Aspect RESEARCH INSIGHTS

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Evaluating the Usefulness of the Social Responsiveness Scale (SRS)

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Project Summary

Research Aims

To evaluate the effectiveness of the SRS as a screening tool in the specific case of referring a child to a tertiary referral autism-specific assessment service such as that provided by Aspect.

Relevance and Importance of the Project

The SRS is increasingly being used by front-line health professionals as a way of identifying children who should be referred to a comprehensive autism or multidisciplinary assessment service. Given some of the findings in recent studies regarding possible over-identification of ASD with the SRS and the importance of minimising expensive assessment resources on children who do not have ASD, the current study aims to evaluate the effectiveness of the SRS as a screening tool in the specific case of referring a child to a tertiary referral autism-specific assessment service such as that provided by Aspect.

Background

The Aspect Elizabeth Hoyles Scholarship was awarded to Vicki Gibbs, Manager, Aspect Diagnostic Assessment Service, in 2007 to complete a research study into the effectiveness of the Social Responsiveness Scale (SRS; Constantino & Gruber, 2005).

The SRS is a rating scale that has been designed by the developers to be used as both a screener, and as an aid to clinical diagnosis, for autism spectrum disorders (ASD). It covers the various dimensions of interpersonal behaviour, communication, and repetitive/stereotypic behaviours that are characteristic of ASD using a Likert scale response format.

- Suitable for children from 4 to 18 years of age
- Takes 10 to 15 minutes to complete
- 65 item questionnaire – Likert scale response format
- Parent and teacher version

Scoring and Interpretation

- The SRS yields 5 Treatment Subscale Scores:

1. *Social Awareness*
   (e.g. is aware of what others are feeling, doesn't mind being "on another wavelength from others")
2. *Social Cognition*
   (e.g. doesn't recognize when others are taking advantage of him, understands meaning of facial expression)
3. *Social Communication*
   (e.g. is able to communicate his feelings to others, has trouble keeping up with the flow of a conversation)
4. *Social Motivation*
   (e.g. would rather be alone than with others, avoids starting social interactions with others)
5. *Autistic Mannerisms*
   (e.g. shows unusual sensory interests, has difficulty with changes in routine)

- These scores are then combined to give a Total Raw Score which are then converted to T scores.
- T score > 76: Severe range (strongly associated with a clinical diagnosis of ASD)

- T score 60 to 75: Mild to Moderate range (typical for children with HFA/PDDNOS/Aspergers)
- T score 59 or less: Normal range (scores in this range suggest an absence of ASD).

A number of studies conducted by the developer have indicated that total SRS scores reliably distinguish children with autism spectrum conditions from those with other psychiatric disorders (e.g. Constantino et al., 2000). However, subsequent research has suggested that screening instruments such as the SRS may over-identify children at risk of ASD (Berument et al, 1999; Towbin et al., 2005).

Methods

Participants

- 48 children and adolescents aged between 4 years, 2 months and 15 years, 10 months participated in this study. 92% (n=44) of participants were male and 8% (n=4) were female.

Measures

- All participants were assessed using the Autism Diagnostic Observation Schedule (ADOS), the Autism Diagnostic Interview- Revised (ADI-R), and the Social Responsiveness Scale (SRS).

Procedure

- First, informal observations of the child were conducted. Second, the relevant ADOS module was then administered to the child and an ADI-R completed with their parents. Finally, parents and teachers completed the SRS. The SRS questionnaires were scored by the researchers at a later stage.

Key Findings and Implications of the Present Research

The present study found that both the SRS (parent) and the SRS (teacher) are effective screening questionnaires as they both demonstrated high sensitivity. That is, they were able to detect children with ASD at a rate greater than chance. This finding is in line with previous research (e.g. Constantino et al., 2000). However, in contrast to previous research this study failed to find a correlation between the teacher and parent versions of the questionnaire.

The relationship between the SRS total scores and an ASD diagnosis

- A series of ANCOVA were used to examine whether the total SRS score differed significantly between the ASD and the non ASD diagnostic groups. Key findings were:
  - For parents, there was no significant difference for total SRS scores between the ASD and Non ASD groups ($F1,43=3.44$; $p=0.07$).
  - For teachers, total SRS scores differed significantly for ASD and non-ASD groups ($F1,40=11.51$; $p=0.00$).
  - Correlation between parent and teacher SRS total mean scores was not significant ($r=0.13$, $p=0.42$).

Conclusions and Clinical Implications

Overall, in the present study, SRS (teacher) scores were more in line with eventual diagnostic outcome. Parents were more likely to over report the level of social and communication difficulties that their child was experiencing. That is, there was a higher false positive for parents when compared with teachers.

There are a number of possible explanations for the inflated scores from parent report in this particular sample. As a tertiary referral service, most children have previously been reviewed by another health professional who has indicated to the parents that the child is exhibiting autistic characteristics and recommended an autism assessment for clarification. In addition, funding and intervention opportunities are reliant on a definitive diagnosis. It is possible that parents have subsequently sought out information relating to autism and are therefore far from naive in terms of autism characteristics. It may follow that they inadvertently focus on autistic-like symptoms and therefore misinterpret their child's behaviour. Results of the present study highlight the importance of obtaining information from teachers, in addition to parents, when

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In terms of clinical applications, this study would indicate that obtaining completed teacher SRS forms in addition to parent forms may provide more accurate information. Furthermore, an increased cut-off score for parent SRS, particularly in the case of tertiary referral, may reduce the likelihood of over-identification in this group.

considering referral for a full diagnostic assessment. When it is not possible to obtain additional information from a teacher, one approach could be to increase the cut-off point on the SRS for parent report, thereby increasing specificity.

In conclusion, the SRS is an effective screening tool but may over-identify children as having ASD, particularly those with social developmental problems. In terms of clinical applications, this study would indicate that obtaining completed teacher SRS forms in addition to parent forms may provide more accurate information. Furthermore, an increased cut-off score for parent SRS, particularly in the case of tertiary referral, may reduce the likelihood of over-identification in this group.

Publications and Papers

Aldridge, F., Schmidhofer, K., Gibbs, V., & Williams, M. (2009). Investigating the clinical usefulness of the Social Responsiveness Scale in a Tertiary Level, Autism Spectrum Disorder Specific Assessment Clinic [Poster Presentation]. *Asia Pacific Autism Conference (APAC '09): Connecting Today Inspiring Tomorrow.* Sydney, Australia: 20th-22nd August 2009.

Aldridge, F., Gibbs, V., Schmidhofer, K., & Williams, M. (In Preparation). Investigating the clinical usefulness of the Social Responsiveness Scale (SRS).

Aspect Elizabeth Hoyles Fellowship

Each year, the Board may approve the award of a fellowship, named in honour of Elizabeth Hoyles who was a well respected and liked teacher at the Vern Barnett School, to undertake an analysis, study or investigation of a project or an issue which would benefit Aspect or the ASD community. Aspect may provide financial support up to $5,000 and not more than 3 weeks paid Special Leave to enable to successful applicant to take up the Fellowship.

The Aspect vision for research

Aspect is committed to improving the lives of individuals with ASDs through service provision and research. As the largest ASD-specific service provider in the country and one of the largest in the world, Aspect is well positioned to facilitate and conduct research. Aspect undertakes and supports research to evaluate Aspect's and other programs, practices and interventions in order to provide improved services and interventions for children and adults with ASDs. Aspect also promotes research at state and national levels and facilitates tertiary students' research. As our mission is to develop our knowledge of what can be done to support individuals with ASDs, research findings will also make a significant contribution to the field of international research into ASDs. Aspect requires ongoing funding to support these key initiatives and is always keen to talk to potential new partners and donors.

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