**DIAGNOSING AUTISM SPECTRUM DISORDER: EXAMING DIAGNOSTIC MEASURES AND THE CHILD VARIABLES ASSOCIATED WITH THE DIAGNOSIS**

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**Objective**

To date, there is no known biological marker for Autism Spectrum Disorder (ASD) (Huerta & Lord, 2012) and the diagnosis is typically defined as outlined in the Diagnostic and Statistical Manual (DSM). In order to formulate a diagnosis, clinicians often use various standardized measures to gather information from parents and the child (Charman & Gotham, 2013). However, across the literature, there are inconsistent results with regards to agreement between measures and classification systems used for the diagnosis of ASD. For example, some have found that the Childhood Autism Rating Scales (CARS) is more conservative in comparison to the Autism Diagnostic Schedule (ADOS) (Reszka et al., 2014), while others report good agreement between these two measures (Ventola et al., 2006). Furthermore, there are mixed findings in the literature on the agreement between the 4th and 5th editions of the DSM (e.g.Taheri et al., 2012).

The purpose of this study was to examine the agreement among two commonly used observational measures (ADOS and CARS) and two versions of the DSM (4th and 5th edition), and explore ASD diagnosis for each in relation to child characteristics (i.e., cognitive and adaptive level). It was hypothesized that there would be good agreement between the measures and classification systems, given that they are all presumed to be tapping the construct of ASD.

**Methods**

The data for this study came from a research project evaluating the long-term outcomes of Early Intensive Behavioural Intervention (EIBI). Twenty-one youth (aged 13-20 years) diagnosed with ASD were reassessed after receiving EIBI as young children. The assessment battery consisted of four ASD diagnostic measures (CARS, ADOS, DSM-IV and DSM-5 criteria), and standardized measures of cognitive and adaptive functioning. Chi-square analyses were used to assess dependence between measures, percentage agreement to assess the level to which the measures agreed with each other, and *t* tests to explore cognitive and adaptive differences in subgroups meeting or not meeting criteria.

**Results**

Contrary to expectation, there was low agreement between most measures. Agreement was best between the DSM-IV and ADOS (86%), and agreement for a non-diagnosis was best between the DSM-5 and the CARS (67%). Chi square tests revealed that ratings on most of the measures (i.e., DSM-5 and ADOS; DSM-IV and CARS; DSM-IV and DSM-5; DSM-IV and ADOS; and ADOS and CARS) were independent of each other. In addition, those diagnosed with ASD on the CARS and DSM-IV had significantly lower cognitive and adaptive scores.

**Discussion/Conclusion**

Although this study is based on a small and perhaps non-representative sample, there are a number of research and clinical implications of the findings. It is concerning that there is not high agreement among various diagnostic measures, which may impact accessibility to suitable treatments or interventions. Changing definitions of Autism in research affect the whole knowledge base regarding Autism and ASD more broadly. Further, inconsistencies amongst measures can impact ASD prevalence reports in the literature. With these substantial inconsistencies amongst measures, clinical judgment is required more than ever when making the diagnosis of ASD.

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