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Examining Differences in Parenting Stress, Parenting Efficacy, and Household Context among Mothers of Youth with Autism and/or ADHD

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Abstract

Parents of youth with neurodevelopmental disorders experience unique stressors in family functioning when compared to parents of neurotypical youth. A paucity of research, however, has examined differences in parenting experiences across families of youth with varying neurodevelopmental disorder presentations. This paper focuses on two common and frequently co-occurring conditions: autism spectrum disorder and attention-deficit/hyperactivity disorder (ADHD). In this study, we compared parenting stress, parenting efficacy, and the household context across a sample of 90 mothers of adolescents ages 11–16 years with (1) autism, (2) ADHD, or (3) autism and clinically-elevated ADHD symptoms (Autism + ADHD). Our findings demonstrated differences in all three domains of family functioning across these diagnostic groups. Mothers of adolescents in the Autism + ADHD group endorsed greater stress than mothers of adolescents in the Autism alone group. Parenting efficacy and the household context were poorest (i.e., low efficacy and high chaos) among mothers of adolescents with ADHD and significantly greater than in the Autism alone group. Given our results, we highlight the importance of accounting for co-occurring symptomatology in these populations in research and clinical practice. This will help to accurately capture unique needs of the family system and make appropriate treatment recommendations that leverage families' strengths and are sensitive to family stressors.

Highlights

- Group differences in parenting and household factors were identified between mothers of adolescents with autism, ADHD, or autism and clinically-elevated ADHD symptoms (Autism + ADHD).
- Parenting stress was highest in the combined Autism + ADHD group and significantly greater than in the Autism alone group.
- Parenting efficacy and household order were lowest in the ADHD group and significantly different than the Autism alone group.

Parents play a critical role in a child's development and well-being (Deater-Deckard & Panneton, 2017; Lansford et al., 2018; Laursen & Collins, 2009). Childrearing, however, is demanding, especially in stressful circumstances (Deater-Deckard, 2008). Theory posits that child and parent factors, such as challenging child behaviors and parenting stress, are bidirectionally associated (Belsky, 1984; Sameroff, 2010), a process which may exacerbate difficulties and highlight strengths for both parent and child across time (Daniel et al., 2016; Neece et al., 2012; Neece & Chan, 2017; Zaidman-Zait et al., 2014). For parents raising a child with a neurodevelopmental disorder, navigating unique challenges seems to amplify family-level strain throughout childhood and thereafter (Lee et al., 2008). In particular, parents of children with autism spectrum disorder^{Footnote1} or attention-deficit hyperactivity disorder (ADHD) experience a greater degree of stress and strain compared to those of children in the general population (Hayes & Watson, 2013; Theule et al., 2013), yet little is known about differences in parenting and the household context among families raising adolescents with clinically elevated symptoms of autism, ADHD, or a combination of the two. The immediate and downstream implications of family functioning on child and parent well-being (Deater-Deckard & Panneton, 2017; Giallo et al., 2013; Johnson et al., 2011; Lansford et al., 2018; Manning et al., 2014) highlight the importance of elucidating the nuanced experiences of

parents of youth with autism and/or ADHD to best support and address these families' unique and often complex concerns and needs.

Among the many neurodevelopmental disorders, this paper focuses specifically on two: autism and ADHD. These two diagnoses are relatively common, with prevalence estimates of 1 in 54 (Maenner, 2020; Zablotzky et al., 2019) and 1 in 25 (Mohammadi et al., 2021), respectively. Moreover, autism and ADHD often co-occur with estimates of approximately 59% of children with autism also meeting criteria for ADHD (Stevens et al., 2016) and 12.5% of children with ADHD also being diagnosed with autism (Zablotzky et al., 2020). Autism and ADHD are especially interesting to consider in tandem; although their diagnostic classifications are distinct, with core symptoms of social difficulties and inattention/hyperactivity, respectively, they share some similarities. Shared features of autism and ADHD may include challenges with executive functioning (Antshel et al., 2016; Antshel & Russo, 2019), social cognition (Antshel & Russo, 2019; Mikami et al., 2019), and social interactions (Gardner & Gerdes, 2015; Marton et al., 2015; Rowley et al., 2012). Disruptive behaviors are also common among youth with autism (Kaat & Lecavalier, 2013) or ADHD (Gau et al., 2010). In addition to the core diagnostic distinctions between autism and ADHD, other potential differences include the level and common modes of therapeutic support (e.g., early behavioral intervention versus medication), as well as the origins of peer difficulties (e.g., differences described by Mikami and colleagues (2019) as the presence of negative behavior versus absence of positive behaviors) (Aduen et al., 2018; Antshel & Russo, 2019; Mikami et al., 2019). Youth with ADHD or autism also exhibit unique strengths that likely impact family functioning. For example, people with autism often display extensive knowledge of focused interests and/or have particular skills or talents (Teti et al., 2016), are often compassionate and kind (Carter et al., 2015), as well as honest and empathetic (Russell et al., 2019), and people with ADHD often excel at being creative, curious, and innovative (Climie & Mastoras, 2015; Honos-Webb, 2010).

The high co-occurrence of autism and ADHD may be understood through shared biological or environmental vulnerabilities, potentiation of one disorder by the other, or as a subtype within a heterogeneous disorder (Antshel & Russo, 2019). Importantly, the combined presentation of autism and ADHD is found to augment each of the core sets of symptoms (Ames & White, 2011; Factor et al., 2017; McVey et al., 2018). Furthermore, the co-occurrence of ADHD and autism poses greater risk for additional co-occurring disorders such as anxiety and depression (Gordon-Lipkin et al., 2018; Mansour et al., 2017), may be less responsive to treatment (Antshel et al., 2011), and can elicit greater functional challenges socially, academically, and adaptively (Rao & Landa, 2014; Yerys et al., 2019; Zajic et al., 2018). Difficulties associated with this combined presentation seem to peak during adolescence, which align with the increase in social and executive functioning demands (Hartman et al., 2016). As such, there may be a compounding effect of the two disorders that may be especially relevant in adolescence.

The presentation of ADHD and autism, and their co-occurrence, is important to consider with respect to the broader family context. Just as adolescence is an important transition period for the child, there are critical adjustments and stressors that extend to caregivers during this time, as well. Parents may experience a tension between supporting their child and helping to foster autonomy and self-determination as their child transitions into adolescence (Kobak et al., 2017; Steinberg & Silk, 2002); this may be especially true for parents raising a child with autism or ADHD. It may be, however, that some parents experience greater stress, strain, and feelings of competence than others. Differences in such parenting experiences and behaviors are not only impacted by the parent's own personality, relationships, and larger social environment, but also by characteristics of the child themselves (Belsky, 1984; Taraban & Shaw, 2018). As such, parenting and broader household experiences may be specific to their adolescent's particular clinical presentation—whether they have autism, ADHD, or features of both—due to the many shared and unique challenges and joys of raising an adolescent with a neurodevelopmental disorder. A dearth of research, however, has explored this possibility. In order to begin to close this gap, the present study sought to compare facets of parenting experiences and family functioning

across mothers of 90 adolescents with (1) autism, (2) ADHD, or (3) autism and clinically-elevated ADHD symptoms.

Parenting Stress

Parenting stress arises when demands exceed resources specific to managing childcare-related tasks; such stress can originate from factors related specifically to the child, parent, or their relationship and are often classified as such (e.g., Sheras et al., 1998). Many studies have explored stress levels of parents of youth with autism or ADHD compared to those of youth in the general population, and results have consistently identified greater stress among parents of youth with one of these disorders than those without (Hayes & Watson, 2013; Theule et al., 2013). These results, however, provide little insight into the different parenting experiences among caregivers raising a child with a neurodevelopmental disorder. While it is clear that different challenges may emerge within the parenting context for parents of youth with autism or ADHD, and thus, the origins of stress may differ across these parents, it is unclear whether the build-up of stressors may give rise to a similar or different degree of stress in either case. For parents of children with autism, top stressors include adjusting daily routines and activities (Schaaf et al., 2011; Whalen et al., 2006), navigating support systems and treatment (Zan & Scharff, 2015), experiencing affiliative stigma (i.e., internalization of stigma due to being associated or related to a stigmatized person; Mitter et al., 2019; Wong et al., 2016), and managing challenging behaviors (Goldin et al., 2013; McStay et al., 2014). While some of these stressors are certainly shared by parents of youth with ADHD (e.g., affiliative stigma; Chang et al., 2020; Charbonnier et al., 2019; Mikami et al., 2015), some may be unique or especially salient to these parents including their child's degree of impulsivity and hyperactivity (Theule et al., 2013). Therefore, given the potential presence of stressors that are unique to each disorder, the combined presentation of autism and ADHD may beget an additive effect on parenting stress.

Few studies have examined stress levels between families of youth with autism or ADHD, with inconsistent findings. Cadman and colleagues (2012) found that parents of children with autism (ages 5–9 years), reported greater parenting burden compared to parents of children with ADHD, while Hutchison and colleagues (2016) did not detect differences in parenting stress between families of youth with autism versus youth with ADHD (ages 7–18 years). A dearth of studies has examined parenting stress among families of youth with the combination of autism and ADHD (Miranda et al., 2015). In one study of children ages 5–9 years, higher levels of parenting stress were reported by parents in all clinical groups (i.e., ADHD alone, Autism alone, and Autism + ADHD) compared to parents in the general population (Miranda et al., 2015). Although no significant differences in overall parenting stress emerged among the three clinical groups, differences were evident for specific subdomains of parenting stress (Miranda et al., 2015). Within the Child Domain (i.e., stress rooted in child characteristics), parents in the Autism + ADHD group reported greater stress related to distractibility compared to the Autism alone group. Within the Parent Domain (i.e., stress driven by parental functioning), stress related to attachment was greater in the ADHD alone group compared to the Autism alone group, and stress related to depression was greater in the ADHD alone group compared to the autism alone and Autism + ADHD groups. In a sample of young children (ages 1.5–5 years) with autism, more ADHD symptoms were associated with greater levels of parenting stress (Hong et al., 2021). Thus, these studies highlight potential differences in the degree and quality of parenting stress among parents raising a child with autism, with ADHD, or features of both, yet inconsistencies in the literature and lack of evidence among adolescents warrant additional investigation.

Parenting Efficacy

While only a handful of studies has examined parenting stress between families of youth with autism or with ADHD, even fewer have compared other relevant domains of parental functioning, such as parenting efficacy. Parenting efficacy refers to beliefs about the capabilities to effectively organize, perform, and manage parenting

tasks (de Montigny & Lacharité, 2005). As with the literature on parenting stress, there is evidence to suggest that parenting efficacy is less developed on average among parents of youth with a neurodevelopmental disorder compared to those in the general population (Alizadeh et al., 2007; Primack et al., 2012; Trușescu et al., 2018; Weiss et al., 2016). It is important to note that not all families raising a child with either autism or ADHD experience low parenting efficacy; within-group variability certainly exists and may be in part related to a host of parent or child factors, as well as systemic, contextual, or environmental circumstances. For parents of youth with autism, such factors may include: parent depressive symptoms, fatigue/poor sleep quality, parenting stress or burden, older child age, problematic child behaviors, and challenging experiences with the service system (Giallo et al., 2013; Hastings & Brown, 2002; Kuhn & Carter, 2006; Rezendes & Scarpa, 2011). For parents of children with ADHD, factors impacting parenting efficacy may include: parenting stress level, perception of child problems and disturbance, and self-esteem (Mash & Johnston, 1983; Primack et al., 2012; Trușescu et al., 2018). It remains unknown, however, whether these factors and processes eventuate in equivalent or discrepant experiences of parenting efficacy across parents of children with autism and/or ADHD. Considering co-occurring autism and ADHD, Green and colleagues (2016) identified that parents of children (ages 6–10 years) with ADHD alone reported greater parenting efficacy compared to those of children with ADHD + autism. No known study of parenting efficacy, however, has compared parents of youth with autism, with ADHD, and combined autism with clinically-elevated ADHD symptoms nor focused upon adolescence.

The Household Context

For families caring for a child with autism and/or ADHD, consideration of the home environment is paramount, as a child's behaviors and parenting often occur within the broader household context. Developing and sustaining an organized, calm, and consistent home environment has been related to fewer child behavioral concerns for families of these youth, while home environments characterized by noise, instability, disorganization, and lack of structure/routines are associated with many adverse outcomes across child-, parent-, and family-level domains (see Marsh et al., 2020 for scoping review). These descriptive studies highlight that higher levels of disruption may reflect the family's attempts at coping with challenges and stressor associated with behavior problems and may not be emblematic of the families themselves. For example, a moderate level of family routine has been linked with fewer internalizing and externalizing symptoms in autism (Stoppelbein et al., 2016). Although literature is sparse, one study highlights the clear role of the home environment for youth with ADHD—among monozygotic twins, around 40% of the variance in hyperactive and inattentive symptoms was accounted for by stable environmental factors (Livingstone et al., 2016). On the other hand, greater levels of disorganization, lack of order and routine, and more family conflict have been uncovered and linked with greater conduct problems among families of youth with autism (Khanna et al., 2014; Zablotsky et al., 2015) and ADHD (Dumas et al., 2005; Pressman et al., 2006; Schroeder & Kelley, 2009). For youth with ADHD, a less supportive home environment has been associated with more ADHD symptoms (Lai et al., 2018; Mulligan et al., 2013), and the household context was found to mediate the link between ADHD symptoms and positive parenting (e.g., offering praise), with a negative association between household chaos and positive parenting (Wirth et al., 2017). Furthermore, because effects ripple throughout the family system (e.g., B. E. Johnson & Ray, 2016; Minuchin & Fishman, 1981; Papero, 1990), disruptive home environments may potentiate more family conflict, youth behavior problems, and parenting stress among families of youth with autism (Karst & Van Hecke, 2012). Despite the challenges of sustaining an ordered household for families with neurodevelopmental disorders, no literature to date has explored differences in household context (i.e., chaos and order) among families of adolescents with autism, ADHD, or a combined presentation.

Summary and Aims

Taken together, literature suggests that parents of youth with ADHD and/or autism may experience shared and unique challenges and strengths that place them at risk for higher parenting stress, lower parenting efficacy, and greater household chaos compared to families of youth in the general population. Very little research, however, has examined differences in functioning among families of youth with autism or ADHD, and with even less considering the combination of autism with ADHD symptoms. Thus, our aim was to examine differences in multiple aspects of family functioning including parenting stress, parenting efficacy, and the household context among families of youth with autism, ADHD, and autism with clinically-elevated ADHD symptoms. Significant group differences were expected, and given the potentially compounding effect of autism and ADHD symptoms (e.g., Ames & White, 2011), we hypothesized that parents youth with autism or ADHD would report lower parenting stress, greater parenting efficacy, and a less household chaos than those of youth with autism and clinically-elevated ADHD symptoms. Given the inconsistencies in the literature, and the lack of evidence exploring autism alone compared to ADHD alone, these comparisons were exploratory, and thus, no hypotheses were generated.

Method

Participants

Youth and their parents were part of two larger treatment-seeking samples presenting for participation in the Program for the Education and Enrichment of Relational Skills (PEERS[®]; Laugeson et al., 2012), a manualized social skills intervention. Although conducted at the same institution, PEERS[®] was run separately for groups of youth presenting with ADHD or autism at a midsized university in the *blinded for review*. The present study is a *post hoc* analysis of existing parent report data collected pre-intervention. Given the differences in parenting experiences between mothers and fathers of children with and without neurodevelopmental disorders (McBride et al., 2002; Van Steijn et al., 2014), only mother-report was analyzed to obtain a sufficient sample size and avoid confounding effects of parent gender and/or parenting role.

We recruited youth and their parents in each of the groups from university-based specialty clinics, referrals by mental health professionals in the immediate geographic area, or by word-of-mouth from families who had previously completed PEERS[®]. We screened interested families *via* phone or online survey. Our inclusion criteria for the youth with autism included: (1) chronological age of 11 to 16 at the time of the pretest research appointment, (2) social difficulties per parent report, (3) English speaking, (4) parent fluent in English and willing to participate, (5) no history of bipolar disorder, schizophrenia, or psychosis, (6) absence of deafness, blindness, or physical disability that would prohibit participation in the intervention, (7) a diagnosis of autism spectrum disorder, and (8) IQ of 70 or higher. Inclusion criteria for youth with ADHD included: (1) chronological age of 11 to 16 at the time of the pretest research appointment, (2) stated interest in participation, (3) youth and parent willing to attend, (4) youth and parent English speaking, (5) diagnosis of ADHD and identified social challenges, per parent report. For full details on recruitment methods and screening processes please see (Schohl et al., 2014) and (Gardner et al., 2015).

Following screening, eligible youth and their parents in each group participated in a pretest research appointment. For the autism sample, we confirmed the presence of autism with the *Autism Diagnostic Observation Schedule, Generic (ADOS-G; Lord et al., 2000)*, and a composite IQ score of ≥ 70 on the *Kaufman Brief Intelligence Test, 2nd Edition (KBIT-2; Kaufman & Kaufman, 2004)* was required. For the ADHD sample, previously established diagnoses of ADHD were confirmed *via* clinically-significant symptoms on the *Disruptive Behavior Disorders Rating Scale (DBD; Pelham et al. 1992)*, and parent- and/or youth-reported social difficulties *via* the *ADHD-FX* scale (Haack et al., 2016), a measure of functional impairment commonly associated

with ADHD. Autism was not formally assessed in the ADHD group and ADHD was not formally assessed in the autism group (see Fig. 1 for a flowchart depicting recruitment).

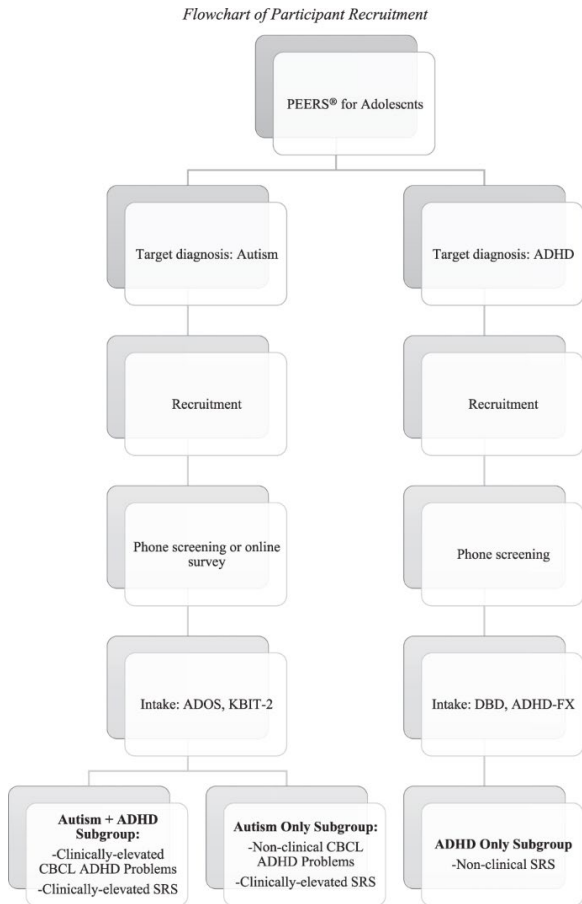


Fig. 1 Flowchart of participant recruitment

Data from youth with a primary diagnosis of autism were parsed into two groups based on the *Child Behavior Checklist (CBCL; see below) ADHD Problems* subscale’s clinical cutoff ($t \geq 65$): those without clinically-elevated ADHD (Autism group) and those with clinical levels of ADHD (Autism + ADHD group) (Fig. 1), consistent with prior research (Factor et al., 2017; McVey et al., 2018). Youth with a primary diagnosis of ADHD were identified as the ADHD group (Fig. 1). The sample was further characterized based on the *Social Responsiveness Scale (SRS; see below)* such that youth were retained in the autism groups only if they met the threshold indicative of autism on the SRS, and only youth below threshold on the SRS were retained in the ADHD group. Thus, data from a final sample of 90 youth were used for the current analyses.

Procedure

The Institutional Review Board (IRB) at *blinded for review* approved each of the larger studies prior to advertisement or data collection. Youth provided informed assent and a parent or legal guardian provided informed consent. In addition to the assessments described above, each youth and their mother completed a battery of questionnaires of child and family functioning during a two-to-three-hour pretest research appointment. Some families were mailed questionnaires in advance.

Measures

The *Stress Index for Parents of Adolescents (SIPA; Sheras et al., 1998)* was used to measure parenting stress and is an upward extension of the *Parenting Stress Index (PSI; Abidin, 1983)* intended to reflect developmental

concerns faced by adolescents and their parents. The questionnaire is indicated for youth ages 11–19 and includes 112 items; for the first 90 items, respondents indicate on a 5-point Likert scale from 1 (strongly disagree), to 5 (strongly agree) the degree to which they endorse each item. The last 22 items are related to life stress and utilize a dichotomous yes/no response. Domains assessed include the (1) *Adolescent Domain*, (2) *Parent Domain*, (3) *Adolescent-Parent Relationship Domain (APRD)*, and (4) *Life Stress (LS)* scale. Subscales within the *Adolescent Domain* reflect stress that is rooted in child related factors and include *Moodiness/Emotional Lability (MEL)*, *Social Isolation/Withdrawal (ISO)*, *Delinquency/Antisocial (DEL)*, and *Failure to Achieve or Persevere (ACH)*. Subscales within the *Parent Domain* include stress that originates from parental factors and includes *Life Restrictions (LFR)*, *Relationship with Spouse/Partner (REL)*, *Social Alienation (SOC)*, and *Incompetence/Guilt (INC)*. A Total Stress index comprises the sum of the *Parent Domain*, *Adolescent Domain*, and *APRD* scores. All item responses are summed to derive a single score, with higher scores representing greater parenting stress. The majority of subscale coefficient alphas range from 0.80 to 0.90, and the test-retest reliability coefficients range from 0.74 to 0.91 (Sheras et al., 1998). Interitem correlation for the current sample ranged from low to high for the *Adolescent Domain* composite (Cronbach's $\alpha = 0.91$) and subscales (*MEL*, $\alpha = 0.92$; *ISO*, $\alpha = 0.65$; *DEL*, $\alpha = 0.79$; *ACH*, $\alpha = 0.87$), was high for the *Parent Domain* composite ($\alpha = 0.94$) and subscales (*LFR*, $\alpha = 0.90$; relationship with spouse/partner, $\alpha = 0.89$; *SOC*, $\alpha = 0.82$; *INC*, $\alpha = 0.85$) and moderate for the *APRD* ($\alpha = 0.75$). In the normative sample, Total Stress is on average 194.3 with a standard deviation (SD) of 49.7. Subscale means and SD's from the normative sample are as follows: *MEL* 25.0 (8.8), *ISO* 19.6 (6.7), *DEL* 17.0 (7.6), *ACH* 24.0 (8.8), *LFR* 22.4 (7.3), *REL* 10.8 (7.2), *SOC* 14.1 (4.5), *INC* 19.4 (5.3), *APRD* 33.2 (10.7), *LS* 2.4 (2.2) (Sheras et al., 1998).

The *Parenting Sense of Competency Scale, Efficacy Subscale (PSOC; Johnston & Mash, 1989)* is a 7-item measure of parenting efficacy. Only the *Efficacy Subscale (PSOC-E)* was administered in the present study. Parents indicate on a 6-point Likert scale, from 1 (strongly agree) to 6 (strongly disagree), their endorsement of each item. This measure has demonstrated good interitem correlation for mothers (Lovejoy et al., 1997; Ohan et al., 2000), as well as some evidence for convergent and divergent validity (Ohan et al., 2000). Interitem correlation for the current sample was high (Cronbach's $\alpha = 0.87$).

The *Confusion Hubbub and Order Scale (CHAOS; Matheny et al. 1995)* is a 15-item questionnaire used to measure the orderliness of the home environment, including: noise, clutter, routines, and organization. Respondents indicate on a 6-point Likert scale from 1 (strongly agree) to 6 (strongly disagree) their agreement with each item. All item responses are summed to derive a single score, with higher scores representing greater levels of home disruption. The *CHAOS* has been found to demonstrate good internal consistency, test-retest reliability, and construct validity (Matheny et al., 1995). Interitem correlation for the present sample was high (Cronbach's $\alpha = 0.89$).

The *Child Behavior Checklist (CBCL; Achenbach & Rescoral, 2001)* is a parent-report of emotional and behavioral concerns that includes 118 specific problem items. Each item presents a 3-point Likert scale from 0 (not true) to 2 (very/often true). The School-Age form (Achenbach & Rescorla, 2001) is indicated for ages 6–18 and was used here. The *CBCL* uses *t* scores, with a mean of 50 and a standard deviation of 10. The *ADHD Problems* subscale was used to identify the presence of clinically-significant ADHD symptoms in the autism sample; consistent with previous studies in autism (Factor et al., 2017; McVey et al., 2018) scores of ≥ 65 , which fall in the borderline- and clinically-significant range, indicated the presence of ADHD symptoms. Interitem correlation of the *CBCL School-Age* form DSM-oriented subscales (of which the *ADHD Problems* subscale is one) has been found to be high (Cronbach's $\alpha = 0.82$) (Achenbach et al. 2003). In the present sample, interitem correlation for the *ADHD Problems* subscale was moderate (Cronbach's $\alpha = 0.76$).

The *Social Responsiveness Scale (SRS; Constantino & Gruber, 2005)* is a 65-item measure of social communication difficulties and repetitive or restricted behaviors/interests characteristic of autism symptoms.

The version used in the present study, the parent-report version of the School-Age Form, is intended for youth ages 4–18. Parents respond to items on a 4-point Likert scale from 1 (not true) to 4 (almost always true). As recommended by the manual for research purposes, raw scores were used in the present study (Constantino & Gruber, 2005). The Total Score, with higher scores indicating more autism symptoms, was employed here to explore the presence of autism symptoms across all participants. The SRS has strong psychometric properties including good reliability and validity (Constantino & Gruber, 2005). Interitem correlation for the *SRS Total Score* in the present sample was high ($\alpha = 0.92$). A raw cut-off scores of 85 is suggested for clinical samples to indicate a potential autism spectrum disorder.

Data Analytic Plan

We conducted statistical analyses using SPSS 26.0 (IBM Corp., 2019). Data were first screened for normality, impossible values, and univariate and multivariate outliers. Prior to group-level analyses, we explored differences between groups on demographic variables and autism symptoms to identify potential covariates. Additionally, descriptive statistics and correlations among outcome variables and autism features (*SRS*) were run on the entire sample. An alpha level of 0.05 was employed for hypothesis testing. To address the aims of the present study, and given the expected associations among our outcome variables, we conducted a Multivariate Analyses of Variance (MANOVA) to examine group differences (ADHD *versus* Autism *versus* Autism + ADHD) in parenting stress (*SIPA Total Parenting Stress*), parenting efficacy (*PSOC-E*), and household chaos (*CHAOS*). Box’s M was used to confirm the assumption of homogeneity of covariances. Following the omnibus MANOVAs, univariate analyses were conducted using the Benjamini-Hochberg (B-H) correction procedure (Benjamini & Hochberg, 1995) to control for family-wise error. B-H corrected *p* values were calculated as described by Yekutieli and Benjamini (1999). When the univariate tests were significant, we conducted pairwise comparisons using Tukey’s *post hoc* analyses. An exploratory MANOVA was also conducted using the *SIPA* subscales to determine which areas of stress may be driving significant group differences. Power analysis conducted in G*Power 3.1 determined that at a power of 0.80 and an alpha level of 0.05, a sample size of 51 would be necessary to detect medium effects, and a sample size of 24 to detect large effects for a MANOVA with three response variables and three groups. For our exploratory analyses with the *SIPA* (i.e., 10 response variables), it was determined that a sample size of 81 or 39 would be necessary to detect medium or large effects, respectively. Thus, we determined that we had sufficient power to detect group differences in our sample.

Results

Descriptive and Preliminary Analyses

All data were found to be normally distributed, and no univariate nor multivariate outliers were identified. Youth ranged in age from 11 to 16 years, with mean ages of 13.81 (1.53) in the Autism group and 13.33 (1.46) in the Autism + ADHD group.^{Footnote2} Demographic characteristics for the Autism, ADHD, and Autism + ADHD groups are presented in Table 1. The sample did not meaningfully differ on the majority of demographic characteristics, with the exception of the expected gender differences (i.e., for autism, the ratio of males to females identified is approximately 4 to 1, while for ADHD, the ratio is 2 to 1 for children (APA 2013)). The Autism and Autism + ADHD groups did not differ on gender ($\chi^2 (1, n = 71) = 0.57, p = 0.45$).

Table 1 Sample characteristics

<i>n</i> = 90	ADHD (<i>n</i> = 19)	Autism (<i>n</i> = 32)	Autism + ADHD (<i>n</i> = 39)	
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>p</i>
KBIT-2 Composite IQ <i>M</i> (<i>SD</i>)	N/A	104.97 (18.21)	106.51 (17.71)	0.72

ADOS-G Total <i>M(SD)</i>	N/A	11.66 (3.96)	11.74 (4.23)	0.93
SRS <i>M(SD)</i> ^{a,b}	52.74 (16.10)	113.16 (19.13)	115.00 (17.69)	<0.001
DBD Inattentive <i>M(SD)</i>	2.02 (0.78)	N/A	N/A	
DBD Hyperactive <i>M(SD)</i>	1.12 (0.82)	N/A	N/A	
CBCL ADHD Problems Subscale <i>M(SD)</i> ^c	N/A	57.69 (4.12)	69.74 (3.68)	<0.001
Gender ^{a,b}				0.01
Male	11 (57.9)	29 (90.6)	33 (84.6)	
Female	8 (42.1)	3 (9.4)	6 (15.4)	
Parents' Marital Status				0.22
Married	15 (78.9)	23 (71.9)	25 (64.1)	
Separated	0	3 (9.4)	6 (15.4)	
Unmarried	3 (15.8)	2 (6.3)	1 (2.6)	
Divorced	0	3 (9.4)	6 (15.4)	
Widowed	0	1 (3.1)	1 (2.6)	
Not reported	1 (5.3)	0	0	
Race				0.39
White	13 (68.4)	24 (75.0)	34 (87.2)	
Asian	1 (5.3)	1 (3.1)	1 (2.6)	
Black	1 (5.3)	4 (12.5)	1(2.6)	
"Other"	4 (21.1)	2 (6.3)	3 (7.7)	
Not reported	0	1 (3.1)	0	
Ethnicity				0.21
Non-Hispanic/Latinx	16 (84.2)	28 (87.5)	37 (94.9)	
Hispanic/Latinx	3 (15.8)	2 (6.3)	2 (5.1)	
Not reported	0	2 (6.3)	0	
Mother's Education				0.31
Some high school	0	1 (3.1)	1 (2.6)	
High school completion	1 (5.3)	0	3 (7.7)	
Some college/Associate's degree	2 (10.5)	13 (40.6)	8 (20.5)	
Bachelor's degree	9 (47.4)	10 (31.3)	14 (35.9)	
Graduate degree	5 (26.3)	8 (25.0)	13 (33.3)	
Not reported	2 (10.5)	0	0	
Medication Status				0.003
On medication	N/A	11 (34.4)	27 (69.2)	
Not on any medication	N/A	21 (65.6)	12 (30.8)	
ADHD Medication Status				0.001
On ADHD medication	N/A	8 (25.0)	25 (64.1)	
Not on ADHD medication	N/A	24 (75.0)	14 (35.9)	

M mean, *SD* standard deviation, *KBIT-2* Kaufman Brief Intelligence Test, 2nd Ed., *ADOS-G* autism diagnostic observation schedule generic, *DBD* disruptive behavior disorder rating scales, *CBCL* child behavior checklist

^aADHD vs. Autism

^bADHD vs. Autism + ADHD

^cAutism vs. Autism + ADHD

Table 2 Descriptives and correlations among parenting and home environment variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1. PSOC E	28.95	6.58	–												
2. CHAOS	41.99	12.08	–0.32*	–											
3. SIPA TS	223.74	40.26	–0.30*	0.71*	–										
4. SIPA MEL (A)	29.77	9.90	–0.13	0.46*	0.75*	–									
5. SIPA ISO (A)	32.64	5.96	0.09	0.14	0.34*	0.08	–								
6. SIPA DEL (A)	17.24	5.99	–0.17	0.27*	0.62*	0.66*	0.10	–							
7. SIPA ACH (A)	32.37	8.50	–0.18	0.43*	0.64*	0.44*	0.31*	0.49*	–						
8. SIPA LFR (P)	23.36	8.27	–0.04	0.49*	0.71*	0.47*	0.15	0.29*	0.25*	–					
9. SIPA REL (P)	20.66	7.53	–0.13	0.48*	0.66*	0.34*	0.13	0.17	0.17	0.62*	–				
10. SIPA SOC (P)	13.93	4.78	–0.15	0.53*	0.59*	0.29*	0.09	0.06	0.12	0.43*	0.47*	–			
11. SIPA INC (P)	20.33	5.90	–0.49*	0.60*	0.61*	0.23*	0.06	0.11	0.29*	0.27*	0.41*	0.58*	–		
12. SIPA APRD	33.33	6.84	–0.43*	0.45*	0.62*	0.30*	0.04	0.27*	0.29*	0.29*	0.31*	0.39*	0.59*	–	
13. SIPA LS	2.80	2.32	0.15	0.19	0.24*	0.26*	0.37*	0.13	0.18	0.34*	0.15	–0.05	–0.11	–0.08	–
14. SRS	100.91	30.94	0.10	–0.14	–0.01	–0.01	0.33*	–0.08	–0.13	0.06	–0.01	0.02	–0.13	–0.10	0.23*

M mean, *SD* standard deviation, *PSOC E* parent sense of efficacy, *CHAOS* confusion hubbub and order scale, *SIPA* stress index for parents of adolescents, *TS* total stress, *APRD* adolescent–parent relationship domain, *MEL* moodiness/emotional lability, *ISO* social isolation/withdrawal, *DEL* delinquency/antisocial, *ACH* failure to achieve or persevere, *LFR* life restrictions, *REL* relationship with spouse/partner, *SOC* social alienation, *INC* incompetence/guilt, *LS* life stress, (A) adolescent domain, (P) parent domain, *SRS* social responsiveness scale
* = significant at an alpha level of 0.05

Correlations revealed that greater overall parenting stress (*SIPA TS*) was associated with lesser parenting efficacy (*PSOC-E*) and higher household chaos (*CHAOS*); greater household chaos was associated with lesser parenting efficacy (Table 2). At the subscale level, parenting stress variables appeared more strongly related to one another within domain (i.e., Parent or Adolescent) than across domains. Parenting efficacy was unrelated to most subscales within stress domains, with the exceptions of negative associations with the *DEL Adolescent Domain* subscale and *INC Parent Domain* subscale (Table 2). Additionally, examination of relations between autism features (*SRS*) and our variables of interest revealed few significant associations. More autism features were significantly related to higher levels of two stress subscales: *ISO* and *LS*. Inspection of overall parenting stress (*SIPA TS*) revealed a high level of parenting stress such that 77.78% of the entire sample was above the normative sample average (i.e., $M = 194.3$). A total of 92.3% of the Autism + ADHD group ($n = 36$), 84.2% of the ADHD only group ($n = 16$), and 56.25% of the Autism only group ($n = 18$) were above the normative sample average.

Group Differences: Parenting Stress, Parenting Efficacy, and Household Chaos

Covariances of the dependent variables were found to be equal across groups, as Box's M ($F(12,15541.81) = 10.44, p = 0.63$) was not significant. Results of the omnibus MANOVA indicated a significant main effect of Group for a linear combination of parenting stress (*SIPA TS*), parenting efficacy (*PSOC-E*), and household context (*CHAOS*) (Wilks' Lambda = 0.80; $F(6,156) = 3.13, p < 0.01$). See Table 3. At the univariate level, a significant Group effect emerged for all three outcome variables with the B-H correction. In terms of parenting stress (*SIPA TS*), Tukey's *post hoc* tests revealed that the Autism group exhibited significantly lower parenting stress than the Autism + ADHD (p 's < 0.01) group, while the ADHD group did not significantly differ from either the Autism or Autism + ADHD groups (p 's > 0.05) (Fig. 2). For parenting efficacy (*PSOC-E*), Tukey's *post hoc* tests indicated that the Autism group was significantly higher on parenting efficacy than the ADHD group ($p = 0.04$), while the Autism + ADHD group was not significantly different from either the Autism ($p = 0.25$) or the ADHD group ($p = 0.67$) (Fig. 3). A similar pattern emerged in terms of household context (*CHAOS*) such that Tukey's *post hoc* tests revealed that the Autism group exhibited significantly more household order (i.e., less home disruption) than the ADHD ($p = 0.01$) group, and the Autism + ADHD group was not significantly different from either the Autism ($p = 0.25$) or the ADHD group ($p = 0.67$) (Fig. 4).

Table 3 Group differences in parenting and household chaos

Variables	ADHD <i>M(SD)</i>	Autism <i>M(SD)</i>	Autism + ADHD <i>M(SD)</i>	<i>F</i>	<i>bh-p</i>	η_p^2
PSOC Efficacy ^a	26.56 (7.69)	31.23 (5.19)	28.69 (6.68)	3.14*	0.05	0.07
CHAOS ^a	45.94 (11.02)	37.02 (10.57)	43.83 (12.87)	4.15*	0.03	0.09
SIPA Total Stress ^c	226.72 (39.12)	204.70 (38.42)	237.51 (37.09)	6.11*	0.01	0.13
SIPA APRD	35.33 (8.22)	32.48 (6.11)	33.29 (6.99)	0.94	0.40	0.02
SIPA LS	2.33 (1.94)	2.48 (1.96)	3.50 (2.67)	2.21	0.19	0.05
SIPA Adolescent-Domain Subscales						
SIPA MEL ^c	31.72 (8.04)	25.00 (9.64)	33.03 (10.08)	6.03*	0.02	0.13
SIPA ISO	30.22 (6.75)	32.97 (5.69)	34.18 (5.45)	2.70	0.15	0.07
SIPA DEL	18.94 (6.73)	15.03 (5.14)	18.21 (6.06)	3.23	0.11	0.08
SIPA ACH ^{a,c}	36.22 (7.53)	27.72 (8.51)	34.71 (7.08)	9.03*	0.00	0.19
SIPA Parent-Domain Subscales						
SIPA LFR ^c	21.89 (7.54)	20.28 (7.10)	26.38 (8.99)	4.82*	0.04	0.11
SIPA REL	20.06 (4.32)	19.45 (7.51)	22.38 (8.88)	1.28	0.31	0.03
SIPA SOC	12.61 (2.57)	13.31 (4.76)	14.92 (5.36)	1.71	0.27	0.04
SIPA INC	22.28 (5.61)	19.34 (5.41)	20.12 (6.19)	1.46	0.30	0.04

bh-p Benjamini-Hochberg corrected *p* value. Bolded values are at least 1 SD above the normative sample mean

M mean, *SD* standard deviation, *SIPA* stress index for parents of adolescents, *APRD* adolescent–parent relationship domain, *MEL* moodiness/emotional lability, *ISO* social isolation/withdrawal, *DEL* delinquency/antisocial, *ACH* failure to achieve or persevere, *LFR* life restrictions; *REL* relationship with spouse/partner, *SOC* social alienation, *INC* incompetence/guilt, *LS* life stress, *PSOC* parent sense of competency, *CHAOS* confusion hubbub and order scale

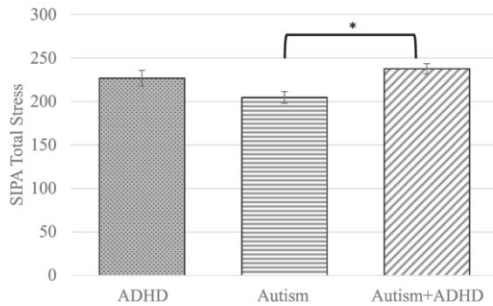
* = significant univariate difference after Benjamini-Hochberg correction at an alpha of 0.05

^aADHD vs. Autism

^bADHD vs. Autism + ADHD

^cAutism vs. Autism + ADHD

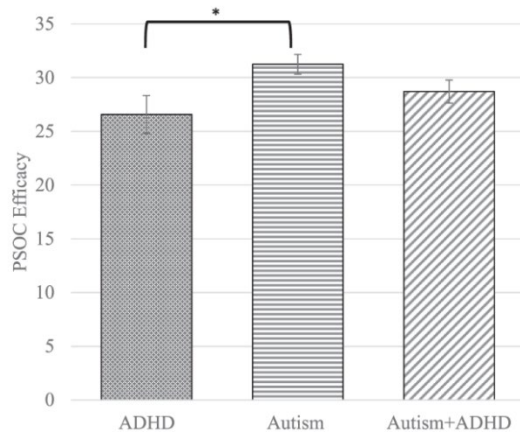
Group Differences in Parenting Stress



Note. SIPA = Stress Index for Parents of Adolescents; * = significant Tukey's *post hoc* test results

Fig. 2 Group differences in parenting stress. Note. SIPA stress index for parents of adolescents; * = significant Tukey's *post hoc* test results

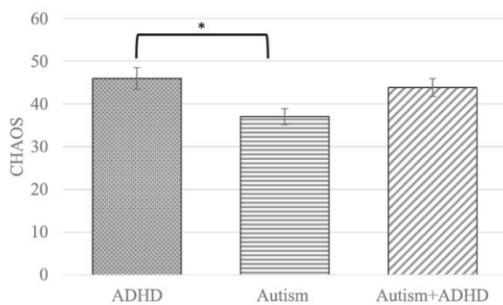
Group Differences in Parenting Efficacy



Note. PSOC = Parent Sense of Competency; * = significant Tukey's *post hoc* test results

Fig. 3 Group differences in parenting efficacy. Note. PSOC parent sense of competency; * = significant Tukey's *post hoc* test results

Group Differences in Household Chaos



Note. CHAOS = Confusion Hubbub and Order Scale; * = significant Tukey's *post hoc* test results

Fig. 4 Group differences in household chaos. Note. CHAOS confusion Hubbub and order scale; * = significant Tukey's *post hoc* test results

Exploratory Analyses: Group Differences in Parenting Stress Subscales

A MANOVA indicated a significant main effect of Group for a linear combination of the parenting stress subscales (Wilks' Lambda = 0.57; $F(20,138) = 2.24, p < 0.01$). See Table 3. Univariate analyses with the B-H correction indicated a significant Group difference for two *Adolescent Domain* subscales including the *MEL* and *ACH* subscales as well as one *Parent Domain* Subscales, the *LFR*. Across all three subscales, the Autism group exhibited significantly lower parenting stress than the Autism + ADHD (p 's < 0.05) group, while the

ADHD group did not significantly differ from either the Autism or Autism + ADHD group (p 's > 0.05). Additionally, for the *ACH* subscale, the Autism group was lower than the ADHD group (p < 0.05).

Discussion

We explored three domains of parenting and family functioning among mothers of youth with neurodevelopmental disorders including those with autism, ADHD, and autism and clinically-elevated ADHD symptoms. Our hypotheses were partially supported, such that findings demonstrated significant differences in parenting stress, parenting efficacy, and household context among these clinical groups; the pattern of differences, however, varied across measures.

Parenting Stress

Parenting stress can stem from the adolescent, parent, or the parent-child relationship (Abidin, 1990; Sheras et al., 1998), and the *SIPA* was designed to consider each of these domains (Sheras et al., 1998). As evidenced by the current study's results, the unique impact of having a child with a neurodevelopmental disorder on parental and family functioning seems to depend on the child's symptom presentation (i.e., autism, ADHD, autism with ADHD) and specific root of parenting stress. Our hypothesis that the combination of autism and ADHD symptoms would be related to a higher level of stress was partially supported. That is, the Autism + ADHD group had overall higher stress levels compared to the Autism alone group, but the Autism + ADHD group was not significantly different from the ADHD alone group. A relatively similar pattern was evident for two of the *Adolescent Domain* subscales (*ACH* and *MEL*) and one *Parent Domain* subscale (*LFR*). These results mirror some findings related to child-domain parenting stress for school-aged children (Miranda et al., 2015) and total parenting stress among toddlers and preschoolers (Hong et al., 2021). Relatedly, there is some evidence to suggest that societal judgements implicating parenting as a cause of behaviors exhibited by children with ADHD or autism (Olaniyan et al., 2007) can become internalized (Liao et al., 2019; Mikami et al., 2015), yielding increased parental distress (Charbonnier et al., 2019). For example, parents of children with ADHD have expressed concern that their child will be labeled a "bad kid" and in turn they will be labeled as "bad parents" (DosReis et al., 2010), and that parents of youth with autism often feel blamed for their child's disorder and negatively judged for their parenting (Salleh et al., 2020). Our findings may suggest that parents raising a child with autism and ADHD symptoms may experience an additive effect of courtesy and affiliative stigma related to each disorder. Thus, collectively, our findings add to the growing body of literature suggesting that the demands and effects of parenting an child with autism and ADHD symptoms may be compounding, resulting in greater stress levels compared to raising a child with autism alone.

Notably, the pattern of parent-domain parenting stress previously identified in a school-aged sample (Miranda et al., 2015) differed from our findings in this sample of adolescents. That is, the previous study identified that two domains of parent-domain parenting stress (Attachment and Depression) were most elevated in the ADHD alone group, while in our study, the only parent-domain subscale that differed among the groups (*LFR*) was highest in the combined Autism + ADHD group. These discrepant findings may be related to potential developmental changes in parenting stress across time or differences in measurement tools (i.e., *PSI* versus *SIPA*). Considering that collapsing across the autism and autism with ADHD symptoms groups would likely mask many of the observed group differences, perhaps speaking to some of the inconsistencies in the previous literature (e.g., Cadman et al., 2012; Hutchison et al., 2016), parsing apart co-occurring ADHD symptoms in autism might better capture differences in parenting stress.

Parenting Efficacy

In terms of parenting efficacy, mothers from the Autism alone group reported higher levels of parenting efficacy than those of the ADHD alone group. Although not significant, the autism group was also higher than the

Autism + ADHD group. This pattern is distinct from that identified among school aged children, which found that parents of children with ADHD had higher parenting efficacy than an ADHD + autism group (Green et al., 2016), potentially suggesting developmentally-based changes in parenting efficacy. It may be that parents continue to struggle to successfully manage behaviors commonly associated with ADHD in their child (e.g., impulsivity, hyperactivity, disorganization) and, in turn, experience a decreased sense of efficacy over time and into adolescence. Furthermore, it may be that parenting efficacy is less strained in the context of autism-related behaviors (e.g., social challenges and restricted/repetitive behaviors) compared to ADHD-related behaviors. It has been suggested that perceiving children's behaviors as uncontrollable or unintentional can be protective against depletions in parenting efficacy (Ohan et al., 2000); perhaps, parents consider ADHD-related behaviors to be more deliberate or intentional than symptoms associated with autism, especially in adolescence. Relatedly, it is possible that societal critiques and questioning of the legitimacy of ADHD as a disorder (Quinn & Lynch, 2016) may give rise to parental concerns that their child's behavior is attributable to poor parenting, in turn dampening parenting efficacy.

Household Context

Results revealed significant differences in household context between mothers of youth with autism and clinically elevated ADHD compared to those with autism alone. That is, the Autism group exhibited a significantly higher level of household order (i.e., lower household chaos) than the ADHD group; the combined Autism + ADHD group's estimated household order/chaos was not significantly different than either the Autism or ADHD alone groups. This pattern of results is consistent with those observed in parenting efficacy, perhaps suggesting convergence or overlap between the two. Evidence indicates that a high level of hyperactivity, impulsivity, and inattention leads to a disruptive home environment, which prompts parents to use more corporal punishment, inconsistent discipline strategies, and less positive parenting (Wirth et al., 2017). Such parenting strategies are likely less effective, which in turn, may cause parents to feel less capable and equipped to handle parenting tasks (i.e., lower parenting efficacy). Additionally, the reverse may also be true; that is, lower parenting efficacy may lead to less effective parenting that perpetuates a chaotic household. Given that greater home disruption sets the stage for a more challenging context in which to provide warm, sensitive parenting (Wirth et al., 2017), create a supportive environment (Lai et al., 2018), and promote positive child outcomes (Mulligan et al., 2013), overall household functioning and stability is a critical consideration for these families, especially those raising an adolescent with ADHD.

Limitations and Future Directions

Although this study begins to close an important gap in the literature, it is not without its limitations. While one strength of this study is the comparison between multiple clinical groups, the lack of a neurotypical sample and normative data on the *PSOC-E* and *CHAOS* limits the interpretation of these findings. Although suspected based on existing literature (e.g., Hayes & Watson, 2013; Theule et al., 2013), and in comparison to available *SIPA* normative data (i.e., average *SIPA* scores were generally higher on all subscales and over 1 SD higher on *Isolation/Withdrawal*, *Failure to Achieve or Persevere*, and *Relationship with Spouse/partner*), it is unknown whether these scores are significantly different than a neurotypical sample and would be beneficial for future research to examine. Additionally, although the present study considers multiple domains of parenting and family functioning, parenting behaviors, parent-child interaction styles, and parenting competency satisfaction were not measured. Given the direct implications of parenting behaviors for children's cognitive, social, and emotional development (e.g., Treyvaud et al., 2009), future studies may benefit from assessing parenting behavior (e.g., parental warmth) in addition to the variables included in this study. Additionally, while this study points to group differences in parenting and family functioning among these families, exploring specific predictors of these outcomes within a process framework (e.g., including other dyadic relationships such as marital functioning) may be a logical next step. Relatedly, while we were able to determine that autism

features were generally unrelated to our measures of interest, additional exploration of associations with adolescent factors such as ADHD severity, adaptive functioning, and problematic behaviors may be fruitful for future studies. The current sample was composed primarily of White, highly educated, married mothers, and we did not measure mothers' gender identity or sexual orientation. A more diverse sample, in terms of racial/ethnic, social class, relationship status, gender, and sexuality would better represent the families that may be most affected by these stressors (Gould et al., 2018). The IQ range of the sample is also limited to those without intellectual disability, and therefore results may not be representative of youth with lower IQ. Additionally, the sample was a treatment-seeking sample, and therefore, while it may not be generalizable to all families raising a child with autism or with ADHD, it represents an important majority of parents who seek treatment for their child (Danielson et al., 2018; Xu et al., 2019) at a time in which distress is likely to be elevated (e.g., Angst et al., 2010). It is noteworthy, however, that it may be less common for adolescents with ADHD to enroll in social skills interventions compared to adolescents with autism; thus, our ADHD sample may be less representative of all families raising an adolescent with ADHD. The diagnostic characterization of the ADHD sample could also have been bolstered by additional direct testing, and the medication status of these youth is also unknown. Lastly, the measures here were limited to mother-report and, thus, due to potential bias from shared methods variance, additional information from other informants, such as adolescents, fathers, and/or third-party observers would enrich these findings.

Conclusion and Implications

Findings from the present study revealed different family experiences between mothers of youth with varying neurodevelopmental disorders (i.e., autism, ADHD, and autism with clinically elevated ADHD), which have important implications for research and clinical practice. These results highlight the importance of considering the unique experiences of families of youth with various neurodevelopmental presentations as well as specific domains of family functioning. Previous literature on families of youth with autism or with ADHD have often overlooked co-occurring presentations, focusing solely on one diagnosis. Thus, in order to most accurately capture family-level differences for these families, consideration of co-occurring symptomatology is critical. The importance of accounting for co-occurring symptoms might also extend to research examining other domains of functioning (e.g., school, peers, etc.). Additionally, given that the pattern of findings differed across our outcomes (i.e., stress versus efficacy), continued exploration of specific areas of parenting and family functioning, and how these areas interact, will be important.

Clinically, given the higher levels of parenting stress found for mothers of youth with both autism and ADHD compared to those with autism alone, intervention aimed at addressing behavioral problems, such as aggression and difficulty following directions, would likely be beneficial for these families. Youth with ADHD as a primary diagnosis often receive behavioral parent training, an evidenced based treatment for ADHD (Lee et al., 2012), and youth where autism is primary are more likely to receive a social skills intervention; it might be that families of youth with co-occurring autism and clinically-elevated ADHD would benefit the most from receiving both social skills and behavioral parent training interventions to most effectively improve youth, parent, and family functioning (Antshel et al., 2016). Additionally, considering the lower levels of parenting efficacy and household order among caregivers of adolescents with ADHD, these domains may be particularly important for clinicians to attend to in treatment for these families. Moreover, given that parent functioning can have implications for the efficacy of treatment for children with autism or with ADHD (e.g., Jiang et al., 2014; Osborne et al., 2008), it is important for clinicians to carefully consider family-level domains in order to identify and make appropriate treatment recommendations that leverage families' strengths and that are sensitive to family stressors. Focusing solely on one diagnosis, be it autism or ADHD, in research and clinical practice may limit providers' understanding of how co-occurring presentations uniquely affect the quality of life for youth and their families,

and therefore, consideration of co-occurring diagnoses may be especially important for promoting positive outcomes for these families.

Notes

1. The phrase “with autism” is used to refer to adolescents with diagnoses of autism spectrum disorder. Person-first language is used in this paper upon the journal’s request.
2. The IRB for the larger ADHD study has been closed and, thus, since de-identified data were analyzed here, ages of those youth were unavailable.

References

- Abidin, R. R. (1990). Introduction to the special issue: the stresses of parenting. *Journal of Clinical Child Psychology, 19*(4), 298–301.
- Abidin, R. R. (1983). *Parenting Stress Index: Manual, Administration Booklet, [and] Research Update*.
- Achenbach, T. M., Dumenci, L., & Rescorla, L. A. (2003). DSM-oriented and empirically based approaches to constructing scales from the same item pools. *Journal of Clinical Child and Adolescent Psychology, 32*(3), 328–340.
- Achenbach, T. M., & Rescorla, L. (2001). ASEBA school-age forms & profiles. Aseba Burlington, VT.
- Aduen, P. A., Day, T. N., Kofler, M. J., Harmon, S. L., Wells, E. L., & Sarver, D. E. (2018). Social problems in ADHD: Is it a skills acquisition or performance problem? *Journal of Psychopathology and Behavioral Assessment, 40*(3), 440–451.
- Alizadeh, H., Applequist, K. F., & Coolidge, F. L. (2007). Parental self-confidence, parenting styles, and corporal punishment in families of ADHD children in Iran. *Child Abuse & Neglect, 31*(5), 567–572.
- Ames, C. S., & White, S. J. (2011). Brief report: are ADHD traits dissociable from the autistic profile? Links between cognition and behaviour. *Journal of Autism and Developmental Disorders, 41*(3), 357–363.
- Angst, J., Gamma, A., Clarke, D., Ajdacic-Gross, V., Rössler, W., & Regier, D. (2010). Subjective distress predicts treatment seeking for depression, bipolar, anxiety, panic, neurasthenia and insomnia severity spectra. *Acta Psychiatrica Scandinavica, 122*(6), 488–498.
- Antshel, K. M., & Russo, N. (2019). Autism spectrum disorders and ADHD: overlapping phenomenology, diagnostic issues, and treatment considerations. *Current Psychiatry Reports, 21*(5), 34.
- Antshel, K. M., Zhang-James, Y., Wagner, K. E., Ledesma, A., & Faraone, S. V. (2016). An update on the comorbidity of ADHD and ASD: a focus on clinical management. *Expert Review of Neurotherapeutics, 16*(3), 279–293.
- Antshel, K. M., Polacek, C., McMahon, M., Dygert, K., Spenceley, L., Dygert, L., Miller, L., & Faisal, F. (2011). Comorbid ADHD and anxiety affect social skills group intervention treatment efficacy in children with autism spectrum disorders. *Journal of Developmental & Behavioral Pediatrics, 32*(6), 439–446.
- Association, A. P. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®) (Fifth Edit)*. American Psychiatric Publishing.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83–96.
- Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: a practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society: Series B (Methodological), 57*(1), 289–300.
- Cadman, T., Eklund, H., Howley, D., Hayward, H., Clarke, H., Findon, J., Xenitidis, K., Murphy, D., Asherson, P., & Glaser, K. (2012). Caregiver burden as people with autism spectrum disorder and attention-deficit/hyperactivity disorder transition into adolescence and adulthood in the United Kingdom. *Journal of the American Academy of Child & Adolescent Psychiatry, 51*(9), 879–888.
- Carter, E. W., Boehm, T. L., Biggs, E. E., Annandale, N. H., Taylor, C. E., Loock, A. K., & Liu, R. Y. (2015). Known for my strengths: positive traits of transition-age youth with intellectual disability and/or autism. *Research and Practice for Persons with Severe Disabilities, 40*(2), 101–119.

- Chang, C.-C., Chen, Y.-M., Liu, T.-L., Hsiao, R. C., Chou, W.-J., & Yen, C.-F. (2020). Affiliate stigma and related factors in family caregivers of children with attention-deficit/hyperactivity disorder. *International Journal of Environmental Research and Public Health*, *17*(2), 576.
- Charbonnier, E., Caparos, S., & Trémolière, B. (2019). The role of mothers' affiliate stigma and child's symptoms on the distress of mothers with ADHD children. *Journal of Mental Health*, *28*(3), 282–288.
- Climie, E. A., & Mastoras, S. M. (2015). ADHD in schools: adopting a strengths-based perspective. *Canadian Psychology/Psychologie Canadienne*, *56*(3), 295.
- Constantino, J. N., & Gruber, C. P. (2005). *Social Responsiveness Scale (SRS)*. Western Psychological Services.
- Daniel, E., Madigan, S., & Jenkins, J. (2016). Paternal and maternal warmth and the development of prosociality among preschoolers. *Journal of Family Psychology*, *30*(1), 114.
- Danielson, M. L., Bitsko, R. H., Ghandour, R. M., Holbrook, J. R., Kogan, M. D., & Blumberg, S. J. (2018). Prevalence of parent-reported ADHD diagnosis and associated treatment among US children and adolescents 2016. *Journal of Clinical Child & Adolescent Psychology*, *47*(2), 199–212.
- Deater-Deckard, K. (2008). *Parenting stress*. Yale University Press.
- Deater-Deckard, K. D., & Panneton, R. (2017). *Parental Stress and Early Child Development*. Springer.
- DosReis, S., Barksdale, C. L., Sherman, A., Maloney, K., & Charach, A. (2010). Stigmatizing experiences of parents of children with a new diagnosis of ADHD. *Psychiatric Services*, *61*(8), 811–816.
- Dumas, J. E., Nissley, J., Nordstrom, A., Smith, E. P., Prinz, R. J., & Levine, D. W. (2005). Home chaos: sociodemographic, parenting, interactional, and child correlates. *Journal of Clinical Child and Adolescent Psychology*, *34*(1), 93–104.
- Factor, R. S., Ryan, S. M., Farley, J. P., Ollendick, T. H., & Scarpa, A. (2017). Does the presence of anxiety and ADHD symptoms add to social impairment in children with autism spectrum disorder? *Journal of Autism and Developmental Disorders*, *47*(4), 1122–1134. <https://doi.org/10.1007/s10803-016-3025-9>.
- Gardner, D. M., & Gerdes, A. C. (2015). A review of peer relationships and friendships in youth with ADHD. *Journal of Attention Disorders*, *19*(10), 844–855.
- Gardner, D. M., Gerdes, A. C., & Weinberger, K. (2015). Examination of a parent-assisted, friendship-building program for adolescents with ADHD. *Journal of Attention Disorders*, 1087054715588188.
- Gau, S. S.-F., Ni, H.-C., Shang, C.-Y., Soong, W.-T., Wu, Y.-Y., Lin, L.-Y., & Chiu, Y.-N. (2010). Psychiatric comorbidity among children and adolescents with and without persistent attention-deficit hyperactivity disorder. *Australian & New Zealand Journal of Psychiatry*, *44*(2), 135–143.
- Giallo, R., Wood, C. E., Jellett, R., & Porter, R. (2013). Fatigue, wellbeing and parental self-efficacy in mothers of children with an autism spectrum disorder. *Autism*, *17*(4), 465–480.
- Goldin, R. L., Matson, J. L., Tureck, K., Cervantes, P. E., & Jang, J. (2013). A comparison of tantrum behavior profiles in children with ASD, ADHD and comorbid ASD and ADHD. *Research in Developmental Disabilities*, *34*(9), 2669–2675.
- Gordon-Lipkin, E., Marvin, A. R., Law, J. K., & Lipkin, P. H. (2018). Anxiety and mood disorder in children with autism spectrum disorder and ADHD. *Pediatrics*, *141*(4), e20171377.
- Gould, K. L., Coventry, W. L., Olson, R. K., & Byrne, B. (2018). Gene-environment interactions in ADHD: the roles of SES and chaos. *Journal of Abnormal Child Psychology*, *46*(2), 251–263.
- Green, J. L., Rinehart, N., Anderson, V., Efron, D., Nicholson, J. M., Jongeling, B., Hazell, P., & Sciberras, E. (2016). Association between autism symptoms and family functioning in children with attention-deficit/hyperactivity disorder: a community-based study. *European Child & Adolescent Psychiatry*, *25*(12), 1307–1318.
- Haack, L. M., Gerdes, A. C., Lawton, K. E., & Schneider, B. W. (2016). Understanding and measuring functional impairment in diverse children with ADHD: Development of the ADHD-FX Scale with an at-risk, community sample. *Journal of Attention Disorders*, *20*(6), 487–500.
- Haack, L. M., Gerdes, A. C., Lawton, K. E., & Schneider, B. W. (2016). Understanding and measuring functional impairment in diverse children with ADHD: development of the ADHD-FX Scale with an at-risk, community sample. *Journal of Attention Disorders*, *20*(6), 487–500.

- Hartman, C. A., Geurts, H. M., Franke, B., Buitelaar, J. K., & Rommelse, N. N. J. (2016). Changing ASD-ADHD symptom co-occurrence across the lifespan with adolescence as crucial time window: illustrating the need to go beyond childhood. *Neuroscience & Biobehavioral Reviews*, *71*, 529–541.
- Hastings, R. P., & Brown, T. (2002). Behavior problems of children with autism, parental self-efficacy, and mental health. *American Journal on Mental Retardation*, *107*(3), 222–232.
- 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.
- Hong, J. S., Singh, V., & Kalb, L. (2021). Attention Deficit Hyperactivity Disorder Symptoms in Young Children with Autism Spectrum Disorder. *Autism Research*, *14*(1), 182–192. <https://doi.org/10.1002/aur.2414>.
- Honos-Webb, L. (2010). *The gift of ADHD: how to transform your child's problems into strengths*. New Harbinger Publications.
- Hutchison, L., Feder, M., Abar, B., & Winsler, A. (2016). Relations between parenting stress, parenting style, and child executive functioning for children with ADHD or autism. *Journal of Child and Family Studies*, *25*(12), 3644–3656.
- IBM Corp. (2019). IBM SPSS Statistics for Mac, Version 26.0. IBM Corp.
- Jiang, Y., Gurm, M., & Johnston, C. (2014). Child impairment and parenting self-efficacy in relation to mothers' views of ADHD treatments. *Journal of Attention Disorders*, *18*(6), 532–541.
- Johnson, N., Frenn, M., Feetham, S., & Simpson, P. (2011). Autism spectrum disorder: parenting stress, family functioning and health-related quality of life. *Families, Systems, & Health*, *29*(3), 232.
- Johnson, B. E., & Ray, W. A. (2016). Family systems theory. *Encyclopedia of Family Studies*, 1–5.
- Johnston, C., & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology*, *18*(2), 167–175.
- Kaat, A. J., & Lecavalier, L. (2013). Disruptive behavior disorders in children and adolescents with autism spectrum disorders: a review of the prevalence, presentation, and treatment. *Research in Autism Spectrum Disorders*, *7*(12), 1579–1594.
- Karst, J. S., & Van Hecke, A. V. (2012). Parent and family impact of autism spectrum disorders: A review and proposed model for intervention evaluation. *Clinical Child and Family Psychology Review*, *15*(3), 247–277.
- Kaufman, A. S., & Kaufman, N. L. (2004). Kaufman Brief Intelligence Test, Second Edition (KBIT-2). Pearson
- Khanna, R., Jariwala-Parikh, K., West-Strum, D., & Mahabaleshwar, R. (2014). Health-related quality of life and its determinants among adults with autism. *Research in Autism Spectrum Disorders*, *8*(3), 157–167.
- Kobak, R., Abbott, C., Zisk, A., & Bounoua, N. (2017). Adapting to the changing needs of adolescents: parenting practices and challenges to sensitive attunement. *Current Opinion in Psychology*, *15*, 137–142.
- Kuhn, J. C., & Carter, A. S. (2006). Maternal self-efficacy and associated parenting cognitions among mothers of children with autism. *American Journal of Orthopsychiatry*, *76*(4), 564–575.
- Lai, W. W., O'Mahony, M., & Mulligan, A. (2018). The Home Observation Measure of the Environment is associated with symptoms of ADHD and oppositionality in a CAMHS sample. *Clinical Child Psychology and Psychiatry*, *23*(4), 503–513.
- Lansford, J. E., Godwin, J., Al-Hassan, S. M., Bacchini, D., Bornstein, M. H., Chang, L., Chen, B.-B., Deater-Deckard, K., Di Giunta, L., & Dodge, K. A. (2018). Longitudinal associations between parenting and youth adjustment in twelve cultural groups: cultural normativeness of parenting as a moderator. *Developmental Psychology*, *54*(2), 362.
- Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: The UCLA PEERS program. *Journal of Autism and Developmental Disorders*, *42*(6), 1025–1036.
- Laursen, B., & Collins, W. A. (2009). Parent—child relationships during adolescence. *Handbook of Adolescent Psychology*.
- Lee, L.-C., Harrington, R. A., Louie, B. B., & Newschaffer, C. J. (2008). Children with autism: quality of life and parental concerns. *Journal of Autism and Developmental Disorders*, *38*(6), 1147–1160.

- Lee, P., Niew, W., Yang, H., Chen, V. C., & Lin, K. (2012). A meta-analysis of behavioral parent training for children with attention deficit hyperactivity disorder. *Research in Developmental Disabilities, 33*(6), 2040–2049.
- Liao, X., Lei, X., & Li, Y. (2019). Stigma among parents of children with autism: a literature review. *Asian Journal of Psychiatry, 45*, 88–94.
- Livingstone, L. T., Coventry, W. L., Corley, R. P., Willcutt, E. G., Samuelsson, S., Olson, R. K., & Byrne, B. (2016). Does the environment have an enduring effect on ADHD? A longitudinal study of monozygotic twin differences in children. *Journal of Abnormal Child Psychology, 44*(8), 1487–1501.
- Lord, C., Risi, S., Lambrecht, L., Cook, E. H., Leventhal, B. L., DiLavore, P. C., Pickles, A., & Rutter, M. (2000). The Autism Diagnostic Observation Schedule—Generic: A standard measure of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders, 30*(3), 205–223.
- Lovejoy, M. C., Verda, M. R., & Hays, C. E. (1997). Convergent and discriminant validity of measures of parenting efficacy and control. *Journal of Clinical Child Psychology, 26*(4), 366–376.
- Maenner, M. J. (2020). Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years—Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2016. *MMWR. Surveillance Summaries, 69*(4), 1–12.
- Manning, L. G., Davies, P. T., & Cicchetti, D. (2014). Interparental violence and childhood adjustment: How and why maternal sensitivity is a protective factor. *Child Development, 85*(6), 2263–2278.
- Mansour, R., Dovi, A. T., Lane, D. M., Loveland, K. A., & Pearson, D. A. (2017). ADHD severity as it relates to comorbid psychiatric symptomatology in children with Autism Spectrum Disorders (ASD). *Research in Developmental Disabilities, 60*, 52–64.
- Marsh, S., Dobson, R., & Maddison, R. (2020). The relationship between household chaos and child, parent, and family outcomes: a systematic scoping review. *BMC Public Health, 20*, 1–27.
- Marton, I., Wiener, J., Rogers, M., & Moore, C. (2015). Friendship characteristics of children with ADHD. *Journal of Attention Disorders, 19*(10), 872–881.
- Mash, E. J., & Johnston, C. (1983). Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress in younger and older hyperactive and normal children. *Journal of Consulting and Clinical Psychology, 51*(1), 86.
- Matheny, A. P., Wachs, T. D., Ludwig, J. L., & Phillips, K. (1995). Bringing order out of chaos: Psychometric characteristics of the confusion, hubbub, and order scale. *Journal of Applied Developmental Psychology, 16*(3), 429–444.
- McBride, B. A., Schoppe, S. J., & Rane, T. R. (2002). Child characteristics, parenting stress, and parental involvement: fathers versus mothers. *Journal of Marriage and Family, 64*(4), 998–1011.
- McStay, R. L., Dissanayake, C., Scheeren, A., Koot, H. M., & Begeer, S. (2014). Parenting stress and autism: the role of age, autism severity, quality of life and problem behaviour of children and adolescents with autism. *Autism, 18*(5), 502–510.
- McVey, A. J., Schiltz, H. K., Haendel, A. D., Dolan, B. K., Willar, K. S., Pleiss, S. S., Karst, J. S., Carlson, M., Krueger, W., & Murphy, C. C. (2018). Social difficulties in youth with autism with and without anxiety and ADHD symptoms. *Autism Research*. <https://doi.org/10.1002/aur.2039>.
- Mikami, A. Y., Miller, M., & Lerner, M. D. (2019). Social functioning in youth with attention-deficit/hyperactivity disorder and autism spectrum disorder: transdiagnostic commonalities and differences. *Clinical Psychology Review, 68*, 54–70.
- Mikami, A. Y., Chong, G. K., Saporito, J. M., & Na, J. J. (2015). Implications of parental affiliate stigma in families of children with ADHD. *Journal of Clinical Child & Adolescent Psychology, 44*(4), 595–603.
- Minuchin, S., & Fishman, H. C. (1981). *Techniques of family therapy*. Cambridge, MA.
- Miranda, A., Tárraga, R., Fernández, M. I., Colomer, C., & Pastor, G. (2015). Parenting stress in families of children with autism spectrum disorder and ADHD. *Exceptional Children, 82*(1), 81–95.
- Mitter, N., Ali, A., & Scior, K. (2019). Stigma experienced by families of individuals with intellectual disabilities and autism: a systematic review. *Research in Developmental Disabilities, 89*, 10–21.

- Mohammadi, M.-R., Zarafshan, H., Khaleghi, A., Ahmadi, N., Hooshyari, Z., Mostafavi, S.-A., Ahmadi, A., Alavi, S.-S., Shakiba, A., & Salmanian, M. (2021). Prevalence of ADHD and its comorbidities in a population-based sample. *Journal of Attention Disorders, 25*(8), 1058–1067.
- de Montigny, F., & Lacharité, C. (2005). Perceived parental efficacy: concept analysis. *Journal of Advanced Nursing, 49*(4), 387–396.
- Mulligan, A., Anney, R., Butler, L., O'Regan, M., Richardson, T., Tulewicz, E. M., Fitzgerald, M., & Gill, M. (2013). Home environment: association with hyperactivity/impulsivity in children with ADHD and their non-ADHD siblings. *Child: Care, Health and Development, 39*(2), 202–212.
- Neece, C. L., Green, S. A., & Baker, B. L. (2012). Parenting stress and child behavior problems: a transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities, 117*(1), 48–66.
- Neece, C. L., & Chan, N. (2017). The stress of parenting children with developmental disabilities. In *Parental Stress and Early Child Development* (pp. 107–124). Springer.
- Ohan, J. L., Leung, D. W., & Johnston, C. (2000). The parenting sense of competence scale: evidence of a stable factor structure and validity. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 32*(4), 251.
- Olaniyan, O., Garriett, V., Mychailyszyn, M. P., Anixt, J., Rowe, P. C., & Cheng, T. L. (2007). Community perspectives of childhood behavioral problems and ADHD among African American parents. *Ambulatory Pediatrics, 7*(3), 226–231.
- Osborne, L. A., McHugh, L., Saunders, J., & Reed, P. (2008). Parenting stress reduces the effectiveness of early teaching interventions for autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 38*(6), 1092.
- Papero, D. V. (1990). *Bowen family systems theory*. Prentice Hall.
- Pelham, Jr, W. E., Gnagy, E. M., Greenslade, K. E., & Milich, R. (1992). Teacher ratings of DSM-III-R symptoms for the disruptive behavior disorders. *Journal of the American Academy of Child & Adolescent Psychiatry, 31*(2), 210–218.
- Pressman, L. J., Loo, S. K., Carpenter, E. M., Asarnow, J. R., Lynn, D., McCracken, J. T., McGough, J. J., Lubke, G. H., Yang, M. H., & Smalley, S. L. (2006). Relationship of family environment and parental psychiatric diagnosis to impairment in ADHD. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*(3), 346–354.
- Primack, B. A., Hendricks, K. M., Longacre, M. R., Adachi-Mejia, A. M., Weiss, J. E., Titus, L. J., Beach, M. L., & Dalton, M. A. (2012). Parental efficacy and child behavior in a community sample of children with and without attention-deficit hyperactivity disorder (ADHD). *ADHD Attention Deficit and Hyperactivity Disorders, 4*(4), 189–197.
- Quinn, M., & Lynch, A. (2016). Is ADHD a 'real' disorder? *Support for Learning, 31*(1), 59–70.
- Rao, P. A., & Landa, R. J. (2014). Association between severity of behavioral phenotype and comorbid attention deficit hyperactivity disorder symptoms in children with autism spectrum disorders. *Autism, 18*(3), 272–280.
- Rezendes, D. L., & Scarpa, A. (2011). Associations between parental anxiety/depression and child behavior problems related to autism spectrum disorders: The roles of parenting stress and parenting self-efficacy. *Autism Research and Treatment, 2011*, 1–10.
- Rowley, E., Chandler, S., Baird, G., Simonoff, E., Pickles, A., Loucas, T., & Charman, T. (2012). The experience of friendship, victimization and bullying in children with an autism spectrum disorder: Associations with child characteristics and school placement. *Research in Autism Spectrum Disorders, 6*(3), 1126–1134.
- Russell, G., Kapp, S. K., Elliott, D., Elphick, C., Gwernan-Jones, R., & Owens, C. (2019). Mapping the autistic advantage from the accounts of adults diagnosed with autism: a qualitative study. *Autism in Adulthood, 1*(2), 124–133.
- Salleh, N. S., Abdullah, K. L., Yoong, T. L., Jayanath, S., & Husain, M. (2020). Parents' experiences of affiliate stigma when caring for a child with autism spectrum disorder (ASD): A meta-synthesis of qualitative studies. *Journal of Pediatric Nursing, 55*, 174–183.

- Sameroff, A. (2010). A unified theory of development: a dialectic integration of nature and nurture. *Child Development, 81*(1), 6–22. <https://doi.org/10.1111/j.1467-8624.2009.01378.x/abstract>.
- Schaaf, R. C., Toth-Cohen, S., Johnson, S. L., Outten, G., & Benevides, T. W. (2011). The everyday routines of families of children with autism: Examining the impact of sensory processing difficulties on the family. *Autism*, <https://doi.org/10.1177/1362361310386505>.
- Schohl, K. A., Van Hecke, A. V., Carson, A. M., Dolan, B., Karst, J., & Stevens, S. (2014). A replication and extension of the PEERS intervention: examining effects on social skills and social anxiety in adolescents with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 44*(3), 532–545. <https://doi.org/10.1007/s10803-013-1900-1>.
- Schroeder, V. M., & Kelley, M. L. (2009). Associations between family environment, parenting practices, and executive functioning of children with and without ADHD. *Journal of Child and Family Studies, 18*(2), 227–235.
- Sheras, P. L., Abidin, R. R., & Konold, T. (1998). *Stress index for parents of adolescents*. Odessa, FL, USA: Psychological Assessment Resources.
- Van Steijn, D. J., Oerlemans, A. M., Van Aken, M. A. G., Buitelaar, J. K., & Rommelse, N. N. J. (2014). The reciprocal relationship of ASD, ADHD, depressive symptoms and stress in parents of children with ASD and/or ADHD. *Journal of Autism and Developmental Disorders, 44*(5), 1064–1076.
- Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M. H. Bornstein (Ed.), *Handbook of parenting: Children and parenting* (pp. 103–133). Lawrence Erlbaum Associates Publishers.
- Stevens, T., Peng, L., & Barnard-Brak, L. (2016). The comorbidity of ADHD in children diagnosed with autism spectrum disorder. *Research in Autism Spectrum Disorders, 31*, 11–18.
- Stoppelbein, L., Biasini, F., Pennick, M., & Greening, L. (2016). Predicting internalizing and externalizing symptoms among children diagnosed with an autism spectrum disorder: the role of routines. *Journal of Child and Family Studies, 25*(1), 251–261.
- Taraban, L., & Shaw, D. S. (2018). Parenting in context: revisiting Belsky's classic process of parenting model in early childhood. *Developmental Review, 48*, 55–81.
- Teti, M., Cheak-Zamora, N., Lolli, B., & Maurer-Batjer, A. (2016). Reframing autism: young adults with autism share their strengths through photo-stories. *Journal of Pediatric Nursing, 31*(6), 619–629.
- Theule, J., Wiener, J., Tannock, R., & Jenkins, J. M. (2013). Parenting stress in families of children with ADHD: a meta-analysis. *Journal of Emotional and Behavioral Disorders, 21*(1), 3–17.
- Treyvaud, K., Anderson, V. A., Howard, K., Bear, M., Hunt, R. W., Doyle, L. W., Inder, T. E., Woodward, L., & Anderson, P. J. (2009). Parenting behavior is associated with the early neurobehavioral development of very preterm children. *Pediatrics, 123*(2), 555–561.
- Truțescu, C. I., Popa-Velea, O., & Dobrescu, I. (2018). Self-efficacy and self-esteem in parents of ADHD children. *Journal of Psychosomatic Research, 109*, 141.
- Weiss, J. A., Tint, A., Paquette-Smith, M., & Lunsy, Y. (2016). Perceived self-efficacy in parents of adolescents and adults with autism spectrum disorder. *Autism, 20*(4), 425–434.
- Whalen, C. K., Henker, B., Jamner, L. D., Ishikawa, S. S., Floro, J. N., Swindle, R., Perwien, A. R., & Johnston, J. A. (2006). Toward mapping daily challenges of living with ADHD: Maternal and child perspectives using electronic diaries. *Journal of Abnormal Child Psychology, 34*(1), 111–126.
- Wirth, A., Reinelt, T., Gawrilow, C., Schwenck, C., Freitag, C. M., & Rauch, W. A. (2017). Examining the relationship between children's ADHD symptomatology and inadequate parenting: the role of household chaos. *Journal of Attention Disorders*, <https://doi.org/10.1177/1087054717692881>.
- Wong, C. C. Y., Mak, W. W. S., & Liao, K. Y.-H. (2016). Self-compassion: a potential buffer against affiliate stigma experienced by parents of children with autism spectrum disorders. *Mindfulness, 7*(6), 1385–1395.
- Xu, G., Strathearn, L., Liu, B., O'Brien, M., Kopelman, T. G., Zhu, J., Snetselaar, L. G., & Bao, W. (2019). Prevalence and treatment patterns of autism spectrum disorder in the United States, 2016. *JAMA Pediatrics, 173*(2), 153–159. <https://doi.org/10.1001/jamapediatrics.2018.4208>.
- Yekutieli, D., & Benjamini, Y. (1999). Resampling-based false discovery rate controlling multiple test procedures for correlated test statistics. *Journal of Statistical Planning and Inference, 82*(1–2), 171–196.

- Yerys, B. E., Bertollo, J. R., Pandey, J., Guy, L., & Schultz, R. T. (2019). Attention-deficit/hyperactivity disorder symptoms are associated with lower adaptive behavior skills in children with autism. *Journal of the American Academy of Child & Adolescent Psychiatry, 58*(5), 525–533.
- Zablotsky, B., Bramlett, M., & Blumberg, S. J. (2015). Factors associated with parental ratings of condition severity for children with autism spectrum disorder. *Disability and Health Journal, 8*(4), 626–634.
- Zablotsky, B., Bramlett, M. D., & Blumberg, S. J. (2020). The co-occurrence of autism spectrum disorder in children with ADHD. *Journal of Attention Disorders, 24*(1), 94–103.
- Zablotsky, B., Black, L. I., Maenner, M. J., Schieve, L. A., Danielson, M. L., Bitsko, R. H., Blumberg, S. J., Kogan, M. D., & Boyle, C. A. (2019). Prevalence and trends of developmental disabilities among children in the United States: 2009–2017. *Pediatrics, 144*(4), e20190811.
- Zaidman-Zait, A., Mirenda, P., Duku, E., Szatmari, P., Georgiades, S., Volden, J., Zwaigenbaum, L., Vaillancourt, T., Bryson, S., & Smith, I. (2014). Examination of bidirectional relationships between parent stress and two types of problem behavior in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 44*(8), 1908–1917. <https://doi.org/10.1007/s10803-014-2064-3>.
- Zajic, M. C., McIntyre, N., Swain-Lerro, L., Novotny, S., Oswald, T., & Mundy, P. (2018). Attention and written expression in school-age, high-functioning children with autism spectrum disorders. *Autism, 22*(3), 245–258.
- Zan, H., & Scharff, R. L. (2015). The heterogeneity in financial and time burden of caregiving to children with chronic conditions. *Maternal and Child Health Journal, 19*(3), 615–625.

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