Journal of Autism and Developmental Disorders
https://doi.org/10.1007/s10803-021-05163-w

ORIGINAL PAPER

The Role of Family Accommodation of RRBs in Disruptive Behavior Among Children with Autism

Judah Koller[1] · Tamar David[1] · Noa Bar[1] · Eli R. Lebowitz[2]

Accepted: 20 June 2021
© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2021

Abstract

Family accommodation refers to changes in families' behavior aimed at reducing children's psychopathology-related distress (Shimshoni et al. in Indian J ournal of Psychiatry 61(Suppl 1):S93–S103, 2019). Family accommodation of RRBs occurs frequently in families of children with autism, is linked to greater symptom severity (Feldman et al. in J Autism Dev Disord 49(9):3602–3610, 2019), and is unexplored in the context of disruptive behaviors. This study examined child and parent factors associated with disruptive behavior in children with autism. Parents (N = 90; age 2–9 years) reported on children's autism symptomatology, adaptive functioning, and disruptive behavior, alongside parenting stress and family accommodation of RRBs. Such accommodation contributed significantly to predicting disruptive behavior. These findings indicate that parent behavior is associated with the expression of disruptive behavior in this sample, highlighting potential intervention targets for children with autism.

Keywords Autism spectrum disorder · Autism · Disruptive behavior · Family accommodation · Parenting · Adaptive functioning

Introduction

Autism and Disruptive Behaviors

Autism spectrum disorder (henceforth "autism"; Kenny et al., 2016) is a neurodevelopmental disorder with varying phenotypic expression, characterized by symptoms in two groups: impairment in social communication and interaction, and the presence of restricted and repetitive behaviors and interests (RRBs; APA, 2013). RRBs are a heterogeneous group of behaviors that may involve repetitive actions/movements, insistence on sameness, and restricted interests (Harrop, 2015).

Beyond the diagnostic symptoms, several clinical features are highly prevalent in this population, including disruptive behaviors (Hossain et al., 2020). Disruptive behaviors include behaviors that are harmful to the individual or others (e.g., aggression, destruction of property) and/or that bring the individual into significant conflict with societal norms or authority figures (Postorino et al., 2017). According to recent studies, disruptive behaviors are present in 12–48% of children with autism (Hossain et al., 2020). Previous research indicates a link between disruptive behavior and autism symptom severity (Chiang, 2008; Reese et al., 2005), although these findings are not consistent (Kanne & Mazurek, 2011).

The association between autism and disruptive behavior is complex and may be related to several factors. One explanation for this association is that disruptive behaviors often have a communicative function, especially for less verbal children (Chiang, 2008). Accordingly, interventions that target social communication were found to also reduce disruptive behaviors in children with autism (Watkins et al., 2015). Another possible function of disruptive behavior is to maintain engagement in RRBs (Reese et al., 2005). When

✉ Judah Koller
judah.koller@mail.huji.ac.il

Tamar David
tamar.david@mail.huji.ac.il

Noa Bar
noabar335@gmail.com

Eli R. Lebowitz
eli.lebowitz@yale.edu

[1] Seymour Fox School of Education, Hebrew University of Jerusalem, Mt. Scopus, 9190501 Jerusalem, Israel

[2] Yale Child Study Center, Yale University, New Haven, CT, USA

Published online: 29 June 2021

engagement in RRBs is disrupted, some children can become agitated or aggressive (Bodfish, 2011). Indeed, high levels of RRBs have been associated with high levels of aggression in children with autism (Kanne & Mazurek, 2011).

Disruptive Behaviors and Adaptive Functioning

Autism is also associated with deficits in adaptive functioning (Kanne et al., 2011; Kenworthy et al., 2010), which is defined as the practical, day-to-day skills required to function and meet environmental requirements, including effective and independent care of the individual's own self and communication with other people (Harrison & Oakland, 2003). Higher ratings of autism symptoms are linked to lower social and communicative adaptive functioning (Kenworthy et al., 2010; Liss et al., 2001; Perry et al., 2009). Adaptive functioning in children with autism and disruptive behaviors has been primarily examined in the context of parent-training programs that target disruptive behaviors, with most studies reporting improvements in adaptive functioning following the intervention (Bearss et al., 2013; Postorino et al., 2017; Scahill et al., 2016). One explanation for this is that reduction in disruptive behavior allows for an increase in the performance of daily life activities and facilitates the acquisition of new adaptive skills (Scahill et al., 2016).

Parenting Stress

Parents of children with autism experience greater parenting stress than parents of typically developing children and those of children with other developmental disabilities (Hayes & Watson, 2013). Parenting stress is further increased in the presence of behavioral problems (Giovagnoli et al., 2015). Findings suggest that parenting-related stress may be bi-directionally linked to disruptive behaviors, with high degrees of disruptive behavior increasing parenting-related stress, and high levels of parenting-related stress leading to elevated disruptive behaviors (Lecavalier et al., 2006; Postorino et al., 2019). This association may be influenced by parent behavior, with discipline strategies mediating the link between parenting stress and disruptive behavior (Shawler & Sullivan, 2017). These findings suggest that parenting stress and parent behavior are important factors in attempting to contextualize and understand disruptive behaviors in children in autism.

Family Accommodation

Family accommodation refers to changes in families' behavior, aimed at helping a child avoid or reduce distress related to a psychopathology (Shimshoni et al., 2019). These changes may include modifying family routines, actively participating in symptoms, and facilitating avoidance related to the disorder. Family accommodation reduces or prevents immediate distress but hinders development of the child's ability to cope with the stressor independently. Family accommodation is another parent-related factor yet to be studied in the context of disruptive behaviors in children with autism. In the context of multiple diagnostic categories, family accommodation has been associated with increased symptom severity and family burden, and with disruption to family functioning (Lebowitz et al., 2019; Shimshoni et al., 2019). Recent work showed that family accommodation of RRBs is highly prevalent in families of children with autism, is positively correlated with RRB symptom severity, and negatively correlated with adaptive functioning (Feldman et al., 2019).

Family accommodation in OCD also occurs in the context of disruptive behaviors, which may cause additional distress for the family and result in an increased need to accommodate the child (Hayes & Watson, 2013; Wu et al., 2014). Relevant studies have shown that family accommodation levels in OCD positively correlate with comorbid externalizing problems (Peris et al., 2008; Wu et al., 2014, 2019). Children with externalizing problems may have attentional difficulties or poor impulse control that lead to distress associated with their disorder. This in turn creates distress for parents, resulting in accommodation (Wu et al., 2014, 2019). For these children, it appears that the negative consequences when parents do not accommodate increase parents' perceived need to engage in accommodation (Lebowitz et al., 2011; Peris et al., 2008). No research has yet examined whether family accommodation is associated with disruptive behaviors in children with autism.

Current Study

The aim of the current study was to examine child and parent factors associated with disruptive behavior in young children with autism. The study examined the association between parent and child characteristics and disruptive behavior levels in children with autism. Specifically, children's autism symptomatology, adaptive functioning in the domains of socialization and communication, parenting stress levels, and family accommodation of RRBs, were examined as possible predictors of such disruptive behaviors. We expected that higher levels of disruptive behaviors would be associated with higher levels of family accommodation of RRBs, parental stress and autism symptomatology. We likewise expected that higher levels of disruptive behaviors would be associated with poorer socialization and communicative adaptive functioning.

An additional aim of the study was to confirm the association between family accommodation of RRBs and RRB severity, which based on prior research in children with autism (but not with disruptive behaviors), we hypothesized

that family accommodation of RRBs would positively correlate with RRB severity.

Methods

Participants

Participants were 90 parents of children with a diagnosis of autism recognized by Israel Social Security, recruited to a community-implemented intervention study. The current data was collected from 2017 to 2020. All parents expressed concern regarding their children's disruptive behavior and responded to the Aberrant Behavior Checklist-Hyperactivity subscale (ABC-HY) receiving a score of nine or above. Children were between the ages 2.9 and 9.7 years old (M = 5.7, SD = 1.6) and had receptive language of at least 18 month-level, as indicated by the Adaptive Behavior Assessment System-Second Edition—Parent Form (ABAS-II; Harrison & Oakland, 2003). Families with more than one child with autism (i.e. multiplex) for reasons related to the intervention study. 62% of children were Jewish and 38% were Arab. This is noteworthy as the Arab population is not often included in autism research in Israel. Not all variables were available for all participants included in this study. Table 1 presents descriptive statistics for the study sample.

Procedure

The study was approved by the university-affiliated Ethics Committee for Research as well as by the ethics committee of the Israeli Ministry of Education's Office of the Chief Scientist. Parents were recruited by partner organizations in the community, including special educations schools and preschools as well as community centers and NGOs providing services to individuals with autism and their families. All parents provided signed informed consent. The current study utilized only baseline data from the intervention study.

Table 1 Demographic and clinical characteristics of the children in the study

	N	%
Gender		
Male	76	84.4
Female	14	15.6
Ethnicity		
Arab	34	37.8
Jewish	56	62.2
	M	SD
Age	5.7	1.6
ABC	64.49	30.24
FAS-RRB	18.05	10.26
RBSR	32.96	20.30
SRS*	71.66	9.90
ABAS**	58.55	15.01
PSI	99.11	22.84

*T Score, **Composite Score

Measures

Parents completed all measures using an online survey platform.

Demographic questionnaire: Parents completed a demographic questionnaire including child's health, educational, treatment, and diagnostic history, and family characteristics.

Aberrant Behavior Checklist (ABC; Aman et al., 1985): The ABC is a caregiver—and teacher-report measure of disruptive behaviors with 58 items, each rated on a four-point Likert scale (0–3), with higher scores indicative of more severe problem behavior, on five subscales: Irritability (tantrums, aggression and self-injury, 15 items); Social Withdrawal (16 items); Stereotypic Behavior (7 items); Hyperactivity/Noncompliance (16 items); and Inappropriate Speech (4 items). In children with autism, the ABC subscales demonstrate adequate convergent validity (Kaat et al., 2014), however it does not have Israeli norms. In the current sample ABC subscales demonstrates excellent internal consistency ($\alpha = 0.95$).

Social Responsiveness Scale – Caregiver Report: The SRS (SRS; (Constantino & Gruber, 2005) is a caregiver-report measure of child social competence with 65 items, each rated on a four-point Likert scale (1–4). Higher scores are indicative of greater difficulty in the domains of social awareness, social cognition, social communication, social motivation, and autistic symptomatology. T scores above 60 indicate mild to moderate symptom severity, and T scores above 75 indicate severe impairment to everyday social interactions. Internal consistency was good in the current sample ($\alpha = 0.89$).

Repetitive Behavior Scale-Revised: The RBS-R (RBS-R; (Bodfish et al., 2000) is a questionnaire aimed at assessing the current frequency and severity of restricted and repetitive behaviors (RRBs). It consists of 43 items, each rated on a four-point Likert scale (0–3), with higher scores indicative of more frequent and severe behavior, on six subscales: Stereotypic Behavior; Self-Injurious Behavior; Compulsive Behavior; Ritualistic Behavior; Sameness Behavior and Restricted Behavior. Mean total score on the RBS-R is 33.14 and the standard deviation is 20.60 (Lam & Aman, 2007). In the current sample the RBS-R subscales demonstrates excellent internal consistencies ($\alpha = 0.94$).

Adaptive Behavior Assessment System-Second Edition (ABAS-II; Harrison & Oakland, 2003) Parent Form: The ABAS-II is a comprehensive multidimensional assessment tool used to assess the functional skills necessary for daily living, covering the ten adaptive behavior deficit

areas defined by the DSM-5 (APA, 2013). The ABAS-II consists of 232 items, each rated on a four-point Likert scale (0–3), with higher scores indicative of more adaptive functioning, on the following specific skill areas: Communication; Use of Community Resources; Academic/Pre-Academic Functional Skills; Daily Living Skills; Health and Safety; Leisure; Self-Care; Self-Direction; Social and Work or Motor Skills (for children under the age of five), as well as a General Adaptive Behavior Composite Score (GAC). For the purpose of this study, we only used the Social and Communication subscales. Internal consistency in our sample was excellent ($\alpha = 0.90$-0.93). Validity is supported in age-difference sensitivities (i.e., increased scores for each skill area as age increases).

Parenting Stress Index Short Version (PSI-SR; Abidin, 1990): The PSI-SR is a self-report inventory designed to measure the overall level of parenting stress an individual is experiencing. The PSI-SR has strong psychometric properties and was found valid and reliable when tested on Israeli parents (Feldman et al., 2004). It contains 36 items, each rated on a five-point Likert scale (1–5), with higher scores indicative of more parenting stress. The items are grouped into three subscales: The Parental Distress (PD) subscale examines to what extent the parent is experiencing stress in his/her role as a parent; The Parent–Child Dysfunctional Interaction (P-CDI) subscale assesses the extent to which the parent believes that their child does not meet their expectations and their interactions are not satisfying; The Difficult Child (DC) sub-scale assesses how easy or difficult the parent perceives their child. There is also a "Defensive Responding" score, in which high scores indicate that the parent may be trying to minimize any problems, stress, or negativity in their relationship with their child. Internal consistency in the current sample was excellent ($\alpha = 0.91$).

Family Accommodation Scale for Restricted and Repetitive Behaviors: Parents completed the FAS-RRB (FAS-RRB; (Feldman et al., 2019), an adapted version of the Family Accommodation Scale-Anxiety (FASA; (Lebowitz et al., 2013), aimed at measuring family accommodation to RRBs in children with autism. This questionnaire consists of 11 items rated on a five-point Likert-type scale ranging from 0 (never) to 4 (daily). The first seven items describing accommodating behaviors (e.g., "How many times have you provided your child with objects related to his/her repetitive behaviors?"; "Have you changed your family's daily routine because of his/her repetitive behaviors?"). One item assesses distress related to accommodation ("Did the assistance you gave the child in these forms cause you distress?") and three final items focus on the consequences of not accommodating (e.g., "Did your child's repetitive behaviors worsen when you did not help him?"). The FAS-RRB subscales demonstrate good internal consistency ($\alpha = 0.85$).

Results

Data Analytic Plan

In addition to descriptive statistics, we performed bi-variate Pearson correlations to examine associations between age, disruptive behaviors (ABC total score), family accommodation of RRBs (FAS-RRB total score), autism symptomatology (RBS-R and SRS total scores), adaptive functioning (ABAS socialization and communication sub-scales) and parenting stress (PSI total score). To determine which variables best predict disruptive behaviors, we conducted a multiple regression using family accommodation of RRBs, autism symptomatology, adaptive functioning and parenting stress as predictors. We used SPSS (version 21) to perform statistical analyses.

Descriptive Analysis

Table 1 presents the mean, standard deviation, and percentages of the variables.

The mean score of the FAS-RRB was 18.05 (SD = 10.26). Most participants (n = 62; 75.6%) reported engaging in family accommodation of RRBs at least once a month. 47 (57.40%) reported engaging in accommodation of RRBs at least 1–2 times per week, 33 (40.30%) reported engaging in accommodation of RRBs at least 3–6 times per week and 20 (24.40%) reported daily accommodation of their child's RRBs. The most frequently reported forms of accommodation were assisting avoidance of RRB-related stimuli (endorsed by 63 parents; 78%) and providing RRB-related items (endorsed by 62 parents; 75.6%).

Bivariate Correlations

Results of the bivariate correlations are in Table 2. ABC was found to be significantly positively correlated with FAS-RRB, RBSR, SRS, and significantly negatively correlated with ABAS Communication, ABAS Socialization and PSI.

Multiple Regression Analysis

The regression model for predicting ABC scores was significant ($p = 0.001$) (Table 3) and explained 52% of the variance in disruptive behaviors: $F(6, 30) = 5.33$, $p < 0.001$, $R^2 = 52$. Of the independent variables, only FAS-RRB significantly predicted ABC ($\beta = 0.41$, $t(35) = 2.73$, $p < 0.01$).

Table 2 Person correlation matrix

	N	1	2	3	4	5	6	7
Age	90	–						
ABC	84	− .01	–					
FAS-RRB	82	.04	.34**	–				
RBSR	49	− .04	.60**	.43**	–			
SRS	77	.27**	.47**	.26*	.45**	–		
ABAS communication	87	− .15	− .23*	.02	− .08	− .28**	–	
ABAS socialization	85	− .44**	− .29**	− .02	− .20	− .40**	.67**	–
PSI	79	− .07	.33**	.25*	.30*	.35**	.11	− .11

*p < .05. **p < .01

Table 3 Multiple Regression Analysis Predicting ABC

Variable	B	SEB	β	t	Significant	95% CI
RBSR	.39	.25	.26	1.58	.12	[− .11, .90]
SRS	.05	.23	.04	.24	.81	[− .42, 52]
ABAC-communication	− .16	.32	− .09	− .50	.62	[− .83, .50]
ABAS-socialization	− .27	.34	− .14	− .79	.43	[− .97, .43]
PSI	.18	.18	.14	1.01	.32	[− .19, .55]
Family accommodation	1.18	.43	.41	2.73**	.01	[.30, 2.06]

$R = .72$, $R^2 = .52$, Adj.$R^2 = .42$, $F(6, 30) = 5.33$, $p < .001$

**p < .01

Discussion

This is the first study to examine the role of family accommodation of RRBs in the context of disruptive behavior. We found that parent behavior plays a significant role in the expression of disruptive behavior in young children with autism, more than child clinical characteristics. Family accommodation of RRBs, autism symptom severity, and parenting stress, all correlated with each other and with child disruptive behavior. However, in a model attempting to predict disruptive behavior from all these variables, family accommodation of RRBs was the only significant factor.

While these findings clearly link family accommodation of RRBs and disruptive behavior in this sample, the precise nature of this relationship remains unclear. Previous work has shown that elevated family accommodation of RRBs is associated with increased symptom severity and decreased adaptive functioning in children with autism (Feldman et al., 2019). It is feasible that, among the RRBs that are elevated in the presence of accommodation are behaviors that are simultaneously classified as disruptive behaviors. Indeed, the link between RRBs and disruptive behaviors has been previously examined and established (Bodfish, 2011; Kanne & Mazurek, 2011). The current findings may point to the role of accommodation in the context of this relationship.

In the context of OCD and anxiety disorders, family accommodation is part of a cycle of symptom elevation and reduction that hinders children's development of adaptive strategies to mitigate their symptom related distress (Lebowitz et al., 2019). In the context of autism however, the mechanism and ramifications of accommodation are yet to be elucidated. RRBs are a heterogeneous symptom category, containing some behaviors that are unarguably maladaptive (i.e. self-injurious behavior) and others that may serve an adaptive function (e.g. self-regulatory stimming; Kapp et al., 2019). It is likely that various forms of accommodation interact with different RRB symptoms in differing fashions. Additional research is necessary to discern which forms of accommodation, in the context of which RRBs, lead to negative consequences, such as elevated disruptive behaviors, for children with autism and their families.

Independent of family accommodation of RRBs, autism symptom severity correlated with disruptive behaviors, in line with previous research (Kanne & Mazurek, 2011; Watkins et al., 2015). Despite this, when looking at these associations in the context of family accommodation of RRBs, symptom severity becomes less salient. This raises the possibility that family accommodation of RRBs mediates the link between RRBs and disruptive behaviors, decreasing the significance of RRBs as an independent construct.

Adaptive functioning negatively correlated with disruptive behavior in the current study. This is in concert with earlier work, with one explanation positing that disruptive behaviors interfere in the acquisition and use of adaptive

skills (Scahill et al., 2016). Despite that, when adaptive functioning was considered in the context of family accommodation of RRBs, it was not found to predict disruptive behavior. While previous research on family accommodation of RRBs showed increased accommodation to be associated with decreased adaptive functioning (Feldman et al., 2019), this was not the case in the current sample. In contrast with the aforementioned study, the current sample is different in that all children displayed disruptive behavior. Given these discrepant findings, further exploration is necessary to assess whether or not the presence of disruptive behaviors impacts the relation between family accommodation of RRBs and adaptive functioning.

This is also the first study to link family accommodation of RRBs to increased parenting stress in families of children with autism. In OCD and anxiety disorders, family accommodation of RRBs has been associated with increased family burden and impairment of family functioning (Shimshoni et al., 2019). In that context, it is hypothesized that family accommodation of RRBs disruption to family routine elevates family distress. In addition, parents' perceived need to accommodate may be enhanced in the presence of a child's coercive-disruptive behaviors, such as physical aggression and verbal abuse (Lebowitz et al., 2015; Shimshoni et al., 2019). Our findings raise the possibility that family accommodation of RRBs and parenting stress could potentially exacerbate each other in families of children with autism, highlighting the need for further research in this area.

Implications

Given these findings, a nuanced understanding of this concept may serve to shed light on a potential intervention target for supporting children with autism and their families. It may be that by reducing or modifying parent response to autism symptoms at an early stage, symptom severity and disruptive behavior may be ameliorated and quality of life for both children and families may be improved.

Limitations

Our findings should be considered in the light of several limitations. The data were collected in the context of a community-implemented intervention study, which precluded the use of gold standard characterization measures of developmental, autism-specific, and intellectual functioning. The data is all parent-report, with measures filled out by the primary caregiver and therefore do not necessarily reflect the entirety of parental behavior in the home. Additionally, this sample represents a relatively wide age range and data was collected at a single time point.

Future studies should examine the role of covariates such as gender and developmental profiles in an attempt to understand the role of these factors in the expression of disruptive behaviors. It is essential to examine these variables in a longitudinal, developmental context. Finally, further investigation should examine the role of family accommodation of RRBs in a more nuanced fashion, utilizing mixed methods analyses and direct observation.

Acknowledgments The authors acknowledge the families who participated in the study and the team of students who worked tirelessly to collect and organize the data. We are appreciative of the Joseph Levy Foundation for their financial support. All authors report no conflict of interest.

Author Contribution JK and EL developed the theoretical framework. JK conceptualized the study, oversaw data collection, analysis, and manuscript preparation. TD and NB conceptualized the research questions and were responsible for data analysis and manuscript preparation. EL provided guidance regarding research questions, data analysis, and conceptualization of results. All authors discussed the results and contributed to the final manuscript.

References

Bearss, K., Johnson, C., Handen, B., Smith, T., & Scahill, L. (2013). A pilot study of parent training in young children with autism spectrum disorders and disruptive behavior. *Journal of Autism and Developmental Disorders, 43*(4), 829–840. https://doi.org/10.1007/s10803-012-1624-7

Bodfish, J. W., Symons, F. J., Parker, D. E., & Lewis, M. H. (2000). Varieties of repetitive behavior in autism: Comparisons to mental retardation. *Journal of Autism and Developmental Disorders, 30*(3), 237–243. https://doi.org/10.1023/A:1005596502855

Bodfish, J. (2011). Restricted repetitive behaviors. *Textbook of Autism Spectrum Disorders* (pp. 169–188). New York: American Psychiatric Association Publishing.

Chiang, H. M. (2008). Expressive communication of children with autism: The use of challenging behaviour. *Journal of Intellectual Disability Research, 52*(11), 966–972. https://doi.org/10.1111/j.1365-2788.2008.01042.x

Constantino, J. N., & Gruber, C. P. (2005). *Social responsive scale (SRS) manual*. Los Angeles, CA: Western Psychological Services.

Feldman, I., Koller, J., Lebowitz, E. R., Shulman, C., Ben Itzchak, E., & Zachor, D. A. (2019). Family accommodation in autism spectrum disorder. *Journal of Autism and Developmental Disorders, 49*(9), 3602–3610. https://doi.org/10.1007/s10803-019-04078-x

Feldman, R., Eidelman, A. I., & Rotenberg, N. (2004). Parenting stress, infant emotion regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development, 75*(6), 1774–1791

Giovagnoli, G., Postorino, V., Fatta, L. M., Sanges, V., De Peppo, L., Vassena, L., De Rose, P., Vicari, S., & Mazzone, L. (2015). Behavioral and emotional profile and parental stress in preschool children with autism spectrum disorder. *Research in Developmental Disabilities, 45*, 411–421

Harrison, P., & Oakland, T. (2003). *Adaptive Behavior Assessment System* (*ABAS—II*).

Harrop, C. (2015). Evidence-based, parent-mediated interventions for young children with autism spectrum disorder: The case of restricted and repetitive behaviors. *Autism, 19*(6), 662–672

Hayes, S. A., & Watson, S. L. (2013). The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting

stress in parents of children with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders, 43*(3), 629–642. https://doi.org/10.1007/s10803-012-1604-y

Hossain, M. M., Khan, N., Sultana, A., Ma, P., McKyer, E. L. J., Ahmed, H. U., & Purohit, N. (2020). Prevalence of comorbid psychiatric disorders among people with autism spectrum disorder: An umbrella review of systematic reviews and meta-analyses. *Psychiatry Research*. https://doi.org/10.1016/j.psychres.2020.112922

Kaat, A. J., Lecavalier, L., & Aman, M. G. (2014). Validity of the aberrant behavior checklist in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 44*(5), 1103–1116. https://doi.org/10.1007/s10803-013-1970-0

Kanne, S. M., Gerber, A. J., Quirmbach, L. M., Sparrow, S. S., Cicchetti, D. V., & Saulnier, C. A. (2011). The role of adaptive behavior in autism spectrum disorders: Implications for functional outcome. *Journal of Autism and Developmental Disorders, 41*(8), 1007–1018. https://doi.org/10.1007/s10803-010-1126-4

Kanne, S. M., & Mazurek, M. O. (2011). Aggression in children and adolescents with ASD: Prevalence and risk factors. *Journal of Autism and Developmental Disorders, 41*(7), 926–937. https://doi.org/10.1007/s10803-010-1118-4

Kapp, S. K., Steward, R., Crane, L., Elliott, D., Elphick, C., Pellicano, E., & Russell, G. (2019). 'People should be allowed to do what they like': Autistic adults' views and experiences of stimming. *Autism, 23*(7), 1782–1792. https://doi.org/10.1177/1362361319829628

Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., & Pellicano, E. (2016). Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism, 20*(4), 442–462

Kenworthy, L., Case, L., Harms, M. B., Martin, A., & Wallace, G. L. (2010). Adaptive behavior ratings correlate with symptomatology and IQ among individuals with high-functioning autism spectrum disorders. *Journal of Autism and Developmental Disorders, 40*(4), 416–423. https://doi.org/10.1007/s10803-009-0911-4

Lam, K. S. L., & Aman, M. G. (2007). The repetitive behavior scale-revised: Independent validation in individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 37*(5), 855–866. https://doi.org/10.1007/s10803-006-0213-z

Lebowitz, E. R., Marin, C. E., & Silverman, W. K. (2019). Measuring family accommodation of childhood anxiety: Confirmatory factor analysis, validity, and reliability of the parent and child family accommodation scale – anxiety. *Journal of Clinical Child & Adolescent Psychology*. https://doi.org/10.1080/15374416.2019.1614002

Lebowitz, E. R., Storch, E. A., MacLeod, J., & Leckman, J. F. (2015). Clinical and family correlates of coercive–disruptive behavior in children and adolescents with obsessive–compulsive disorder. *Journal of Child and Family Studies, 24*(9), 2589–2597. https://doi.org/10.1007/s10826-014-0061-y

Lebowitz, E. R., Vitulano, L. A., Mataix-Cols, D., & Leckman, J. F. (2011). Editorial Perspective: When OCD takes over… the family!. *Journal of Child Psychology and Psychiatry, 52*(12), 1249–1250

Lebowitz, E. R., Woolston, J., Bar-Haim, Y., Calvocoressi, L., Dauser, C., Warnick, E., Scahill, L., Chakir, A. R., Shechner, T., Hermes, H., Vitulano, L. A., King, R. A., & Leckman, J. F. (2013). Family accommodation in pediatric anxiety disorders. *Depression and Anxiety, 30*(1), 47–54. https://doi.org/10.1002/da.21998

Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behaviour problems on caregiver stress in young people with autism spectrum disorders. *Journal of Intellectual Disability Research, 50*(3), 172–183. https://doi.org/10.1111/j.1365-2788.2005.00732.x

Liss, M., Harel, B., Fein, D., Allen, D., Dunn, M., Feinstein, C., Morris, R., Waterhouse, L., & Rapin, I. (2001). Predictors and correlates of adaptive functioning in children with developmental disorders. *Pediatric Physical Therapy, 13*(4), 222–224. https://doi.org/10.1097/00001577-200113040-00074

Peris, T. S., Bergman, R. L., Langley, A., Chang, S., McCracken, J. T., & Piacentini, J. (2008). Correlates of accommodation of pediatric obsessive-compulsive disorder: Parent, child, and family characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*(10), 1173–1181. https://doi.org/10.1097/CHI.0b013e3181825a91

Perry, A., Flanagan, H. E., Dunn Geier, J., & Freeman, N. L. (2009). Brief report: The vineland adaptive behavior scales in young children with autism spectrum disorders at different cognitive levels. *Journal of Autism and Developmental Disorders, 39*(7), 1066–1078. https://doi.org/10.1007/s10803-009-0704-9

Postorino, V., Gillespie, S., Lecavalier, L., Smith, T., Johnson, C., Swiezy, N., Aman, M. G., McDougle, C. J., Bearss, K., Andridge, R. R., Vitiello, B., & Scahill, L. (2019). Clinical correlates of parenting stress in children with autism spectrum disorder and serious behavioral problems. *Journal of Child and Family Studies, 28*(8), 2069–2077. https://doi.org/10.1007/s10826-019-01423-7

Postorino, V., Sharp, W. G., McCracken, C. E., Bearss, K., Burrell, T. L., Evans, A. N., & Scahill, L. (2017). A systematic review and meta-analysis of parent training for disruptive behavior in children with autism spectrum disorder. *Clinical Child and Family Psychology Review, 20*(4), 391–402. https://doi.org/10.1007/s10567-017-0237-2

Reese, R. M., Richman, D. M., Belmont, J. M., & Morse, P. (2005). Functional characteristics of disruptive behavior in developmentally disabled children with and without autism. *Journal of Autism and Developmental Disorders, 35*(4), 419–428. https://doi.org/10.1007/s10803-005-5032-0

Scahill, L., Bearss, K., Lecavalier, L., Smith, T., Swiezy, N., Aman, M. G., Sukhodolsky, D. G., McCracken, C., Minshawi, N., Turner, K., Levato, L., Saulnier, C., Dziura, J., & Johnson, C. (2016). Effect of parent training on adaptive behavior in children with autism spectrum disorder and disruptive behavior: Results of a randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 55*(7), 602-609.e3. https://doi.org/10.1016/j.jaac.2016.05.001

Shawler, P. M., & Sullivan, M. A. (2017). Parental stress, discipline strategies, and child behavior problems in families with young children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 32*(2), 142–151. https://doi.org/10.1177/1088357615610114

Shimshoni, Y., Shrinivasa, B., Cherian, A. V., & Lebowitz, E. R. (2019). Family accommodation in psychopathology: A synthesized review. *Indian Journal of Psychiatry, 61*(Suppl 1), S93–S103. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_530_18

Watkins, L., O'Reilly, M., Kuhn, M., Gevarter, C., Lancioni, G. E., Sigafoos, J., & Lang, R. (2015). A review of peer-mediated social interaction interventions for students with autism in inclusive settings. *Journal of autism and developmental disorders, 45*(4), 1070–1083

Wu, M. S., Geller, D. A., Schneider, S. C., Small, B. J., Murphy, T. K., Wilhelm, S., & Storch, E. A. (2019). Comorbid psychopathology and the clinical profile of family accommodation in pediatric OCD. *Child Psychiatry and Human Development, 50*(5), 717–726. https://doi.org/10.1007/s10578-019-00876-7

Wu, M. S., Lewin, A. B., Murphy, T. K., Geffken, G. R., & Storch, E. A. (2014). Phenomenological considerations of family accommodation: Related clinical characteristics and family factors in pediatric obsessive-compulsive disorder. *Journal of Obsessive-Compulsive and Related Disorders, 3*(3), 228–235. https://doi.org/10.1016/j.jocrd.2014.05.003

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.