ASSESSMENT OF SENSORY ISSUES IN ADULTS WITH ASD: THE SENSES, A NEW QUESTIONNAIRE

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Senses

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Background

Sensory issues are a key DSM-5 diagnostic feature of ASD (APA, 2013). There is no standardized Dutch questionnaire available measuring both (1) hyper-, hyposensitivity, and unusual sensory interests, and (2) a broad range of sensory modalities, including interoception.

Objectives

The aim was to develop and examine the psychometric properties of the Senses, a newly-developed self-report sensory questionnaire for adults with ASD.

Methods

The Senses (63 items) (Turkensteen & Blijd-Hoogewys, 2018) was developed based on both an extensive literature search and clinical impressions. It consists of three scales, questioning ten sensory modalities: Hypersensitivity, Hyposensitivity and Sensory interests.

A total of 466 adults, consisting of a normative group (n = 180) and a clinical group (n = 286), filled in both the Senses and the AQ-10 (Allison et al., 2012). The normative data sample was obtained from general population (age: M = 40.94, SD = 10.99; 33 men, 147 women). The clinical group consisted of adults suspected for ASD, who underwent an extensive ASD assessment at INTER-PSY and IPGGZ, two general mental healthcare institutions. Ultimately, 72% received an ASD diagnosis (ASD group, n = 206, age: M = 31.80, SD = 11.27; 95 men, 111 women); the others received other psychiatric diagnoses (non-ASD group, n = 80, age: M = 35.86, SD = 12.49; 37 men, 43 women). The mean AQ-10 total score was different for group membership (ASD: M = 6.09, SD = 2.29; non-ASD: M = 4.85, SD = 2.47; norm: M = 1.71, SD = 1.53) (Welch's F(2, 129.360) = 209.454 , p < .001). The same is true for age (ANOVA, F(2, 463) = 30.997, p < .001).

ASD subgroups also completed (1) a Senses retest within two months (n = 19), (2) an AASP (Adolescent/Adult Sensory Profile; Brown & Dunn, 2002; n = 20) and (3) a BRIEF-A (Behavior Rating Inventory of Executive Function; Roth et al., 2006; n = 27).

Results

Cronbach's alphas were .931 for ASD group, .943 for non-ASD group, and .925 for normative group. Test-retest reliability was .87 (M_1 = 67.11, SD_1 = 24.34; M_2 = 67.95, SD_2 = 21.84; p <.001). Senses total score correlated significantly with both AASP scale Low registration and AASP scale Sensory sensitivity (r = 68, p = .001 and r = .72, p <.001, respectively). Senses scale Hypersensitivity correlated significantly with AASP scale Sensory sensitivity (r = .91, p <.001), not with AASP scale Low registration (r = .35, ns). Senses scale Hyposensitivity correlated significantly with AASP scale Low registration (r = .70, p = .001), not with AASP scale Sensory sensitivity (r = .24, ns). Senses total score correlated significantly with BRIEF-A scale Shift (r = .55, p <.001), not with BRIEF-A scale Task Monitor (r = .22, ns) and BRIEF-A scale Organization of Materials (r = .22, ns).

Correlation between Senses total score and AQ-10 total score was .67 (N = 466; p <.001). Senses total score was significantly different for group membership (ASD-group: M = 64.33, SD = 25.71; non-ASD group: M = 45.90, SD = 26.05; normative group: M = 24.06, SD =15.20) (Welch's F(2, 194.589) = 185.557, p < .001). Using the 95th percentile of the normative group as cut-off, 60% of the ASD-group reported sensory issues.

Assessing the scale's discrimination between ASD group and normative group, ROC-analysis yielded an AUC of .907 (p <.001), with a sensitivity of .84 and a specificity of .87.

Exploratory factor analyses resulted in a 3-factor solution, consisting of 27 items. The interpretation of the factor-content was consistent with the theoretically assumed scales the questionnaire was designed to measure: Hypersensitivity (10 items, α = .859), Hyposensitivity (10 items, α .839), and Unusual Sensory Interests (7 items, α = .712).

You can obtain the poster content via the following QR code:

Conclusions

The Senses has strong psychometric qualities. There is an excellent internal consistency, a good test-retest reliability and a good convergent validity. Former research showed a clinically elevated BRIEF-A scale Shift in ASD adults, in contrast with BRIEF-A scale Task Monitor and BRIEF-A scale Organization of Materials (Jager et al., 2018). Divergent validity of the Senses was confirmed by the resulting correlation profile with those BRIEF-A scales.

ASD adults report more sensory issues. The Senses is able to differentiate well between adults with ASD, adults who were suspected for ASD but did not receive this diagnosis, and the normative group. The amount of sensory issues is associated positively with the amount of autistic traits. It should be noted that age could have been a cofounder, since the three research groups differed significantly in age. However, within groups there was no such association found. More research is warranted, using matched control groups.

The Senses can be shortened to 27 items, which makes it more suitable for clinical practice. The derived factors can be used as measures for Hypersensitivity, Hyposensitivity and Unusual Sensory Interests. The following sensory modalities are involved: vision, hearing, smell, taste, touch, balance, hunger/thirst, fatigue, and pain. Follow-up research on the psychometric qualities of this shortened version is planned. We are confident that those psychometric qualities will also be good.

References

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