Exploring anxiety symptomatology in school-aged autistic children using an autism-specific assessment

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ABSTRACT

Background: Accurate assessment of anxiety symptomatology in autistic children can be difficult, in part due to a lack of appropriate assessment tools. The newly-developed Anxiety Scale for Children with Autism Spectrum Disorder (ASC-ASD) is designed specifically for the assessment of anxiety symptomatology in autistic children. The aim of this study was to use the ASC-ASD to explore the profile of typical and atypical anxiety symptomatology in autistic children; to explore associations of anxiety symptomatology with adaptive behaviour and autistic characteristics; and to identify level of agreement between ASC-ASD scores and parent-reported anxiety diagnoses.
Method: 100 parents of 9–12 year old autistic children completed the ASC-ASD, Vineland Adaptive Behavior Scales − Second Edition, and Social Communication Questionnaire as part of a longitudinal study.
Results: High rates of anxiety symptomatology were found, with 63% of parents rating their children in the clinical range. Atypical symptoms of anxiety were endorsed at high frequency. Items within the Uncertainty subscale were most frequently endorsed, and items within the Anxious Arousal scale were endorsed least often. Children with a parent-reported diagnosis of anxiety disorder scored significantly higher on the ASC-ASD than those without an anxiety diagnosis.
Conclusions: This is one of the first studies to explore anxiety symptomatology in autistic children using an autism-specific measure of anxiety. Findings suggest that the ASC-ASD may be a useful tool for the assessment of anxiety symptomatology in autistic children.

1. Introduction

Research indicates that autistic[1] individuals are at significantly increased risk for mental illness, with approximately 70% of autistic children experiencing at least one comorbid mental health condition, and over 40% experiencing two or more comorbid conditions (Simonoff et al., 2008). Anxiety has been identified as one of the most commonly experienced mental health conditions for autistic children. Prevalence of anxiety as high as 84% has been reported (Muris, Steerneman, Merckelbach, Holdrinet, & Meesters, 1998), but more recent estimates from systematic reviews suggest a prevalence of approximately 40% (van Steensel, Bogels, & Perrin, 2011).

Uncertainty exists regarding the phenomenology of anxiety in autism. Earlier research (Lecavalier, Gadow, DeVincent, &

Edwards, 2009; Weisbrot, Gadow, DeVincent, & Pomeroy, 2005) indicated that the pattern and intensity of anxiety symptoms found in autistic children were similar to symptoms identified in non-autistic children, suggesting that autistic children may experience anxiety in similar ways to their non-autistic peers. This was supported more recently by White et al. (2015), who compared autistic and non-autistic youth on the Multidimensional Anxiety Scale for Children and found that the same factors emerged in both groups, suggesting similar underlying anxiety constructs exist in both autistic and non-autistic youth. However, White et al. (2015) also noted that the inter-factor relationships, mean scores, and error variances differed between the autistic and non-autistic groups, suggesting that while autistic youth may experience the same anxiety constructs as non-autistic youth, the way(s) in which anxiety manifests may differ between the groups.

Kerns and Kendall (2012) attempted to provide a preliminary resolution to this question about the phenomenology of anxiety in autism, by considering evidence regarding the types and symptoms of anxiety experienced by autistic individuals, the course of anxiety development, and treatment efficacy. Consistent with previous, similar work (Wood & Gadow, 2010), Kerns and Kendall (2012) tentatively concluded that anxiety presents in autistic individuals in ways which are consistent with the presentation of anxiety in non-autistic populations ('typical' anxiety); and also in ways which are unique to the autistic population ('atypical' anxiety).

There are a number of factors that need to be considered when exploring the presentation of anxiety in autistic individuals, one of which is level of adaptive behaviour. There is wide variability in levels of adaptive functioning in autistic people, and this is widely recognised as an important predictor of outcomes in adulthood (e.g., Farley et al., 2009). There has been some research suggesting that autistic children with higher levels of adaptive behaviour tend to display more symptoms of anxiety (Sukhodolsky et al., 2008), however evidence regarding this association remains ambiguous (Magiati et al., 2016), and warrants further investigation. To date, studies examining the link between adaptive behaviour and anxiety have focused only upon the typical forms of anxiety, highlighting the need to explore any relationship between levels of adaptive behaviour and atypical symptoms of anxiety.

Following on from the uncertainty regarding the phenomenology of anxiety in autism, there is also concern about the accurate assessment of anxiety in autistic children. This concern exists largely due to difficulty in differentiating between common behavioural indicators of anxiety and (often very similar) core behavioural characteristics of autism (MacNeil, Lopes, & Minnes, 2009; White, Oswald, Ollendick, & Scahill, 2009), increasing the risk of diagnostic overshadowing. To date, most assessment tools used for the measurement of anxiety in autistic children have been instruments which were originally designed for use with the non-autistic population. Recent studies have indicated that such assessment tools, when used with autistic children, demonstrate limited sensitivity and specificity in the identification of anxiety, poor inter-rater reliability, and poor agreement with a standardised diagnostic interview (Gjevik, Sandstad, Andreassen, Myhre, & Sponheim, 2015; Kaat & Lecavalier, 2015; Kerns et al., 2015). Further, preliminary research indicates that standard anxiety assessments may not capture the 'atypical' symptoms of anxiety which are unique to autistic children (Kerns et al., 2015). In a recent study exploring professionals' priorities for research on anxiety in autistic youth, the development of new anxiety assessment measures and validation of existing measures for assessing anxiety in this population were endorsed as top priorities for future research, highlighting the need for further work in this area (Vasa, Keefer, Reaven, South, & White, 2018).

In an attempt to address this gap, Rodgers et al. (2016) adapted the Revised Children's Anxiety and Depression Scale (RCADS, Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000) to create the Anxiety Scale for Children with Autism Spectrum Disorder (ASC-ASD), an autism-specific anxiety assessment tool. In adapting the RCADS, the authors developed new items designed to assess anxiety symptoms relating to sensory processing, uncertainty, and phobias. The original RCADS items and the new items were discussed by a focus group comprising parents of autistic children, with items edited for wording and ambiguity. The resulting assessment tool was piloted with a sample of 170 families. Following factor analysis, the 24 items which make up the current ASC-ASD were retained (Rodgers et al., 2016). Self- and parent-report versions of the scale are available, both measuring symptoms of anxiety across four subscales (Performance Anxiety, Uncertainty, Anxious Arousal, and Separation Anxiety). Pilot testing of the ASC-ASD found that the measure has good internal consistency, validity, and test-retest reliability (Rodgers et al., 2016). To date, however, use of this measure has not been explored within a large sample of autistic children other than during initial pilot testing, therefore evidence regarding the pattern of scores and responses on the ASC-ASD is limited.

Given the high prevalence of anxiety in autistic children, it is vital that professionals are able to accurately recognise and assess the symptoms of anxiety in this population. This requires a thorough conceptualisation of the various presentations of anxiety in autistic children; an understanding of potential correlates of anxiety; and assessment tools which accurately measure anxiety in this population. The current study aimed to describe the profile of typical and atypical anxiety symptomatology on the ASC-ASD in an independent sample of autistic children; to explore any association between anxiety symptomatology, level of adaptive behaviour and level of autistic characteristics; to determine if the ASC-ASD adequately discriminates between symptoms of anxiety and autistic characteristics; and to document the level of agreement between ASC-ASD indicative cut-off scores and parent-reported anxiety diagnoses.

2. Method

The data used in this study were collected as part of the Longitudinal study of Australian Students with Autism (LASA). The LASA is a six-year study designed to investigate educational and participatory outcomes for Australian autistic students. The LASA recruited a self-selected participant group of 272 autistic children and their parents, comprising two cohorts aged 4–5 years and 9–10 years at the time of recruitment. Participants were recruited primarily through social media, and state and national autism organisations. Parents complete a series of six annual online questionnaires which include various demographic items and standardised assessments.