Improving Early Identification of Young Toddlers with Autism Spectrum Disorders (ASD) Using the Autism Detection in Early Childhood (ADEC)

Yong-Hwee Nah, B.SocSci (Hons), M.A (Applied Psych)

Flinders University

Faculty of Social and Behavioural Sciences

School of Psychology

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SUMMARY

Screening for Autism Spectrum Disorders (ASD) is a crucial first step to improve early identification of children who might be considered at risk of the disorder and in need of further assessment, intervention and services. Given early identification and intervention of ASD can dramatically improve outcome for people with ASD (Dawson & Burner, 2011), there is a pressing need to identify children with ASD as early as practical (Reichow, 2012). However, the clinical and etiologic heterogeneity of young children with ASD pose a challenge for clinicians and paediatricians to identify these children in their practices and thus these professionals require appropriate tools and training if they are going to be able to identify these children successfully.

In this thesis, I presented three studies which investigated the psychometric properties of an observation screening measure, the Autism Detection in Early Childhood **(**ADEC; Young, 2007) in the early identification of young children with possible ASD. At the commencement of this research the ADEC was relatively new, and despite promising data, it has not been subjected to scientific rigour. Study 1 provided a comprehensive psychometric validation of the ADEC as a screening tool for ASD. This study compared 70 children with Autistic Disorder with 57 children with other developmental disorders and 64 typically developing children on the ADEC. The data showed that the ADEC is an effective screening tool that can be used to identify children with ASD ranging from 12 to 36 months.

Study 2 compared the predictive validity data of the ADEC against a well-established screening tool, the Childhood Autism Rating Scale (CARS; Schopler, Reichler, & Renner, 1998), in relation to diagnostic classifications, symptom severity and functioning level at 2 and 6 years following initial assessment.

Participants were 55 children aged 19–42 months at initial assessment who were followed up 2 and 6 years after their initial assessment. Results indicated that both tools performed similarly when predicting long term outcomes such as diagnostic status and overall adaptive functioning level. Although these findings need to be replicated with additional and larger samples, this study extends our understanding of the psychometric properties of both the ADEC and the CARS.

In study 3, I (a) examined the frequency and pattern of diagnostic features detected using the ADEC in children aged from 12 to 71 months, and (b) identified the critical items at each age stage. This provided the basis for the development of a brief version of the ADEC (BADEC) that is valid for different age groups. The dataset used 251 participants with a DSM-5 diagnosis of ASD and 206 non-ASD. Analyses supported the use of those critical items (e.g., response to name and gaze switch) identified across most of the age groups to form one BADEC version for all age groups, albeit with different cutoff scores. The brief version for the different age groups had acceptable internal consistency, correlated with the full version, and mostly had sensitivity and specificity exceeding 80%. The BADEC versions' total scores (with the exception of the 60-71 months group) predicted DSM-5 ASD classification just as well as the more time-intensive ADOS and ADI-R diagnostic tools. However, these results would need to be replicated with larger samples.

The studies in this thesis represent the first step in understanding the psychometric properties and usefulness of using the ADEC, in the early detection of young children with possible ASD. The data from this thesis support the use of the ADEC to be a quick and suitable screening tool by clinicians and pediatricians to help them to identify these children in their practice settings.

DECLARATION

I certify that this thesis does not contain any material which has been accepted for the award of any other degree or diploma; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text of the thesis or notes.

Yong-Hwee Nah, B.SocSci (Hons), M.A (Applied Psych)

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STATEMENT OF CO-AUTHORSHIP

Chapter 2.

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Nah, Y. H. conceptualized and designed the study, participated in data collection, analyzed the data, and drafted the initial manuscript; Young, R. and Brewer, N. conceptualized the study and critically reviewed and edited the manuscript; Berlingeri, G. conceptualized the study and participated in data collection; and all authors approved the final manuscript as submitted.

Chapter 3.

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