



Sleep, Communicative Ability, and Dietary Intervention as Predictors of Aggression in Children with Autism Spectrum Disorder

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INTRODUCTION

- Children with Autism Spectrum Disorder (ASD) evidence high rates of aggressive behavior (Davis, Dominick, Folstein Lainhart, & Tager-Flusberg, 2007, De Giacomo et al., 2016).
- Research on the causes of aggression in children with ASD has been limited (Kanne, Mazurek, & Wodka, 2013).
- A number of factors previously been associated with higher rates of aggression in the general population have not been found to be significant predictors of aggression in children with ASD (Aman & Farmer, 2011; Hill et al., 2014; Kanne, Mazurek, & Wodka, 2013).
- Some factors believed to contribute to aggression in children with ASD include: impaired communicative ability, sleep disturbances, and GI issues (Berkowitz, 1986; De Giacomo et al., 2016; Mazefsky, Minshew, Olino & Screiber, 2014).
- Although parents increasingly use the Autism Diet (removal of gluten/casein) to reduce aggressive behavior, we propose that the Autism Diet will not significantly predict aggression rates whereas communicative ability and sleep disturbance will significantly predict aggressive behavior in children with ASD.

Method

- This study was a quantitative, correlational study utilizing archival data.
- Participants were 111 children (26 females and 85 males) diagnosed with ASD between the ages of 4-8 years (M = 5 years, 9 months, SD = 1.32)
- Participants included families who sought services in a large multi-site agency located in the Northeastern region of the US between 2015 and 2018.
- At intake a comprehensive biopsychosocial evaluation was conducted with a psychologist which was uploaded into the electronic medical record. Behavioral observations were conducted to quantify rates of aggression.
- Researcher reviewed the assessments to identify eligible participants. Participants were included in an SPSS data set if the parents indicated whether Autism Diet had been followed, sleep disturbances were present, and the Social Communication Questionnaire (SCQ) was completed.

HYPOTHESIS

H1: Use of the Autism Diet will not be a significant predictor of aggression.
 H2: Communicative ability and the presence of sleep disturbance will be significant predictors of rate of aggression.
 H3: The ability to communicate wants and needs as measured by particular items on the SCQ, will predict lower levels of aggression.

RESULTS

- A multiple regression was employed to analyze whether the use of dietary intervention, communicative ability, and sleep disturbance predicted aggression.
- The use of the dietary intervention and communicative ability significantly predicted frequency of aggression.
- The presence of sleep disturbance and the ability to communicate wants/needs did not significantly predict rate of aggression.

Summary of Multiple Regression Including Significant Predictors

Variable	B	SE B	β	t	p
Constant	2.521	1.651		1.527	.130
SCQ	.312	.086	.323	3.624	.000
Diet	2.012	.949	.289	2.119	.036

Correlations

	1	2	3	4
1. SCQ	-	.116	.203	.345
2. Diet	.116	-	.054	.226
3. Sleep	.203	.054	-	.004
4. Aggression	.345	.226	.004	-

DISCUSSION

- There is a need for randomized controlled trials to evaluate the Autism Diet's impact on behavior.
- Given that use of the Autism Diet was predictive of more aggressive behavior, parents are advised to refrain from using the diet until further research is conducted. Findings support the idea that teaching children with Autism more functional ways to communicate may reduce aggression.
- Limitations included lack of diversity in sample, archival design, and lack of inter-rater reliability of the behavioral observations.
- Continued research into the causes of aggression in children with ASD is crucial to improving treatment outcomes for this population
- Given the cognitive and social deficits common in children with ASD and the multifactorial nature of aggression, there is a need to develop models of aggression specific to this population to advance the development of treatment options for children with ASD.

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