Cross-cultural differences in the Parent Rated Social Responsiveness Scale (SRS)? Evaluation of the Finnish version among high-functioning school aged males with and without autism spectrum disorder

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When importing screening questionnaires of ASD, it has been found that parental interpretation/reporting of autistic traits may be culturally influenced. In the current study, our aim was preliminary evaluation of the Finnish parent rated SRS in order to determine whether the measure would show promise as an aid in screening. The study sample consisted of high-functioning school aged male ASD outpatients of Oulu University Hospital (n = 44, age 11.4 ± 2.3) and age-matched controls (n = 44, age 11.8 ± 2.4 years). Internal consistency as well as convergent and discriminative validity was in line with previous research. However, the results indicated that the cut-off published in the SRS manual might be too high to be used in Finland. Our results emphasize the importance of determining the normative range and clinical cut-offs in various cultures when importing diagnostic screening questionnaires in order to avoid getting high percentages of false negatives in the screening phase, and thus risk leaving many children without adequate diagnostic evaluation and rehabilitation.

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1. Introduction

Autism spectrum disorder (ASD) represents the severe end of a spectrum of social impairments that are continuously distributed in the general population and extend into normality (Boëlle, Poustka, & Constantino, 2008; Boëlle, Westerwald, Holtmann, et al., 2011; Constantino et al., 2003; Constantino & Gruber, 2005, 2012; Constantino & Todd, 2000, 2003;
Constantino, Przybeck, Friesen, & Todd, 2000; Freitag, 2007; Kamio, Inada, Moriwaki, et al., 2012). In primary settings where a school-aged child is referred to a health care provider (e.g., school nurse/psychologist/doctor) due to socio-emotional or neurocognitive problems, it can be challenging to identify children in need for more comprehensive assessment by a clinician specialized in ASD. With qualitative screeners, there is a risk of a false negative result in cases of milder manifesting ASD, thus it is important to use quantitative measures in these settings.

The Social Responsiveness Scale (SRS; Constantino et al., 2000; Constantino & Gruber, 2005, 2012) assesses autistic symptomatology quantitatively rather than categorically. It is a 65-item questionnaire designed to be used both as a screener, and as an aid to clinical diagnosis. It covers the dimensions of communication and behavior characteristic to ASD using a Likert scale format, and quantifies autistic traits providing a total score representing the level of autistic impairment, and subscale scores for specific symptom domains (social awareness, cognition, communication, motivation, and restricted and repetitive functions).

The SRS has been shown to differentiate children with ASD from those with other child psychiatric conditions (e.g., ADHD, conduct disorder, mood disorder), as well as from typically developing children (e.g. Bölte et al., 2008; Charman et al., 2007; Constantino & Gruber, 2005, 2012; Kamio et al., 2012; Reiersen, Constantino, Volk, & Todd, 2007). Some findings in previous studies have, however, also shown possible over-identification in clinical samples (Aldridge, Gibbs, Schmidhofer, et al., 2012; Pine, Guyer, Goldwin, Towbin, & Leibenluft, 2008).

Studies on the relationship of cognitive level and SRS scores have yielded inconsistent results. According to Constantino et al. (2000, 2003, 2007), SRS scores have been independent from IQ in children without ASD, and either inversely correlated or unrelated to IQ in ASD samples (IQ range 50–140). Kamio et al. (2012) found, that SRS scores did not correlate with IQ in their sample of children with IQ at or above 70, but a subgroup with mental retardation tended to score higher on the SRS.

Originally developed and validated in the US at 2000, the SRS was recently updated to SRS-2, and there are now versions available for preschool and school-aged children, as well as adults (Constantino and Gruber, 2012). The psychometric properties of the SRS have been reported to be excellent (e.g. Constantino et al., 2000; Constantino and Todd, 2000, 2003; Constantino and Gruber, 2005, 2012; Murray et al., 2011). The school-aged form, which is used in this present study, has stayed untouched through questionnaire development, and has been validated in the US, Japan, UK, Germany, and the Netherlands (Bölte et al., 2008, 2011; Constantino and Gruber, 2005, 2012; Kamio et al., 2012; Roeyers, Thys, Druart, De Schryver, & Schittekatte, 2011; Wigham, McConachie, Tandos, & Le Couteur, 2012). The suggested cut-off for primary screening has varied slightly between different cultures, languages, raters (mother/father/teacher) and study populations used (see Table 1).

Of the ASD screening scales designed for school-aged children, only the Autism Spectrum Screening Questionnaire (ASSQ) has been properly validated in Finland (Mattila, Jussila, & Linna, et al., 2012). During the validation process of the ASSQ we found that the screening ability of the parent rated ASSQ differed substantially from that in other cultures and countries (Mattila et al., 2012). Since ASD is a neurobiological disorder, the expression of its core symptoms is not likely to be culturally determined. However, interpretation of these symptoms may be. Furthermore, research indicates that cultural factors affect some areas of communication skills (e.g., Lloyd, Camaioni, & Ercolani, 1995; Loukusa, Ryder, & Leinonen, 2008), thus it is of great research import to better understand via empirical means what defines normative childhood behavior according to various cultural standards. Only by comparing ASD phenotypes in various cultures knowledge can be gained about universal and culture dependent ASD traits. In the current study, our aim was to study how the Finnish parent rated SRS captures autistic traits in both a clinical and a normative sample of high-functioning school-aged males.

2. Methods

2.1. Measures

2.1.1. The SRS
In the beginning of this study at 2003 the SRS was translated from English into Finnish by two clinical psychologists (authors KJ and SKG), and back-translated into English by an official translator. Subsequently, English versions were compared for inconsistencies by a native English-language speaking clinical psychologist (author RPW). In addition, we discussed with the developers of the measure who evaluated and approved the English back-translation (Constantino, 2003, personal contact).

2.1.2. The ASSQ
The ASSQ (Ehlers & Gillberg, 1993; Ehlers, Gillberg, & Wing, 1999) is a 27-item parent/teacher-screening inventory, designed to screen ASD in high-functioning children. The ASSQ covers three main areas of ASD (i.e., social interaction, communication, and restricted and repetitive behavior) as well as motor deficits/behaviors (e.g., clumsiness), and other associated symptoms such as motor and vocal tics. Items are rated on a 3-point Likert-type scale (i.e., 0 = normal, 1 = some abnormality, and 2 = definite abnormality) with total scores ranging from 0 to 54 higher scores indicating more severe levels of social impairment.
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