

Inclusion Criteria	Exclusion Criteria
Adult research that encompasses people who are at least 16-years-old with a confirmed ASD or Autism diagnosis.	Research with participants diagnosed with ASD and done exclusively with children under the age of 16 years.
Works that at least possess some objective measure of sensory processing and as well as tools like the SPM-2, AASP or the SP.	Deficits that have not had a proper assessment based on adequate detailed screening or deficits that are unassessed.
Research that includes both standardized clinical observation and self-administered questionnaires to quantify perception/sensory integration in ASD adults.	Literature does not have the identification of sensory processing characteristics as the major research objective in adult participants with ASD.
The findings are derived from articles published in English.	A small sample of research articles and other work included in the compilation was written and published in languages other than English.
Specifically, the current research focused on collecting peer-reviewed journal articles.	Abstracts, commentaries and reviews, editorials and letters, and articles without original data.



Introduction:

This scoping review aimed to determine the range of outcome tools available for assessing sensory processing, and to examine their psychometric properties. Sensory processing differences are one of the characteristic features of autism spectrum disorder (ASD). However, most of the current assessment instruments do not have validation for adult populations, thus raising the question of their reliability, validity, and responsiveness. This scoping review critically analyzes 12 studies that assess a total of 10 different sensory assessment tools used in adults with ASD.

Objectives:

1. To identify sensory assessments used for adults with ASD, focusing on the utilized tools.
2. To evaluate the psychometric properties, including reliability, validity, and responsiveness, of these sensory assessments in adult populations.



Study Selection & Characteristics:

COSMIN Risk of Bias Checklist was used by two independent reviewers to assess studies in 9 categories: internal consistency, reliability across time and judges, measurement errors, validity about the content, validity about the structure, hypotheses investigation, cross-cultural aspects, criteria validity and ability to react to change.



The study critically reviewed and compared the psychometric characteristics of sensory evaluation methods within the 12 studies. We will scrutinize and compare the psychometric characteristics of sensory evaluation methods within Fründt et al. (2017), DuBois et al. (2017), Wada et al. (2023), Vaughan et al. (2020), DiCriscio et al. (2021), and more including Brown et al. (2020), Ben-Sasson et al. (2019), Crasta et al. (2023), Quinde-Zlibut et al. (2020), Schafer et al. (2020), Grant et al. (2022) and Liu et al. (2020) for their value in studying sensory processing in ASD individuals.

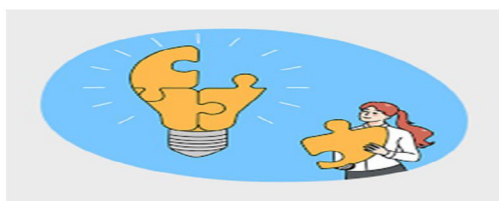
Normative Data: In general, there is a lack of normative data with ASD-specific populations. The majority of tools imitate norms of NT populations or children's samples, which lowers the accuracy of the diagnoses. Where possible, mean scores and z-scores tend to show substantial differences in sensory thresholds among ASD adults, and warn of both ceiling (hyper-responsivity) and floor (complicated auditory functions) effects. ASD specific normative data sets need to be developed urgently to enhance diagnostic accuracy and clinical usefulness.

Responsiveness: Since none of the studies gave direct evidence about responsiveness over time, conclusions on the topic were impossible. Sensory assessment tools need long-term follow-up assessments to determine their proper responsiveness to change.

Reliability: It was evident that the reliability of the AASP self-report measure was strong; the QST used standardization practices that established implicit reliability despite lacking direct reliability reporting methods, however, the reliability of the QST tool used in the study depended on the communication ability of patients. Research supports that self and proxy-assessment scales, such as AASP, are the most dependable measures of sensory functioning in people with autism. Hence, more rigorous tests are needed to confirm that new research and clinical tools and methods are suitable. The study points to the lack of such research and calls for more reliable studies in each type of sensory evaluation.



Validity: Research indicated extensive validation support for tools, namely the QST, particularly because this assessment is widely used. The self-report instruments exhibited both construct validity and criterion validity, yet the complex sensory assessment of QST demonstrated excellent content validity and criterion validity. Moreover, Psychophysical testing methods need additional validation measures, especially when used with individuals who have lower sensory functioning abilities. Overall, QST and well-validated questionnaires such as AASP offer the most reliable evidence of validity for sensory processing assessments in autistic adults. The AASP demonstrates strong content validity because of its expert review process, but it does not appropriately measure the complex sensory experiences faced by ASD adults who interact with diverse psychosocial and environmental elements.



Conclusion: Further sensitivity and validation of sensory assessment instruments that are specifically developed and calibrated in adult ASD populations are largely necessary. These gaps provide some questions that can be addressed by future research, to include a larger range of demographic and cultural populations, to conduct ecological validity of the tools, and testing their sensitivity to treatment outcomes. Growing psychometric support of sensory assessments will enable clinicians and researchers to better address sensory needs, design interventions, and promote comfort with quality of life in the adult autistic population.

Discussion/ Limitations: There was a number of main gaps on the current evidence base. First, not many studies offered the standardised data specific to the adults on sensory assessment tools, which can be used in clinical practice to either diagnose or plan interventions on autistic adults. Second, there has been minimal consideration of the responsiveness of sensory assessment tools, that is their ability to identify changes in a significant period of time or responsiveness to intervention. Third, some of the tools mentioned their psychometric strengths like their internal consistency or construct validity; however, it was not consistently mentioned among the studies.