Executive functioning in adults with autism: Analyses of BRIEF-A self reports

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**Background**

Adults with ASD are known to have executive function (EF) problems, especially with cognitive shifting. EF research in ASD is mainly based on results from neuropsychological tests. However, this way of testing has its limits concerning the ecological validity and takes a considerable amount of time (Kenworthy et al., 2008).

The Behavior Rating Inventory of Executive Function for Adults (BRIEF-A; Roth et al., 2006) does not have these disadvantages. The BRIEF-A screens for potential EF problems, measured by nine non-overlapping theoretically and empirically derived clinical scales: Inhibit, Shift, Emotional control, Self-monitor, Initiate, Working memory, Plan/Organize, Task monitor, and Organization of materials.

Various studies have shown that the BRIEF is able to identify EF problems in children with ASD, with the most profound problems on the scale Shift. This could be considered a 'characteristic' ASD profile. Little research has been done on the existence of such a profile in adults with ASD. Research using the BRIEF-A informant version shows that adults with ASD have problems on the scales Shift and Plan/Organize. It is unclear whether the same is true for the self-report version.

**Objectives**

The goal is to investigate whether there is a characteristic BRIEF-A score profile for adults with ASD, using the self-report version.

**Methods**

In total, the sample consisted of 254 adults with ASD (M_age = 34.28, SD_age = 12.05 years; n = 181 men, n = 73 women).

ASD assessment was based on an extensive psychiatric examination, a standardized ASD interview, and a developmental interview with (one of the) the parents in the presence of the patient. Trained clinicians diagnosed the participants with ASD, using the DSM-IV-TR criteria (n = 14 AD, n = 114 AS, n = 126 PDD-NOS).

All patients filled in a BRIEF-A self-report at the beginning of the diagnostic process. An independent researcher scored these questionnaires. T-scores were calculated for all nine scales. The normative sample of the Dutch BRIEF-A manual was used as a reference group.

**Results**

The ASD group has significant higher BRIEF-A scores – indicative of more EF problems – than the normative group, on all nine scales (M > 50), p < .001, d = 0.75 - 1.60 (see Table 1). The scales Shift, Initiate, Working Memory and Plan/Organize even show a clinical elevation (M > 65, p < .001, d = 0.25 - 0.40).

Concerning differences based on sex, women with ASD have significant higher scores than men on the clinical scales Shift (M_diff = 74.27, SD_diff = 11.70, M_diff = 12.56, t(252) = -3.435, p = .001, d = 0.48) and Emotional control (M_diff = 64.15, SD_diff = 11.62, M_diff = 58.97, SD_diff = 12.16 respectively, t(252) = .3110, p < .002, d = 0.44) (see Table 2).

**Conclusions**

Adults with ASD report the most profound EF problems with shifting, initiating, working memory, and planning/organizing. This is in line with and provides additional outcomes to research findings with the BRIEF-A informant report.

Women with ASD report more problems than men concerning shifting and emotional control. With regard to the last finding, a possible explanation is the vulnerability of women with ASD for more emotional problems than men with ASD (Bargiela et al. 2016).

Note that the effect sizes are small. More research is warranted before conclusions can be made concerning a possible characteristic BRIEF-A profile for adults with ASD.

**References**


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