

Examining The Quality of Parent Interaction With Children With Autism Spectrum Disorder in Distinctly Different Play Environments

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Introduction

- Approximately 1 in 68 children are diagnosed with ASD though it is 4.5 times more common in boys²
- Autism Spectrum Disorder (ASD) is characterized by:
 - Problems in social interaction¹
 - Limited interest in activities¹
 - Lack of motor skills and decreased physical activity⁴
- A Lack of physical activity in childhood increases the likelihood of childhood obesity and has negative implications on child development and self-efficacy^{5,6}
- Play is integral to childhood development and allows children to use their creativity while developing their imagination, dexterity, and physical, cognitive, and emotional strength.⁸
- Parents involvement in their child's play is important in creating a strong bond so parents learn to communicate effectively with their children.⁸
- Currently a variety interventions for ASD exist but generally many consist of encouraging social interaction with a parent or caregiver.³
- However, the lack of motor skills present in children with ASD is commonly not addressed in these interventions and could be a beneficial addition to current interventions for children with ASD

Purpose

The purpose of this study is to examine the differences in quality of parent interaction with their child in two distinctly different play settings. The specific aim is to see if parent interactions with their child are different if the child is typically developing or has been diagnosed with autism spectrum disorder. Since limited interventions for children with ASD take place in motor skill setting, it was hypothesized that parents would show a lower quality of parenting in the motor setting than the social setting in comparison to peers with typically developing children.

Methods

- Children between the ages of 2 and 7 with and without autism spectrum disorder and their parent or caregiver were recruited for this study
- Each child and parent spent time in two distinctly different settings
 - The social play setting promoted tactile play and included toys commonly seen in a free-play setting such as blocks, toy trucks, puzzles, etc.
 - The motor play setting contained toys that could be easily associated with movement-activities such as mats, wedges, tricycles, balls, and scooters

Figure 1. Example of social play setting



Methods (cont.)

- The participants were and told to ignore the video camera and act/play as they would normally.
- The child and caregivers actions were recorded for 10 minutes
- Parental behaviors observed in the video clips were then coded using 5 constructs:
 1. Parent Encourages Stimulating Environment
 - Degree to which the parent facilitates the play to foster the child's interest, learning, understanding, and development.
 2. Parent Negativity
 - Degree to which the parent displays expressions of anger or rejects/discounts the child.
 3. Parent Sensitivity
 - Degree to which the parent observes and responds to the child's cues during times of distress as well as non-distress.
 4. Parental Detachment
 - Degree of the parent's awareness of, attention to, and engagement with the child.
 5. Parent Intrusiveness
 - Degree of the parent's control of the child's behaviors and play.
- After coding, the data was analyzed using independent T-tests, in this case comparing the two groups (ASD and typically developing) and the quality of parenting.
- This analysis was done for both the social and motor play settings.

Figure 2. Example of motor play setting



Results

- Table one shows the descriptive characteristics of the participants from both the ASD (n=9) and Typically developing (n=9) groups.
 - In total, 18 parent-child participants were recruited
 - 9 parents with children with ASD
 - 9 with typically developing children
 - The table includes data from the parents (education level, parent age) and from the children (age, verbal and non-verbal IQ levels)
- Table two shows the difference in parent-child interactions in both the TD and ASD groups in both settings.
 - With p values of .04 and .01 there was a statistically significant decrease in parent encouraging a stimulating environment and sensitivity within the ASD group.

	ASD (n=9)		TD (n=9)	
	Mean (SD)/ Frequency	Range	Mean (SD)/ Frequency	Range
Age (months)	62.1 (16.8)	44, 91	51.9 (18.9)	30, 94
Age Parent (years)	34.8 (2.1)	32- 39	32.7 (3.3)	28- 37
Maternal Ed.				
No degree	2	-	2	-
GED	1	-	0	-
Associate	1	-	0	-
Bachelor	5	-	2	-
Master	0	-	3	-
PhD/MD	0	-	2	-
Verbal IQ	69.2 (34.4)	8.33, 109.32	101.2 (28.2)	69, 141
Non-verbal IQ	76.4 (26.7)*	31, 108	110.3 (19.9)*	87.96, 150

Table 1. Descriptive Characteristics of Participants

	TD	ASD	t	p
Social Play				
Parent Encouragement	3.22	3.56	0.63	0.53
Parent Negativity	1.67	2.11	0.75	0.46
Parental Sensitivity	3.44	2.89	-1.14	0.27
Parent Detachment	2.00	1.89	-0.26	0.79
Parental Intrusiveness	1.89	2.00	0.31	0.75
Motor Skill Play				
Parent Encouragement	4.00	3.11	-2.28	0.04*
Parent Negativity	1.89	2.22	0.70	0.50
Parental Sensitivity	3.89	2.67	-3.14	0.01*
Parent Detachment	1.33	1.89	1.42	0.17
Parental Intrusiveness	1.56	2.00	1.83	0.09

Table 2. Mean differences in parent behaviors by group and based on type of play setting (df = 16).

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Discussion

- It was found that parents of children with ASD showed a lower quality of parenting than parents of typically developing children.
- Interrater reliability of .71-.98 show validity of results.
- The results agree with hypothesis, considering most parent interventions for children with ASD are done in social settings.
- Previous studies have shown differences in child behaviors in motor settings when compared to their typically developing peers.⁴
- Limitations of this study include a small sample size. Future studies could include more participants to improve the quality and generalizability of the results. Additionally, this was a cross-sectional study and therefore children or parents could have had an abnormal day and the behaviors coded could not be representative of their true selves.
- This data is important in highlighting potential benefits of motor play setting interventions for parents of children with ASD.

Conclusion

The results from this project suggest an overall decreased quality of parenting of parents of children with ASD in a motor play setting. Parents of children with ASD were overall less sensitive (p=.01) and less encouraging of a stimulating environment (p=.04) when playing in an environment promoting physical activity when compared to parents of typically developing children.

These results highlight the importance of education for parents of children with ASD regarding the promotion of physical activity for their child considering the known benefits of exercise for children. Additionally, future research should explore the idea of creating motor-skill based interventions for parent-child dyads considering the multitude of benefits.

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