



Linguistic and pragmatic language skills in adults with autism spectrum disorder: A pilot study

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Abstract

This article reports on the linguistic and pragmatic language skills of adults with a diagnosis of autism spectrum disorder (ASD). Seventeen adults (aged 18–67 years) with a diagnosis of ASD were assessed using the Western Aphasia Battery (WAB), the Right Hemisphere Language Battery (RHLB) and the Test of Nonverbal Intelligence-Second Edition (TONI-2). Performance by the ASD participants was compared to 13 peers (aged 18–65 years) with no disability. Within-group differences for the ASD participants were examined using a hierarchical cluster analysis of performance on the WAB and the RHLB. There were significant differences between the ASD group and the control group on a number of the WAB and the RHLB subtests, but no significant difference between the two groups on nonverbal cognitive ability. Subgroups within ASD, based on language performance, could be described. Language performance, but not nonverbal cognitive skill, differentiated the ASD subgroups. Individualised language support may need to be considered in the development of employment and training services. Further research is needed to determine if language and communication difficulties are barriers to employment in adults with ASD.

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Autism spectrum disorder (ASD) is a life-long developmental disability with a neurological basis (Hill & Frith, 2003). Language and communication difficulties are central to the autistic presentation (American Psychiatric Association [APA], 1994), and numerous studies have described linguistic (e.g., Koning & Magill-Evans, 2001; Mayes & Calhoun, 2001; Shields,

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Varley, Broks, & Simpson, 1996; Szatmari, Archer, Fisman, Streiner, & Wilson, 1995), and pragmatic deficits (Booth, Charlton, Hughes, & Happe, 2003; Dennis, Lazenby, & Lockyer, 2001; Emerich, Craghead, Grether, Murray, & Grasha, 2003; Losh & Capps, 2003; Ozonoff & Miller, 1996; Paul, Augustyn, Klin, & Volkmar, 2005; Rumsey & Hamburger, 1988; Shields et al., 1996; Shriberg et al., 2001) in children and adolescents with ASD. Seltzer et al. (2003) have suggested that overall use of language and nonverbal communication skills in ASD improves from childhood to adolescence, and that the pattern of improvements continue into adulthood.

Howlin (1997, 2003), however, contends that most adolescents and adults with the disorder continue to exhibit language difficulties, and believes that improved services for adults are needed if long-term outcomes are to be enhanced. Seltzer et al. (2003) concur, suggesting that adults with ASD have no lesser need for services and support than children with the disorder. It is possible that support services are needed in the area of language and communication in the adult ASD population, as skill deficits in these areas have been proposed as impediments to successful psychosocial and vocational outcomes in adults with ASD (Howlin, Alcock, & Burkin, 2005). Determination of the type and level of support offered to adults with ASD requires a clinical appreciation of their communicative needs, but few studies to date have focused on the language and communication skills in adults with the disorder (Lewis, Murdoch, & Woodyatt, *in press*; Rumsey & Hamburger, 1988).

Studies of adults with a history of childhood developmental language disorders (Clegg, Hollis, Mawhood, & Rutter, 2005; Eales, 1993) have suggested that childhood language difficulties may negatively impact upon psychosocial well being in adulthood. Clegg et al. (2005), for instance, investigated psychosocial outcomes for adults with a history of childhood developmental language disorders and found poor vocational outcomes, such as unstable work histories or long periods of unemployment, and deficits in social relationships and close friendships were associated with the adults with a history of language impairment. Eales (1993) investigated adults with a history of developmental receptive language in his study. He likewise described negative psychosocial consequences of early language impairment, in that pragmatic language deficits contributed to social impairments in the adults with a developmental history of receptive language impairment.

If language difficulties reduce psychosocial outcomes for adults with histories of language disorder, but not necessarily ASD, an accurate clinical picture of the language difficulties of adults with ASD is therefore needed to determine if specific language intervention and support is warranted for this population. Although linguistic and pragmatic deficits have been identified in children and adolescents with ASD (e.g., Dennis et al., 2001; Paul et al., 2005; Shriberg et al., 2001; Szatmari et al., 1995), generalising the results from child and adolescent studies to adults should be avoided as language skills in ASD continue to change from adolescence to adulthood (Seltzer et al., 2003) and the maturational changes in language skill from childhood to adulthood are not, as yet, clearly understood in the disorder (Howlin, 1997).

Recent research (Lewis et al., *in press*) has suggested that adults with a diagnosis of ASD experience difficulties with those high-level language skills that require a person to use and interpret language in a flexible, rational and goal-oriented manner in an ever-changing communicative environment (Wiig, 1989). Knowledge that adults with ASD may present with sub-optimal complex, metalinguistic skills does not, however, fully inform on the basic linguistic and pragmatic language difficulties experienced in daily interactions at home and at work.

Studies investigating basic language skills in adults with ASD have identified only mild linguistic difficulties (Rumsey & Hamburger, 1988), and some restrictions regarding receptive and expressive semantic knowledge (Howlin, 2003). Findings by Rumsey and Hamburger and

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