



Game Na! Unpacking the Play Preferences and Social Participation of School-Age Children Diagnosed with Attention-deficit/hyperactivity disorder (ADHD) and Autism Spectrum Disorder (ASD)

Daelord Valerie M. Torralba*

University of Perpetual Help System – Manila, Philippines



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*Correspondence:

Daelord Valerie M. Torralba, University of Perpetual Help System – Manila, Philippines, Tel: +639 6865 9192; E-mail: daevtorralba@gmail.com

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Abstract

This study examined the social participation and activity preferences of school-aged children diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD) using the Children's Assessment of Participation and Enjoyment (CAPE) and Preferences for Activities of Children (PAC). A quantitative comparative-correlational cross-sectional design was utilized involving 55 children aged 6–12 years receiving occupational therapy services in Metro Manila, Philippines. Data were collected using demographic questionnaires and the CAPE/PAC assessments and analyzed through descriptive and inferential statistics. Findings showed moderate participation levels across most CAPE domains, with enjoyment and activity intensity obtaining the highest scores. Recreational and physical activities were the most preferred activity types, while self-improvement activities were least preferred. Significant differences were found in recreational and physical activities, engagement across play types, and social activities according to grade level. However, no significant differences were observed according to sex and age group. Weak to moderate positive relationships between participation and activity preferences were identified, indicating that children tend to participate more in activities they enjoy, although environmental and contextual factors also influence engagement.

The findings emphasize the importance of participation-focused, play-based, and client-centered occupational therapy interventions that promote meaningful and inclusive engagement among children with ADHD and ASD.

Keywords: ADHD; ASD; CAPE/PAC; Participation; Play Preferences; Occupational Therapy

Introduction

The World Health Organization defines participation as involvement in life situations, which for children is primarily expressed through play. Play supports children's physical, cognitive, emotional, and social development while promoting competence, relationships, and well-being [1]. However, opportunities for meaningful participation remain limited due to socioeconomic barriers, disability, and insufficient inclusive support systems, particularly in the Philippines [2].

As children grow, play becomes increasingly social and contributes to social-emotional development and community involvement. Participation in meaningful activities helps children develop interpersonal skills, self-confidence, and emotional regulation [3]. In today's digital society, children engage in both traditional and digital play activities that influence participation patterns and developmental outcomes.

Despite growing literature on play and participation, limited studies have examined how demographic factors influence participation among Filipino children diagnosed with ADHD and ASD. This study examined the social participation and activity preferences of school-aged children receiving occupational therapy services in Metro Manila, Philippines (Table).

The study examined the relationship between demographic variables, participation patterns, and activity preferences using the Children's Assessment of Participation and Enjoyment (CAPE) and Preferences for Activities of Children (PAC). The framework emphasized how age, sex, and grade level may influence participation intensity, enjoyment, engagement, and activity preferences

Table: Conceptual Framework.

INPUT	PROCESS	OUTPUT
• Profile of the respondents according to:	• Data collection of children's profiles	• Comparative analysis of social participation in terms of CAPE's domains:
o Age	• Criterion Sampling of Participants	o Preferences for activities
o Sex	• Data gathering among children and parents through: CAPE/PAC	o Intensity of activities
o Grade Level	• Assessment of data from children's and parents' submitted assessment tools	o Engagement in activities
• Children's Assessment of Participation and Enjoyment (CAPE)	• Statistical Analysis of Data	o Frequency of participation in activities
• Preferences for Activities of Children (PAC)		o Level of enjoyment in activities
		• Comparative analysis of social participation in terms of PAC's domains:
		o Physical Activities
		o Recreational Activities
		o Social Activities
		o Skill-based Activities
		o Self-improvement Activities
		• Correlational analysis of the domains among CAPE and PAC
		• Correlational analysis of children's participation and play quality (CAPE) between preferences and interests (PAC) according to:
		o Age
		o Sex
		o Grade level

across recreational, physical, social, skill-based, and self-improvement activities.

Theoretical Framework

Play serves as a primary childhood occupation that supports development, belongingness, and social participation. Studies show that play enhances children's social relationships, emotional well-being, cognitive growth, and sensory participation [4 ,5]. Bronfenbrenner's Ecological Systems Theory explains that participation is influenced by environments such as the home, school, and community [6]. These settings shape opportunities for engagement and social interaction.

Bandura's Social Learning Theory further explains that children learn behaviors and participation patterns through observation, imitation, and interaction with caregivers, peers, and media [7]. Social Inclusion Theory also highlights the importance of equal access, participation, and acceptance regardless of ability [8]. However, children with disabilities in the Philippines continue to face barriers to education, healthcare, and recreational opportunities [2]. The Person-Environment-Occupation (PEO) framework supports the idea that participation results from the interaction between personal factors, environmental contexts, and occupational demands. Meaningful participation therefore depends not only on children's interests and abilities but also on environmental accessibility and social support.

Statement of the Problem

Play activities today commonly combine traditional physical play and digital play, both of which influence children's social skills, cognitive development, and overall well-being. Despite increasing interest in play preferences, limited research has examined how demographic factors such as age, sex, and grade level influence

participation among children with ADHD and ASD.

The researcher identified the listed questions below:

1. What are the demographic data of the participants in terms of
 - a. Age
 - b. Sex
 - c. Grade level
2. How does demographic data influence children's play participation in terms of the following factors?
 - a. Age
 - b. Sex
3. How does play engagement influence children's social participation, as measured by CAPE, considering the following factors?
 - a. Preferences for activities
 - b. Intensity of activities
 - c. Engagement in activities
 - d. Frequency of participation in activities
 - e. Level of enjoyment in activities
4. How does play preference influence children's social participation, as measured by PAC, given the following domains?
 - a. Physical Activities
 - b. Recreational Activities
 - c. Social Activities

- d. Skill-based Activities
 - e. Self-improvement Activities
5. Is there a correlational relationship between CAPE's dimensions and PAC's domains?
6. Is there a correlational relationship between:
- a. Children's demographic profile and CAPE's dimensions
 - b. Children's demographic profile and PAC's activity preferences
 - c. Children's demographic profile, CAPE's dimensions, and PAC's activity preferences

Demographic factors such as age, sex, and grade level influence children's access to play opportunities and engagement in different forms of play, while caregivers also shape children's play preferences and participation experiences. By examining these relationships, the study aims to provide insights into how evolving play patterns influence children's social and occupational participation.

Hypothesis

The following hypotheses were made:

Null Hypothesis (H_0): Social participation levels, as assessed by the CAPE/PAC, do not significantly differ among 6-to 12-year-old school-aged children diagnosed with ADHD and/or ASD based on their activity preferences.

Alternative Hypothesis (H_1): Social participation levels, as assessed by the CAPE/PAC, significantly differ among 6 to 12-year-old school-aged children diagnosed with ADHD and/or ASD based on their activity preferences.

Assumptions of the Study

The study assumed that participants could identify and express their activity preferences and participation experiences during CAPE/PAC administration. It also assumed that the CAPE/PAC tools remained valid and reliable measures of participation and activity preferences. Furthermore, participants were presumed to be familiar with the activities included in the assessments and developmentally capable of completing the measures.

Scope and Delimitation

The study focused on children aged 6–12 years diagnosed with ADHD or ASD who were receiving occupational therapy services in Metro Manila, Philippines. The research concentrated on participation patterns and activity preferences across recreational, physical, social, skill-based, and self-improvement activities. Findings were limited to the participants included in the study and may not represent all children with neurodevelopmental conditions.

Significance of the Study

The study contributes to occupational therapy by improving understanding of participation patterns and activity preferences among children with ADHD and ASD. Findings may help therapists, educators, parents, and community stakeholders develop inclusive, participation-focused, and developmentally appropriate interventions. The results may also support advocacy efforts promoting equal access to educational, recreational, and community-based opportunities for children with developmental conditions.

Research Methodology

Research design

The study utilized a quantitative comparative-correlational cross-sectional design to examine participation patterns and activity preferences among children aged 6–12 years diagnosed with ASD or ADHD. The design allowed objective analysis of relationships and differences among variables at a single point in time.

Sources of data

The primary data sources were school-aged children aged 6–12 years and their parents or caregivers. Data were collected using demographic questionnaires and the CAPE/PAC tools to assess participation and activity preferences. Secondary data were obtained through related literature on play behaviors and child development.

Population of the study

The study population consisted of school-aged children aged 6–12 years diagnosed with ADHD or ASD and receiving Occupational Therapy services in Metro Manila, Philippines. Parents or caregivers also participated to provide demographic information and additional context regarding the children's participation patterns and activity preferences.

Sampling technique

The study will utilize a stratified random sampling technique to select participants. Stratified sampling will allow for the inclusion of children from various demographic backgrounds: different ages, sex, grade level, and types of play preferences. The population will be stratified into different categories based on the variables of interest, including socioeconomic status and the type of play. Random sampling will then be applied within each stratum to select participants. This approach ensures the representativeness of the sample while considering the diversity of the population.

Instrumentation and Validation

The research will utilize the following research instruments to describe and correlate the relationship between the demographic factors, preferences for activity, intensity of activity, engagement in activity, frequency of participation in activity, and level of enjoyment in activity relating to their demographic information through the Children's Assessment of Participation and Enjoyment (CAPE)/ Preferences for Activities of Children (PAC) and a demographic questionnaire.

Demographic Questionnaire

A questionnaire, alongside an informed consent, will be administered to parents or caregivers to gather demographic data on the children, such as age, sex, and grade level, for further descriptive analysis.

Children's Assessment of Participation and Enjoyment (CAPE)

The CAPE was used to assess children's participation, enjoyment, frequency, and intensity across structured and unstructured activities. Together with the PAC, it measures participation quality and activity preferences among children.

Preferences for Activities of Children (PAC)

The PAC tool will be used to assess the children's preferences for different types of activities, such as those that are more physically active (like traditional games) or sedentary (like digital games). This

tool will help measure how preferences for different types of play relate to social participation and cognitive development.

Data Gathering Procedure

The data gathering procedure followed a systematic and ethical approach to ensure reliable data collection. Participants were recruited through Occupational Therapy centers and practitioners across Metro Manila. Parents or caregivers received study information, and informed consent was secured, while assent was obtained from children capable of understanding the study.

Caregivers completed a demographic questionnaire containing the child's age, sex, grade level, socioeconomic background, and diagnosis. The CAPE and PAC toolkit were then administered through one-on-one interviews using age-appropriate procedures. For participants unable to complete the assessment onsite, questionnaires were allowed to be completed at home with proper instructions.

The CAPE assessed participation diversity, intensity, social context, location, and enjoyment, while the PAC measured preferences across recreational, physical, social, skill-based, and self-improvement activities. Collected data were encoded into a secure database and analyzed using descriptive and inferential statistics, including t-tests, ANOVA, and chi-square tests. Confidentiality was maintained through identification codes instead of participant names.

Results and Discussion

Results

This chapter presents the results and discussion of the study on the social participation and activity preferences of school-aged children aged 6–12 years diagnosed with Autism Spectrum Disorder (ASD) and Attention-Deficit/Hyperactivity Disorder (ADHD). Data were analyzed using the Children's Assessment of Participation and Enjoyment (CAPE) and the Preferences for Activities of Children (PAC) tools. The findings are organized according to demographic factors, participation patterns, activity preferences, and the relationships among study variables. The results are interpreted alongside related literature and occupational therapy perspectives to explain their implications for participation and engagement among children with neurodevelopmental conditions.

Demographic factors

A total of 55 participants were included in the study. All participants were diagnosed with ADHD or ASD by a developmental pediatrician and had been receiving occupational therapy services for more than two years. Most participants were male (69.09%), while

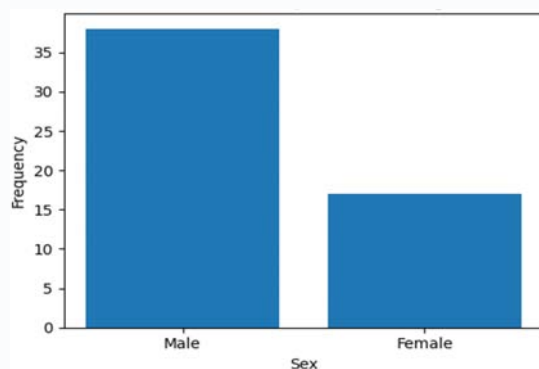


Figure 1: Distribution of Participants According to Sex.

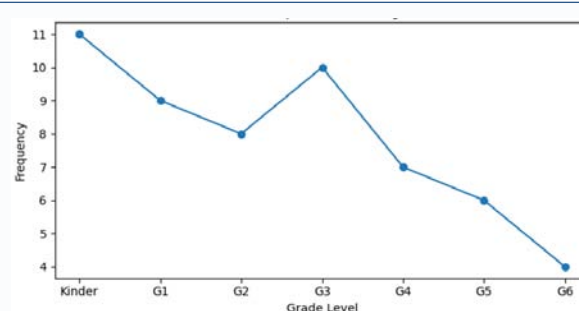


Figure 2: Distribution of Participants According to Grade Level.

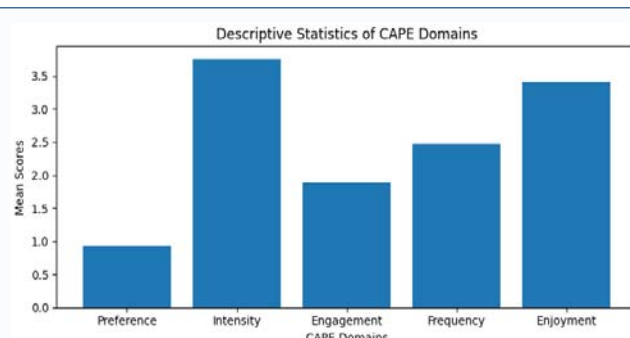


Figure 3: CAPE Domains.

Table 1: Participants' Demographic Data by Age Group.

Variable	Frequency	Percentage
Sex		
Male	38	69.09%
Female	17	30.91%
Grade Level		
Kindergarten	11	20.00%
Grade 1	9	16.36%
Grade 2	8	14.55%
Grade 3	10	18.18%
Grade 4	7	12.73%
Grade 5	6	10.91%
Grade 6	4	7.27%
Total	55	100%

females comprised 30.91% of the sample. Participants were distributed across Kindergarten to Grade 6, with the largest proportion coming from Kindergarten and Grade 3 (Figures 1-2) (Table 1).

The findings reflect the higher prevalence of ASD and ADHD among male children reported in existing literature [10]. Variation in grade levels also provided insight into how developmental and educational experiences may influence participation.

Participation Patterns Across CAPE Domains

The CAPE assessed participation according to preferences, intensity, engagement, frequency, and enjoyment. Findings revealed moderate participation levels across most domains (Figure 3) (Table 2).

The CAPE assessed participation according to preferences,

Table 2: CAPE Domains.

CAPE Domains	Mean	Standard Deviation	Interpretation
Preferences for Activities	0.93	0.28	Moderate Participation
Intensity of Activities	3.76	1.82	Moderate Participation
Engagement in Activities	1.89	1.1	Moderate Participation
Frequency of Participation	2.47	1.55	Moderate Participation
Level of Enjoyment in Activities	3.41	1.32	High Enjoyment

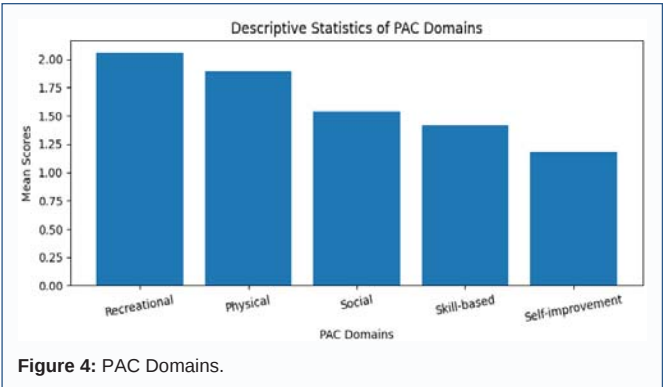


Figure 4: PAC Domains.

Table 3: PAC Domains.

PAC Domain	Mean	Standard Deviation	Interpretation
Recreational Activities	2.06	0.49	High Preference
Physical Activities	1.89	0.52	Moderate Preference
Social Activities	1.54	0.41	Moderate Preference
Skill-based Activities	1.42	0.50	Moderate Preference
Self-improvement Activities	1.18	0.46	Low Preference

intensity, engagement, frequency, and enjoyment. Findings revealed moderate participation levels across most domains. Participants demonstrated high enjoyment despite moderate engagement and participation frequency. These findings suggest that enjoyment alone does not necessarily translate into consistent participation. Environmental accessibility, developmental demands, and contextual barriers may influence sustained engagement.

The findings support occupational therapy perspectives emphasizing that participation is shaped by the interaction between the child, environment, and occupation rather than motivation alone [11]. Similar studies reported that children with ASD and ADHD may experience participation restrictions due to sensory challenges, environmental barriers, and limited access to inclusive opportunities [12].

Activity Preference Across PAC Domains

The PAC assessed children’s preferences across recreational, physical, social, skill-based, and self-improvement activities (Figure 4) (Table 3).

Recreational and physical activities obtained the highest preference scores, indicating that children with ASD and ADHD preferred sensory-rich, movement-oriented, and intrinsically motivating activities. In contrast, self-improvement activities

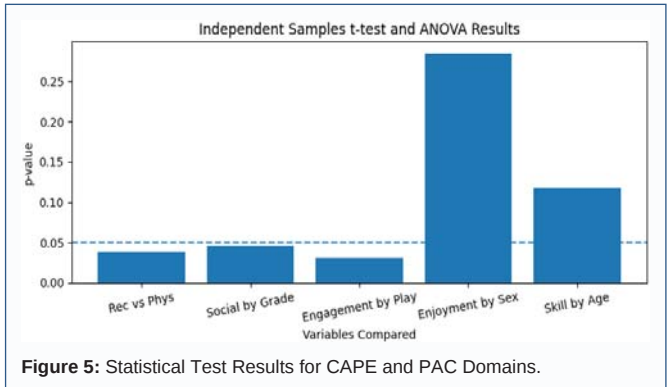


Figure 5: Statistical Test Results for CAPE and PAC Domains.

Table 4: Statistical Test Results for CAPE and PAC Domains.

Variables Compared	Statistical Test	Test Value	p-value	Interpretation
Recreational vs Physical Activities	Independent Samples t-test	t = 2.11	0.039	Significant Difference
Social Activities across Grade Levels	One-Way ANOVA	F = 2.84	0.046	Significant Difference
Engagement Levels across Play Types	One-Way ANOVA	F = 3.17	0.031	Significant Difference
Enjoyment Levels between Male and Female Participants	Independent Samples t-test	t = 1.08	0.285	Not Significant
Skill-based Activities across Age Groups	One-Way ANOVA	F = 1.94	0.118	Not Significant

demonstrated the lowest preference levels.

These findings may reflect challenges associated with executive functioning, attention regulation, and task persistence commonly observed among children with neurodevelopmental conditions [13]. Recreational and physical activities often provide immediate reinforcement and enjoyable experiences, making them more engaging and accessible. The findings highlight the importance of integrating play-based and movement-oriented approaches into occupational therapy and educational interventions to improve engagement and participation.

Comparative Analysis of CAPE and PAC Domains

Independent samples t-tests and one-way ANOVA were used to determine significant differences among CAPE and PAC domains (Figure 5) (Table 4).

Significant differences were observed between recreational and physical activities, indicating varying levels of engagement depending on activity type. Sensory-rich and enjoyable activities encouraged greater participation among children with ASD and ADHD.

Significant differences in social activities across grade levels suggest that educational and developmental experiences influence participation opportunities and social interaction patterns. However, no significant differences were found according to sex and age group.

These findings suggest that contextual and environmental factors may have stronger influences on participation than demographic characteristics alone. The results further support participation-focused occupational therapy approaches emphasizing accessibility, environmental support, and meaningful engagement.

Participation Patterns According to Demographic Factors

Chi-square analyses were conducted to determine whether participation patterns differed according to demographic variables (Figure 6) (Table 5).

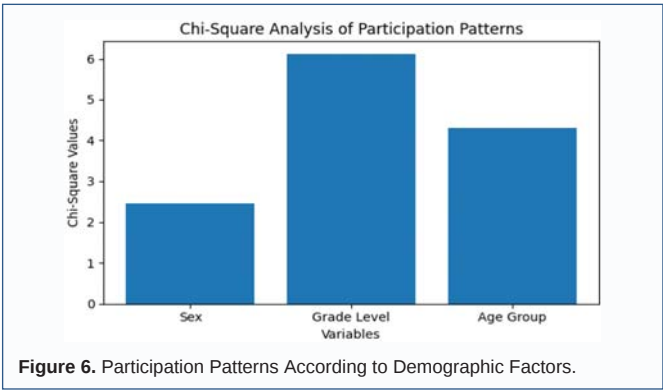


Figure 6. Participation Patterns According to Demographic Factors.

Table 5: Participation Patterns According to Demographic Factors.

Variables	χ ² Value	p-value	Interpretation
Participation Patterns by Sex	2.47	0.291	Not Significant
Participation Patterns by Grade Level	6.12	0.047	Significant
Participation Patterns by Age Group	4.31	0.116	Not Significant

Results revealed a statistically significant difference in participation according to grade level, suggesting that developmental and educational experiences influence participation opportunities and engagement behaviors. Conversely, no significant differences were observed according to sex and age group. These findings reinforce the Person–Environment–Occupation framework, which explains participation as the interaction between personal factors, environmental conditions, and occupational demands.

Discussion

The study examined the social participation and activity preferences of school-aged children aged 6–12 years diagnosed with Autism Spectrum Disorder (ASD) and Attention-Deficit/Hyperactivity Disorder (ADHD) using the Children’s Assessment of Participation and Enjoyment (CAPE) and Preferences for Activities of Children (PAC). Findings revealed that participants demonstrated moderate levels of participation across CAPE domains, with higher scores observed in activity preferences and enjoyment, while engagement and frequency of participation remained comparatively lower. These findings suggest that although children show positive interest and enjoyment in activities, their opportunities for consistent and sustained participation may be limited by developmental, environmental, and contextual factors.

Recreational and physical activities emerged as the most preferred domains among participants, indicating that children with ASD and ADHD are more inclined toward sensory-rich, play-based, and intrinsically motivating occupations. In contrast, self-improvement and skill-based activities obtained lower preference scores, possibly due to the increased executive functioning, attention regulation, and task persistence demands associated with these activities. Weak to moderate positive associations between CAPE and PAC domains further indicated that while children are more likely to engage in activities they enjoy, preference alone does not fully determine participation patterns. Environmental accessibility, social support, and availability of participation opportunities also significantly influence engagement outcomes.

The findings emphasize that participation among children with ASD and ADHD is multidimensional and context-

dependent. Demographic variables such as age and sex showed no significant relationship with participation outcomes, suggesting that individualized experiences and environmental fit may have stronger influences on meaningful participation than demographic characteristics alone. These results support the Person–Environment–Occupation (PEO) framework, which highlights the interaction between the child, environment, and occupation in shaping participation experiences.

Overall, the study highlights the importance of participation-focused, play-based, and environmentally responsive occupational therapy interventions. Occupational therapists, educators, healthcare professionals, and community stakeholders should collaborate in developing inclusive environments and meaningful opportunities that support sustained engagement, social participation, and overall well-being among children with ASD and ADHD.

Recommendations

Future researchers are encouraged to examine the effectiveness of individualized, play-based, and sensory-informed interventions in improving participation among children with ASD and ADHD. Studies involving larger and more diverse populations are recommended to further explore the influence of parental involvement, socioeconomic status, symptom severity, and access to services on participation patterns. Additionally, qualitative and mixed-method approaches may provide deeper insight into the barriers and facilitators influencing meaningful participation across home, school, and community settings.

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