Clinical assessment of ASD in adults using self- and other-report: Psychometric properties and validity of the Adult Social Behavior Questionnaire (ASBQ)

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ABSTRACT

The aim of this study was to develop and validate the Adult Social Behavior Questionnaire (ASBQ), a multidimensional Autism Spectrum Disorder (ASD) questionnaire that contains both a self report version and a version to be completed by someone close. Psychometric qualities, convergence between self report and other report ratings, and scores in a group diagnosed with ASD and multiple comparison groups were examined.

Principal Component Analyses yielded a structure with six dimensions (reduced contact, reduced empathy, reduced interpersonal insight, violation of social conventions, insistence on sameness, and sensory stimulation/motor stereotypies) for both self- and other-report versions. Reliability estimates and correlations between self- and other-ratings were good and the score profile on the 44-item ASBQ differentiated a group with ASD from a non-clinical group and patients with depression, schizophrenia and ADHD.

We conclude that the ASBQ is a short and easy to apply questionnaire that captures the heterogeneous nature of ASD. It yields a score profile among six ASD problem domains both from the perspective of the patient and from a significant other.

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1. Introduction

The behavioral problems of Autism Spectrum Disorders (ASD) generally persist into adulthood (Howlin, Goode, Hutton & Rutter, 2004). ASD are highly heterogeneous and the degree of continuity of the autistic problem domains across the lifespan is unclear. The diagnostic and assessment process of ASD in adults is complicated by the fact that it is hard to distinguish milder forms of ASD problems from other psychiatric conditions and from the spectrum of normal behavior. There is a

scarcity of measures to capture the multiple dimensions of ASD symptomatology in adulthood, especially when the aim is also to distinguish milder variants of this disorder. A complicating factor is that in adult psychiatry self-report measures are generally used, but particularly in ASD the validity of self-report is uncertain. Individuals with ASD are generally believed to have a limited awareness of their social and communicative impairments (Mitchell & O'Keefe, 2008). However, this is contested by other authors who report their ability to accurately reflect on inner experiences (Spek, Scholte & Van Berkelaer-Onnes, 2010). To address this issue, ASD self-report measures should be compared against the report of others (e.g. parents, siblings, spouses), thus giving insight in the necessity of a multiple-informant approach in adulthood. Unfortunately, there are limited data in the literature that make this comparison feasible. A further aspect of interest is the longitudinal pattern and stability of ASD characteristics. Given their childhood onset, ideally, ASD measures should contain both a child and an adult version to capture symptomatology across the lifespan.

A number of diagnostic self-report scales have so far been developed specifically for ASD in adults. Most commonly used in clinical practice is the Autism-Spectrum Quotient (AQ) (Baron-Cohen, Wheelwright, Skinner, Martin & Clubley, 2001). The AQ assesses autistic traits based on a dimensional approach to autism. Items were drawn from clinical experience with the description of problems met by people with Asperger Syndrome. The AQ has been validated both in its full form (50 items) as well as in shorter versions (10, 21 and 28 items), but the authors stress that only the full-scale AQ can be used as a diagnostic instrument (Hoekstra et al., 2011). Construct validity of the AQ-50 varies according to the characteristics of the studied population. Sensitivity and specificity are high when comparing patients with Autistic Disorder and Asperger Disorder with healthy controls (Hoekstra, Bartels, Cath, & Boomsma, 2008), but little difference in AQ scores was found between patients with mild ASD and clinical controls (Ketelaars et al., 2008) (sensitivity .76–.95; specificity .52–.98). The Ritvo Autism Asperger Diagnostic Scale- Revised (RAADS-R) (Ritvo et al., 2011) is designed to be a tool in assisting the clinician in the diagnostic process. This scale is self-rated by the patient in the presence of the clinician. In two validation studies of patient populations with Asperger Syndrome and Autism, the RAADS-R has shown good psychometric characteristics (Ritvo et al., 2011; Andersen et al., 2011) (sensitivity .91–.97; specificity .93–1) with highly significant mean score differences between ASD and comparison subjects (clinical and non-clinical). Both the AQ and the RAADS-R do not, however, provide self-report as well as other report versions, nor do they cover the whole range of behavioral problems that may be relevant in milder and subtler variants of ASD. The third scale, the Social Responsiveness Scale for Adults (SRS-A), is a quantitative measure of autistic traits that does fulfill the aforementioned criteria (Constantino et al., 2003). Unfortunately, only preliminary data on the psychometric qualities of this instrument have been published as of yet (Bolte, 2011). Note that, overall, there is a striking absence of studies that compare scores on these questionnaires in an ASD group against other clinical groups to determine how well they capture ASD symptomatology specifically.

The use of multi-informant data in the assessment of psychopathology is recommended in children and adolescents, but in adults with developmental disorders and personality disorders as well (Barkley, Knouse, & Murphy, 2011; Bernstein et al., 1997). However, the level of agreement between self- and other-ratings of behavioral and emotional problems in children and adults is generally low to moderate (Achenbach, McConaughy & Howell, 1987; Achenbach, Krukowski, Dumenci & Ivanova, 2005). For instance, a recent study measuring the convergence of self- and spouse-report of personality disorder criteria in an adult nonclinical sample found an average correlation of .31 (South et al., 2011South, Oltmanns, Johnson & Turkheimer, 2011). Factors that might limit agreement in adults include deficient self-awareness, trait visibility effects (i.e. easily observable traits and symptoms yield better inter-rater correlations than do more internal traits), and personal characteristics of the informants (Ferdinand, van der Ende & Verhulst, 2006; South et al., 2011).

The present study reports on the development of the Adult Social Behavior Questionnaire (ASBQ), a quantitative measure of autistic traits with subscales that allow a differentiated description of ASD problems. We examine the ASBQ's psychometric qualities in a large clinical sample, and address convergence between the self- and other-report version as well as differentiation between ASD and other common psychiatric conditions. Although social behavior problems are present in most psychiatric disorders, we hypothesize that differences between ASD and other groups will be more pronounced for depression than for ADHD and schizophrenia, because of the greater amount of shared phenotypical characteristics of ADHD and schizophrenia with ASD (e.g. Bastiaansen et al., 2011; Gillberg, Gillberg, Anckarsater & Rastam, 2011), and further that the depression group will have scores in between the non-clinical comparison group and patients diagnosed with ADHD and schizophrenia. We hypothesize additionally that the other- more than the self-report version will differentiate between the groups since not only patients with ASD but also patients with schizophrenia and ADHD are thought to have reduced insight into their problems (Erol, Delibas, Bora & Mete, 2015; Owens, Goldfine, Evagelista, Hoza & Kaizer, 2007).

2. Materials and methods

2.1. Development of the ASBQ

Developing the Adult Social Behavior Questionnaire (ASBQ) we built on our previous work in children and adolescents, for whom we designed the Children's Social Behavior Questionnaire (CSBQ) (Hartman, Luteijn, Serra & Minderaa, 2006; Luteijn, Luteijn, Jackson, Volkmar & Minderaa, 2000; Noordhof, Krueger, Ormel, Oldehinkel & Hartman, 2015), to be completed by parents and caregivers. The instrument emphasizes both severe, core characteristics of autism proper as well as the milder and subtler variants of ASD. The CSBQ has shown good psychometric properties in multiple studies (Hartman et al., 2006; Luteijn et al., 2000; Hartman, Hermanns, de Jong, & Ormel, 2013). The format of the CSBQ was maintained in developing the ASBQ, and