be associated with better access to high-quality interventions. Low-income families may delay or forgo therapy due to cost, affecting outcomes (Delobel-Ayoub, Ehlinger, Klapouszczak, Maffre, Raynaud & Delpierre, 2022).

In the same vein, the size of the family can determine quality of life of children significantly. Children with ASD from large family may be able to attend good schools, access early diagnosis and intervention (McClelland, & Scalzo, 2016; Onneilich, Ludecke, & Kofahl, 2016). Parents of such children may not be able to afford specific intervention services needed to enhance social skills development of these children. However, it is also possible for children from rich family and small size family to over-pamper the child with ASD, mostly because of ignorance (Yoshikawa, Aber, & Beardslee, 2012). On the other hand, large family may be another source of strength and assistance that can help enhance the social skills of children with ASD. Family size encompasses the networks and community engagement of parents, which can provide social learning opportunities and support for children with ASD (Liptak, Gunning & Lee, 2008). It can equally impact the social capital of the family which includes access to support groups, peer learning opportunities, and informational resources.

Furthermore, parental level of education, income level and family size are aspect of socio-economic status that intersects with cultural and community dynamics, potentially affecting the way parents perceive and respond to ASD diagnoses (Zuckerman, Dale, Jahoda & Knott, 2014). In lower income status groups, stigma or misinformation about ASD can delay diagnosis and intervention (Thomas & Khasawneh, 2012). These delays can significantly hinder the acquisition of social skills, which are most effectively developed during early childhood. Cultural competence and accessibility in service provision are essential to bridge these gaps, but they often remain underdeveloped in low-resource settings (Roiz & Figueiredo, 2023). The disparities in access to early diagnosis, therapeutic interventions, and educational resources highlight the systemic barriers faced by low-income families. While research has increasingly focused on therapeutic modalities and educational programmes, the influence of the familial socio-economic context remains insufficiently explored to the researchers' knowledge, very little has been done on how parental variables influence social skills development of students with ASD. This study therefore, sought to explore how parent level of education, income status and family size

influences social skills development of learner with ASD in Ogoja and Bekwarra areas of Cross River State, Nigeria.

Aim and Objectives

The study is guided by the following objectives:

1. Influence of parental level of education on social skills development of children with autism spectrum disorder
2. Influence of parental income on social skills development of children with autism spectrum disorder
3. Influence of family size on social skills development of children with autism spectrum disorder

Materials and Methods

The descriptive survey design was used because it has the advantage of allowing the researchers gather information from large samples to represent all elements in the study area while also being compatible with statistical analysis. The participants comprised 93 parents/guardians of children with ASD in Ogoja and Bekwarra areas of Cross River State, Nigeria. The sample include parents of all 93 identified children with ASD in the selected study area. This is because the total number of the identified study population is small and all can be handled in the study.

The instrument used for data collection was Social Skill Rating form of TRIAD which were adapted and modified to suit the purpose of this study. The Social Skill Rating form of TRIAD consisted of two sections, namely; A and B. Section 'A' elicited demographic data of the respondents such as Sex, Age, number of children in the family, and parents' nature (education, income and family size). Section 'B' will elicit analytical information that provided relevant data on the issues under investigation in the study. The section B consists of 30 items that measured the various social skills, the parents' level of education, family size and estimated income. The respondents were required to tick any of the options that appeals to them. The instruments were attended to by the parents of children with ASD.

The validity of the Social Skill Rating form of TRIAD was ascertained through expert judgement. The Social Skill Rating form of TRIAD which was submitted for peer review to the following experts to establish its content validity: One expert in Special Education was given the instruments to check whether issues raised are adequate and relevant to the research problem; an expert in Research and Evaluation also checked to ensure appropriateness of the instrument in generating relevant information needed for the study.

The Social Skill Rating form of TRIAD was administered to a group of parents in the Special Education Centre, Ibom Layout, Cross River State. The collected data from trial-test

were tested for reliability of the instruments using Cronbach alpha technique and a reliability index of 0.81 was obtained.

The Social Skill Rating form of TRIAD and Occupational Checklist were administered to the respondents with the help of two research assistants in their homes and were guided on to reduce misconception. Descriptive statistics of frequency count was used to analysed the responses from the participants.

Results

Research Question 1: To what extent does parental level of education influence social skills development of children with autism spectrum disorder?

Table 1: Descriptive statistics showing how parents level of education influence social skills development of children with autism spectrum disorder

	Parents level of education influence	SA	A	D	SD
1	I effectively teach my child basic social interaction skills.	40 (43%)	35 (38%)	12 (13%)	6 (6%)
2	I understand how to model good communication behaviours	38 (41%)	37 (40%)	13 (14%)	5 (5%)
3	I often support my child's social development.	42 (45%)	33 (36%)	11 (12%)	7 (7%)
4	Parents with higher education are better able to provide social learning opportunities for children with ASD.	36 (39%)	34 (37%)	15 (16%)	8 (9%)
5	My child's social skills improve because I apply strategies I learned through my education.	39 (42%)	32 (34%)	14 (15%)	8 (9%)

Table 1 presented the parents level of education and it influence in the social skills development of learners with autism spectrum disorder. A large majority of parents indicated that their education enables them to teach their children basic social interaction skills, with 43% strongly agreeing and 38% agreeing, giving a combined 81%. Similarly, 41% strongly agreed and 40% agreed that they understand how to model good communication behaviors for their children, again reflecting 81% agreement. In the same vein, 45% strongly agreed and 36% agreed that they often support their child's social development, suggesting that education enhances parents' ability to provide this support.

Furthermore, 39% strongly agreed and 37% agreed that parents with higher levels of education are better able to provide social learning opportunities for their children with ASD, while 42% strongly agreed and 34% agreed that their child's social skills improve

because of strategies they learned through their education. Across all items, only a small proportion of parents expressed disagreement or strong disagreement, ranging between 5% and 16%. Taken together, this finding suggest that parental education significantly influences the development of social skills in children with ASD.

Research question 2: How does parental income influence social skills development of children with autism spectrum disorder?

Table 2: Descriptive statistics showing how parental income influence social skills development of children with autism spectrum disorder

	Influence of parental income	SA	A	D	SD
6	My income allows me to provide resources (e.g., toys, books) that support my child's social skills development.	44 (47%)	31 (33%)	12 (13%)	6 (6%)
7	I can afford therapy sessions or interventions that improve my child's social interactions.	37 (40%)	28 (30%)	18 (19%)	10 (11%)
8	Limited income prevents me from creating a socially stimulating environment for my child.	41 (44%)	29 (31%)	15 (16%)	8 (9%)
9	Families with higher income have more opportunities to expose children with ASD to social activities.	40 (43%)	30 (32%)	14 (15%)	9 (10%)
10	My financial situation influences the extent to which I can support my child's social growth.	42 (45%)	33 (36%)	12 (13%)	6 (6%)

Table 2 revealed that parents income level plays a significant role in shaping the social skills development of children with autism spectrum disorder (ASD) in the study area. Majority of the respondents (47% strongly agreed and 33% agreed) indicated that their income enables them to provide resources such as toys and books that support social development, underscoring the importance of financial capacity in fostering a conducive learning environment at home. Similarly, 40% strongly agreed and 30% agreed that they could afford therapy sessions or interventions to enhance their child's social interactions, though a notable minority (30% combined for disagree and strongly disagree) acknowledged challenges in meeting such financial demands.

Table 2 further highlight the constraints of limited income, with 44% strongly agreeing and 31% agreeing that financial challenges prevent them from creating socially stimulating environments. This suggests that lower-income families may face barriers in

providing enriching experiences necessary for social development. Furthermore, 43% strongly agreed and 32% agreed that higher-income families have more opportunities to expose children with ASD to social activities, reflecting a consensus that financial resources expand access to developmental opportunities. Overall, the data show that parents perceive their financial situation as a major determinant of their capacity to support their child's social growth. Nearly four in five respondents (81%) affirmed that their financial status directly influences the extent of support they can provide. This finding indicated that children from higher-income households are more likely to benefit from diverse resources, therapies, and social opportunities, whereas children from lower-income families face significant limitations. Therefore, parental income substantially influences the social skills development of children with ASD in the study area.

Research question 3: What is influence of family size on social skills development of children with autism spectrum disorder?

Table 3: Descriptive statistics showing the extent to which family size influence social influence social skills development of children with autism spectrum disorder

	Family size influence	SA	A	D	SD
16	Having many children in the family provides more opportunities for my child with ASD to practice social interaction.	33 (35%)	29 (31%)	20 (22%)	11 (12%)
17	A smaller family size allows me to focus more on my child's social development needs.	37 (40%)	30 (32%)	16 (17%)	10 (11%)
18	The number of children in my family affects how much attention I can give to my child with ASD.	39 (42%)	28 (30%)	16 (17%)	10 (11%)
19	My child learns social skills through interaction with siblings.	36 (39%)	29 (31%)	18 (19%)	10 (11%)
20	Larger family size makes it more difficult to provide individualized social support for my child.	38 (41%)	30 (32%)	15 (16%)	10 (11%)

Table 3 indicate that family size has a noticeable influence on the social skills development of children with autism spectrum disorder (ASD) in the study area. About 66% of parents (35% strongly agreed and 31% agreed) reported that having many children in the family creates more opportunities for their child with ASD to practice social interaction, although 34% disagreed or strongly disagreed, reflecting mixed perspectives on whether larger families enhance social engagement. On the other hand, a majority (40% strongly agreed and 32% agreed) affirmed that a smaller family size allows them to concentrate more

on their child's social development needs. Similarly, 72% (42% strongly agreed and 30% agreed) agreed that the number of children in the family affects how much attention they can devote to their child with ASD, emphasizing the role of family size in determining parental focus and available support.

Sibling interactions also emerged as an important factor, with 70% of respondents (39% strongly agreed and 31% agreed) acknowledging that their child learns social skills through engagement with siblings. However, the challenges of larger family sizes were also evident, as 41% strongly agreed and 32% agreed that having more children makes it more difficult to provide individualized social support to a child with ASD. Thus, family size exerts a dual influence, providing both opportunities and constraints in the social skills development of children with ASD.

Discussion of Findings

The findings of this study demonstrate a clear and statistically significant relationship between parental education levels and social skills development in children with autism spectrum disorder (ASD). This finding could be based on the fact that educated parents might have been able to overcome belief system that sees developmental disabilities such as autism spectrum as a spiritually related disabilities, or that it was caused by some other factors such as parental sins [29], therefore, making them to seek appropriate management means. Some uneducated parents may not consider education for their children, rather seeking curative means for the disorder.

The mechanisms behind these effects likely involve multiple pathways. Higher-educated parents may be better equipped to navigate complex healthcare and educational systems, more likely to implement evidence-based interventions consistently, and better able to create linguistically rich home environments (Bradley & Corwyn, 2002). These advantages appear to compound in Nigerian setting, where formal support services for ASD are limited and parental advocacy plays a crucial role in securing appropriate interventions (Graham, 2021). These results align substantially with international research while offering important local insights. The positive correlation between parental education and child outcomes mirrors findings from Graham (2021) and Pari (2021) suggested that this relationship transcends cultural contexts.

Nguyen, Krakowiak, Hansen, Hertz-Picciotto, and Angkustsiri (2016) found education to be a powerful predictor of developmental outcomes, though this study specifically focused on neurotypical students rather than ASD populations. Unlike studies that reported linear improvements across all education levels, it is observed a threshold effect where the advantage of tertiary education was substantially greater than the difference between primary and secondary education groups (Ibrahim, El-abdeen, Ng, Zoromba & Haikal, 2020). This suggests that in our context, the cognitive and resource advantages

conferred by higher education may create qualitatively different home environments and intervention opportunities for children with ASD. These findings have important implications for practice and policy in resource-constrained settings. They highlight the need for targeted support programmes for children of less-educated parents, potentially including parent education initiatives and community-based intervention models.

The findings of the second objective reveal a statistically significant influence of parental income on the social skills development of children with ASD. This study provides compelling evidence that parental income plays a critical role in the social skills development of children with ASD. The findings are consistent with global research, reinforcing the notion that economic stability enhances developmental opportunities for children with neurodevelopmental disorder (Liptak, Gunning, & Lee, 2008). This finding corroborated Fernández, Montenegro and López (2024) study that found higher parental income and advanced paternal education as associated with reduced odds of ASD. While their research focused on prevalence rather than developmental outcomes, it reinforces the role of economic factors in ASD-related trajectories. The present study builds upon these insights by demonstrating that higher income does not merely correlate with lower ASD prevalence but also positively influences social skills development in diagnosed children.

Further supporting evidence comes from Selvaraj and Christopher (2022) which documented socioeconomic disparities in ASD prevalence in France. Although their study did not directly assess social skills, it established that lower socioeconomic status was linked to higher diagnostic rates, suggesting that economic deprivation may exacerbate developmental challenges. The current study extends this understanding by showing that income disparities directly impact social skills acquisition, likely due to differential access to therapeutic and educational resources. Learners from higher socioeconomic backgrounds exhibited lower ASD severity scores and higher non-verbal IQ (Gemechu, 2020; Sally, Rana, Rania, Lateef & Abdel, 2023), indicating that financial stability facilitates better developmental outcomes. The ability of wealthier families to afford early interventions, specialized therapies, and quality education likely explains this disparity. The stark differences in social skills development between income groups underscore the need for policy measures aimed at reducing economic barriers to care (Dada, Okpara, Adeleke, Okon, Merimekwu, Anagbogbu, Petters, Edu, Eno, Akah & Olufu, 2022). Potential interventions could include subsidized therapies, community-based support programs, and increased funding for special education.

The finding from the third objective demonstrated that family structure plays a significant role in the social skills development of children with ASD in Ogoja and Bekwarra, Cross River State, Nigeria. The results indicated a clear progression in social skills scores across different family types, with children from extended families scoring the highest, followed by those from nuclear families, and finally, children from single-parent households

(Xie, Karlsson & Dalman, 2021). These differences were statistically significant, reinforcing the idea that household composition influences social development in children with ASD. This disparity may stem from the additional support systems available in extended households, where caregiving responsibilities are shared among multiple adults (Metwally, Salah, Sami, Abdelraouf, Sallam, Elsaied, El-Saied, Ashaat, Fathy, El-Hariri, Elshaarawy, Nassar, Shehata, El-Alameey, Bassiouni, Abdou, Helmy, Elghareeb, AbdAllah, Rabah, Salama, Saleh & El Etreby, 2025). In contrast, single parents often bear the full burden of care, which can lead to increased stress and limited time for structured social interactions (Ansari, Janahi, AlTourah, Jahrami & Rajab, 2021). However, because there is no statistically significant difference between nuclear and extended families, well-structured nuclear families can still foster strong social development—especially if parents actively engage their children in social learning.

This finding pattern aligns with existing research on family dynamics and autism. Hyman, Levy and Myers (2020) found a similar relationship in India, where larger family structures correlated with better social interaction skills in children with autism. Their study suggested that having more family members present may provide increased opportunities for social engagement, which is essential for children with ASD who often struggle with communication and interpersonal skills (O'Brien, Bana & Asorey, 2021). The current study supports this notion, as extended families, typically comprising multiple caregivers, siblings, and relatives, appear to create a more socially stimulating environment.

Conclusion

The study concluded that parents' level of education, income status family size influences the social skills development of learners with ASD in Ogoja and Bekwarra areas. Specifically: Higher parental education and income provide better access to resources, structured interventions, and supportive learning environments, enhancing social skill acquisition. Extended families provide additional social interaction opportunities, while single-parent households face challenges due to limited support. This emphasized the need for targeted interventions to bridge disparities among families of different economic and social backgrounds.

Recommendations

1. Parents, especially those with lower education levels, should seek training programmes on how to management their wards with ASD and social skills development.
2. Future research should explore the specific mechanisms through which income influences social skills, such as access to therapies, parental stress levels, and educational quality. Such investigations could further inform policies and

programmes designed to mitigate socioeconomic disparities in ASD outcomes, ultimately improving the lives of affected children and their families.

3. The government should provide affordable therapies (speech, occupational, ABA) for low-income families. This will assist low-income parent in meeting with the financial demand for managing children with ASD.

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