An examination of challenging behaviors in autistic disorder versus pervasive developmental disorder not otherwise specified: Significant differences and gender effects

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ABSTRACT

Children with Autism Spectrum Disorders (ASDs) are well-known for engagement in challenging behaviors. Unfortunately, due to its absence as a criterion for diagnosis in the DSM-IV-TR, little attention has been paid to the endorsement rates of such behaviors. However, a recently developed measure to assist in the diagnosis of infants and toddlers with autism and PDD-NOS – the Baby and Infant Screen for Children with Autism Traits (BISCUIT) – has included a section designated for just this reason. This study used the BISCUIT to assess for significant differences in the endorsement rates of challenging behaviors between infants and toddlers with autism versus PDD-NOS as well as for significant differences between genders. There were significant differences between the diagnostic groups in endorsement rates of challenging behaviors as a whole, as well as among many specific behavior items. No significant differences between genders in endorsement rates of challenging behaviors were found. The implications of these findings are discussed.

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1. Introduction

Autism Spectrum Disorders (ASD) are a set of five neurodevelopmental disorders typically diagnosed in the first few years of life that include Autistic Disorder (autism), Asperger’s Disorder, Rett’s Disorder, Childhood Disintegrative Disorder, and Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS) (Cederlund, Hagberg, & Gillberg, 2010; Leung, Mak, Lau, Cheung, & Lam, 2010; Matson & Dempsey, 2009; Matson, Mahan, Hess, Fodstad & Neal, 2010; Smith & Matson, 2010). These disorders are characterized by varying degrees of deficiencies in social skills and communication as well as restricted interests, activities, and behaviors. Though not considered to be a qualifying factor in diagnosis, challenging behaviors, also commonly referred to as maladaptive or problem behaviors, are deemed quite common in ASD cases with the majority of individuals evincing at least one challenging behavior (Matson & Nebel-Schwalm, 2007; Mudford et al., 2008). Due to such a high prevalence, a multitude of research has been conducted to assess and treat challenging behaviors (Dawson, Matson, & Cherry, 1998). The prevalence of challenging behaviors in infants and toddlers has been overlooked in regards to significant differences in endorsement rates between children diagnosed with autism and those with PDD-NOS. Furthermore, the effect of gender on the presence of challenging behaviors within these populations has rarely been addressed. However, such differences are suggested to occur within other populations and preliminary research suggests this may also be true in the ASD population.

Challenging behaviors are evinced by various individuals including those with diagnoses of ASD, intellectual disability (ID), psychiatric disorder, language or communication disorder, and even those without a diagnosis (Dominick, Ornstein

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The prevalence of these behaviors within the ASD population in older children and adults is considerable. Prevalence estimates range from 35.8% to 94.3% with the majority of studies identifying at least half of individuals with ASD engaging in challenging behaviors (Baghdadi, Pascal, Grisi, & Aussilloux, 2003; Bodfish, Symons, Parker, & Lewis, 2000; Holden & Gitlesen, 2006; Matson, Wilkins, & Macken, 2009; Murphy, Healy, & Leader, 2009). These rates are substantially higher than individuals solely carrying an ID diagnosis who demonstrate prevalence rates of 10–20% (Emerson et al., 2001; Holden & Gitlesen, 2006; Lowe et al., 2007). Additionally, individuals diagnosed with both ASD and ID exhibit more challenging behaviors than those with ID alone (Matson, Fodstad, & Rivet, 2009). Even more interesting, research is beginning to emerge looking at relationships between the severity of ASD and the presence of challenging behaviors, with preliminary results suggesting a higher prevalence rate among those with more severe cases of ASD (Matson, Wilkins, & Macken, 2009; Rojahn et al., 2009).

The purpose of this study then was to evaluate the rates of challenging behaviors in very young children across severity of autistic symptoms (i.e., autism versus PDD-NOS) and to compare these rates to children without an ASD diagnosis. These data should prove valuable in better understanding the relationship of ASD and challenging behaviors. Furthermore, these data should be useful in better understanding assessment and treatment needs for this population. Additionally, since gender differences with respect to challenging behaviors in the ASD population have seldom been studied, this study also sought to determine whether or not such differences exist. With respect to gender differences among ID and ASD populations, some researchers have found that males exhibit higher rates of aggressive behavior than females while others claim there are no significant differences (Crocker et al., 2006; Hemmings, Gravestock, Pickard, & Bouras, 2006; McClintock et al., 2003; Murphy et al., 2009; Tenneij & Koot, 2008; Tyrer et al., 2006). Unfortunately, there is a paucity of research examining gender differences in relation to stereotypes. Within the typically developing child population, no significant gender differences have been found (Harris, Mahone, & Singer, 2008) while research in the ASD population suggests differences may be present although not significant (Nicholas et al., 2008). Although gender differences with respect to SIB are more or less nonexistent in the ASD population, a minimal amount of research within the ID population has found no gender effects (Holden & Gitlesen, 2006; Lowe et al., 2007; McClintock et al., 2003). Examining the possibility of these gender differences within the ASD infant and toddler population would also prove beneficial in guiding assessment and treatment for this population.

2. Methods

2.1. Participants

Three hundred twenty-two infants and toddlers were selected for inclusion in this study from a database containing 1509 infants and toddlers. Prior to selecting these participants for inclusion in the study, the original database was examined and a number of steps were taken: participants who either had a necessary value missing or entered incorrectly were removed, participants who fell outside of the designated age range for the measure were eliminated, and groups were randomly selected to ensure that no group was more than 1.5 times larger than any other so that statistical analyses could be computed while ensuring that assumptions of normality and homogeneity of variance were not violated (Leech, Barrett, & Morgan, 2008). All participants were recruited from EarlySteps and placed in one of the six groups based on clinical diagnoses – autism, PDD-NOS, atypically developing without an ASD – and divided further by gender. EarlySteps is Louisiana’s Early Intervention System under the Individuals with Disabilities Education Act, Part C, which provides services to infants and toddlers and their families from birth to 36 months. Children qualify if they have a medical condition likely to result in a developmental delay, or have developmental delays. Diagnoses were made by a licensed psychologist, who was blind to BISCUIT scores, based on currently used methodologies including reference to the DSM-IV-TR criteria (APA, 2000), Modified Checklist for Autism in Toddlers scores (Robins, Fein, Barton, & Green, 2001), and developmental scores on the Battelle Developmental Inventory, Second Edition (BDI-2: Newbog, 2005). Similar methodology has been used previously in the literature (Fombonne et al., 2004). Interrater reliability of diagnoses was obtained by a second Ph.D. level psychologist for a subset of participants within the study (n = 42). This psychologist had several years of experience assessing and treating children with developmental disabilities, and he utilized identical diagnostic methods as the licensed psychologist who initially assigned diagnoses. Interrater reliability for diagnoses was good with a kappa value of .89, p = .000.

Demographic characteristics were collected on all participants. There were an equal number of males and females within each diagnostic group. All participants were between 17 and 36 months of age (M = 26.19; SD = 5.074) with 38.82% of participants being Caucasian, 53.42% African American, 1.55% Latino, and 6.21% other/undefined. A further breakdown of demographic characteristics by diagnosis and gender is presented in Table 1.

2.2. Measure

Baby and Infant Screen for Children with aUtlism Traits-Part 3 (BISCUIT-Part 3; Matson, Bojsjoli, & Wilkins, 2007). The BISCUIT-Part 3 is part of a larger comprehensive battery designed to screen for ASD, assess for comorbid psychopathology, and identify challenging behaviors in children 17–37 months of age (Matson, Wilkins, Selvin, et al., 2009). The BISCUIT-Part 3, which is the section related to challenging behaviors, asks the caregiver to rate each behavior item to the extent that it has
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