
Comparing and Exploring the Sensory Processing Patterns of Higher Education Students With Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder

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MeSH TERMS

- Asperger syndrome
- attention deficit disorder with hyperactivity
- child development disorders, pervasive
- sensation disorders
- sensory gating
- students
- universities

OBJECTIVE. Research regarding sensory processing and adults with attention deficit hyperactivity disorder (ADHD) or autism spectrum disorder (ASD) is limited. This study aimed to compare sensory processing patterns of groups of higher education students with ADHD or ASD and to explore the implications of these disorders for their college life.

METHOD. The Adolescent/Adult Sensory Profile was administered to 28 students with ADHD and 27 students with ASD. Students and professionals were interviewed.

RESULTS. The majority of students received scores that differed from those of the general population. Students with ADHD received significantly higher scores than students with ASD in relation to sensation seeking; however, there were no other major differences.

CONCLUSION. Few differences exist between the sensory processing patterns of students with ADHD and ASD; however, both groups differ significantly from the general population. Occupational therapists should consider sensory processing patterns when designing supports for these groups.

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Sensory processing encompasses reception, modulation, integration, and organization of sensory stimuli as well as behavioral responses to sensory input (Miller & Lane, 2000). Miller, Anzalone, Lane, Cermak, and Osten (2007) proposed a nosology in which three categories of sensory processing disorder (each with subtypes) were defined: (1) *sensory modulation disorder* (sensory overresponsivity, sensory underresponsivity, sensory seeking and craving), (2) *sensory-based motor disorder* (dyspraxia, postural disorder), and (3) *sensory discrimination disorder* (visual, auditory, tactile, vestibular, proprioception, taste and smell).

The theory of sensory processing used in this study is Dunn's (1997) Model of Sensory Processing, which is based on the relation between a neurological threshold continuum and a behavioral response continuum (Brown, Tollefson, Dunn, Cromwell, & Fillion, 2001). Dunn's model refers to the sensory preferences that are experienced by all people (and become a problem only if occupational performance is affected), whereas Miller et al.'s (2007) nosology refers to sensory disorders. Although the terminology used in Dunn's model is different from that in Miller et al.'s proposed nosology, it is possible to link similar concepts in both models.

Dunn (1997) described four quadrants resulting from the interaction of the neurological threshold continuum and the behavioral response continuum. The

sensory sensitivity quadrant relates to responses in accordance with a low neurological threshold. Characteristics include distractibility, noticing behaviors, and discomfort with sensory stimuli, such as startling easily to unexpected loud sounds. The *sensation avoiding* quadrant involves responses that counteract a low neurological threshold and includes behaviors that limit exposure to stimuli, such as eating only familiar foods. Both sensory sensitivity and sensation avoiding are similar to *sensory overresponsivity* in Miller et al.'s (2007) nosology; people with *sensory overresponsivity* respond to sensation faster, more intensely, or for a longer time than people with typical sensory responsivity.

The *low registration* quadrant reflects responses in accordance with a high neurological threshold. This quadrant includes a disregard of or slow response to sensation, such as not noticing smells that other people notice. Low registration is similar to *sensory underresponsivity*; people with *sensory underresponsivity* do not respond to or disregard sensory information in their environment (Miller et al., 2007). The *sensation seeking* quadrant involves counteractive responses to a high neurological threshold and encompasses pleasure derived from rich sensory environments and behaviors that can create sensation, for example, preferring extra spicy food. The term *sensory seeking and craving* is used to describe this quadrant in Miller et al.'s (2007) nosology and is described as craving a particular type or abnormal amount of sensory input and having a strong need for sensation. For the purposes of this study, we decided to use Dunn's (1997; Brown & Dunn, 2002) model because we were looking for sensory preferences rather than measuring dysfunction, and the Adolescent/Adult Sensory Profile (Brown & Dunn, 2002) was already in use by occupational therapists working in the Disability Services in participating higher education institutions.

Attention Deficit Hyperactivity Disorder and Sensory Processing

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder that is characterized by a pattern of behavior that can result in extensive difficulties in social, educational, or work environments (Stern & Maeir, 2014). These difficulties, as outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association [APA], 2013), fall within two categories: inattention and hyperactivity with impulsivity. Gutman and Szczepanski (2005) proposed that people with ADHD also have considerable difficulty in accessing and modulating their own sensory environment.

Although researchers of long-term studies have discussed the pervasiveness of ADHD in adulthood—with an

estimated worldwide adult prevalence of between 2.5% and 4% (APA, 2013; Stern & Maeir, 2014)—little has been published with regard to sensory processing among adults. Gutman and Szczepanski (2005) found that children with ADHD and control groups differ considerably in terms of sensory processing. When Brown and Dunn's (2008) model was applied to children with ADHD, children were found to score higher in three areas: level of activity, level of hearing, and low registration (Lufi & Tzischinsky, 2014). Children examined with Miller et al.'s (2007) model were found to differ significantly in their sensory responsiveness, and they demonstrated greater reactivity to sensory stimuli (Dunn & Bennett, 2002; Mangeot et al., 2001). The literature has shown that children with ADHD differ from children without ADHD in their sensory processing capabilities; however, the nature of these differences is not clear.

Autism Spectrum Disorder and Sensory Processing

Belief that sensory symptoms characterize autism spectrum disorder (ASD) and differentiate it from other disorders is so widespread that sensory behaviors have been included in the new criteria for a diagnosis of ASD in the *DSM-5* (Gibbs, Aldridge, Chandler, Witzlsperger, & Smith, 2012). As with ADHD, much of the research was conducted with a pediatric population. Adamson, O'Hare, and Graham (2006) found that all children affected by ASD, regardless of clinical features or age, may be affected by sensory sensitivities and may benefit from appropriate occupational therapy assessment and management. Tavassoli, Miller, Schoen, Nielsen, and Baron-Cohen (2014) explored sensory processing in adults and found that adults with ASD reported more sensory overresponsivity than a control group across various sensory domains (visual, auditory, tactile, olfactory, gustatory, and proprioceptive). It is evident from the literature that children with ASD experience sensory processing difficulties and, in particular, seem to show sensory overresponsivity.

Impact of Sensory Processing Difficulties on Students in Higher Education Environments

Few researchers have investigated the impact of sensory processing difficulties on students' functioning in higher education environments; however, establishing a position in society and maintaining social support systems are potential problems for adults with sensory processing difficulties (Watling, Bodison, Henry, & Miller-Kuhaneck,

2006). Some people may develop coping strategies that involve avoidance of activities and environments that provide too much sensory input. These strategies can greatly limit their choice of career, interpersonal relationships, leisure pursuits, and participation in daily life (Abernethy, 2010; Kinnealey, Oliver, & Wilbarger, 1995; Pfeiffer & Kinnealey, 2003).

Difficulties with sensory processing may also have an impact on how students in a higher education environment experience that environment and learn. For example, a student with sensory underresponsivity may need background noise when studying to provide the stimulation they need (Gutman & Szczepanski, 2005). Johnson and Irving (2008) explained that transitioning to higher education requires being able to function in a more stimulating environment than previously because students have to cope with larger classes, unfamiliar environments, and life in residence halls with varying levels of noise. The coping strategies that students have may be less effective in their new college environment and may contribute to feelings of depression and anxiety.

In a further study, Lewis and Nolan (2013) investigated examination accommodations for students with sensory defensiveness (sensory overresponsiveness); when asked about their experiences of examinations, students commented on the noise, temperature, and lighting in the exam venues as being a challenge and indicated that they were having difficulties processing sensory stimuli during exams. Although the research regarding the impact of sensory processing difficulties on higher education students is limited, it does suggest that the higher education environment can present new challenges for people who have a sensory processing disorder.

Purpose of Study

It is evident that the amount of information available regarding the sensory processing capabilities of adults with ADHD or ASD is limited. Little research has examined the functional implications of sensory processing difficulties, and some authors have called for more research on these groups (e.g., Brown et al., 2001; Lewis & Nolan, 2013). Greater understanding of the types of sensory processing difficulties that people with ADHD or ASD may experience and the functional implications of those difficulties will enable occupational therapy practitioners to better support these people. Therefore, two research questions guided this study: (1) What are the sensory processing patterns of adults in higher education who have a diagnosis of ADHD or ASD? and (2) What are the functional implications of these sen-

sory processing patterns for students in a higher education environment?

Method

Data used in this study were collected as part of a larger mixed-methods study in which the experiences of students with ADHD and ASD in higher education were explored. A convergent, parallel mixed-methods research design was used. Qualitative and quantitative strands were implemented concurrently and were prioritized equally. They were analyzed separately and were mixed in interpretation (Creswell & Plano Clarke, 2010). In this study, we used a survey research design in the quantitative strand. The purpose of survey research is to gather quantitative data from a population to describe the population or to explore correlations (Sapsford, 2007), as was needed to answer the first research question. We used an interview method in the qualitative strand that followed a phenomenological approach (Creswell, 2009) to gain as much detailed information as possible about the topic by questioning the participants about their thoughts on the functional implications of their sensory preferences (Lysack, Luborsky, & Dillaway, 2006; Quinn Patton, 2002).

Participants

Four higher education institutions were involved in the study, and we recruited participants using purposive sampling. The following inclusion criteria were used: students older than age 18 yr, with a diagnosis of ADHD or ASD, and who were registered with the Disability Service at their institution. Twenty-eight students with ADHD and 27 students with ASD completed the Adolescent/Adult Sensory Profile (Brown & Dunn, 2002). Six students with ADHD and 9 students with ASD were interviewed about their higher education experiences. Support staff participated in interviews ($n = 7$) and a focus group ($n = 6$) to discuss their experiences of working to support these students.

Measures

Adolescent/Adult Sensory Profile. The AASP characterizes adolescent and adult behaviors and performance in relation to sensory processing. It is a self-report questionnaire used to evaluate behavioral responses to everyday sensory situations, and it provides a standard method for professionals and people to measure and profile the effect of sensory processing on functional performance (Brown & Dunn, 2002). The AASP contains 60 questions about how frequently the person experiences different behaviors related to everyday sensory situations, all scored on a

5-point scale (Rieke & Anderson, 2009). The questions are organized into six categories (taste and smell, movement, visual, touch, activity level, auditory). Each question also relates to one of the four quadrants of Dunn's (1997) Model of Sensory Processing, with 15 questions for each quadrant (Brown & Dunn, 2008).

Validity was established by carrying out a review by an expert panel and by conducting pilot studies (Brown & Dunn, 2008). An initial study completed by Brown et al. (2001) supported the measure's reliability and validity. Internal consistency was measured and was found to be high, with coefficient values of .60–.78 (Brown, Cromwell, Fillion, Dunn, & Tollefson, 2002; Brown et al., 2001).

This measure was chosen for the current study because it was deemed suitable to measure the sensory preferences of students with ASD and ADHD, the literature supports its validity and reliability, and it also clearly links sensory processing with everyday experiences (Brown & Dunn, 2002). An online survey containing the AASP was used in this study. The questionnaire was modified to an online survey because we felt that this would increase response rates while decreasing interviewer bias. It also allowed participants to remain anonymous if preferred.

Interviews. During an in-depth interview, students were asked about their sensory preferences, building on responses to the AASP. Interviews were semistructured. Researchers followed an individualized interview guide—designed specifically for each student on the basis of his or her questionnaire responses—that listed topics for discussion and prompted questions; however, the researchers had the flexibility to follow the students' lead while discussing their individualized sensory preferences. Students were asked specific questions about their study, learning, and social environments and about how sensory preferences affected these activities, for example, "On the basis of the Sensory Profile, you indicated that you can be quite auditory sensitive. Do you think that the college environment has an impact on this?" Support staff participants (during interviews and focus groups) were also asked about their opinions on the impact of sensory preferences on students and their ability to engage in college life, for example, "With ADHD, there are often sensory processing problems or different sensory preferences. Do you think this has an impact on how the student engages in college?"

Data Collection Procedures

A gatekeeper who was a staff member of the Disability Service at one of the institutions but who did not have direct clinical responsibilities contacted the students.

Students who expressed interest in participating were sent a participant information letter, a link to the online survey, and a participant information leaflet via email. They were invited to include their email address in their response if they wanted to be interviewed and were then contacted by the researcher to arrange interviews. Staff participants were invited to participate via email sent by a gatekeeper and were requested to contact the researchers directly if they wanted to participate. Ethics approval was granted from each of the four university research ethics committees to carry out these data collection procedures.

Data Analysis

Quantitative data were entered into IBM SPSS Statistics (Version 21; IBM Corporation, Armonk, NY). Descriptive statistics were used to describe the demographics of each group and to calculate mean scores. Mann–Whitney *U* tests were used to test for differences between the ADHD and ASD groups. The Mann–Whitney *U* test was used as an alternative to the *t* test for independent samples because the scores in this study were not normally distributed (Pallant, 2010). However, to compare the ADHD and the ASD groups with the AASP standardization study, we used an unequal-variance *t* test for independent samples with two-tailed tests (Tomita, 2006). Thematic analysis, as described by Braun and Clarke (2006), was used to analyze the qualitative data in this study. Thematic analysis is used to identify analyses and to report themes within data; it is also used to interpret various aspects of the research topic, thereby providing a rich and detailed account of the data (Braun & Clarke, 2006). Thematic analysis has been identified as a useful method to investigate underresearched areas (Braun & Clarke, 2006). We followed Braun and Clarke's suggestions to carry out the qualitative data analysis. NVivo (Version 10; QSR International, Doncaster, Victoria, Australia) was used to aid in the analysis of qualitative data.

Three cycles of coding were used to categorize the data into themes. The first coding cycle involved a combination of descriptive (summarizing the topic of a sentence or paragraph into a short phrase or word) and in vivo (using actual words or terms that the participants said) coding. The second and third coding cycles involved focused coding that was used to identify the most prominent categories in the data (Saldaña, 2012). Trustworthiness of qualitative data was enhanced by having some interview transcripts coded by two researchers to ensure intercoder reliability. We also used other techniques to enhance the trustworthiness of the study, including collecting and comparing three types of data (AASP scores, student interviews, and staff interviews) and using triangulation.

Table 1. Demographic Characteristics of the Sample

Characteristic	ADHD group, <i>n</i> (%) (<i>n</i> = 28)	ASD group, <i>n</i> (%) (<i>n</i> = 27)
Gender		
Male	18 (64.3)	22 (81.5)
Female	10 (35.7)	5 (18.5)
Age, yr		
18–23	16 (57.1)	20 (74.1)
24–30	7 (25.0)	2 (7.4)
30+	5 (17.9)	5 (18.5)

Note. ADHD = attention deficit hyperactivity disorder; ASD = autism spectrum disorder.

Coding and themes were discussed with the research supervisor to ensure that expert critique was obtained. The research questions were stated clearly at the outset, which also enhanced trustworthiness.

Results

Demographics and Quadrant Scores

Demographic characteristics of the sample are displayed in Table 1. Each student received a raw score for each quadrant that was rated on the following categories: much less than most people, less than most people, similar to most people, more than most people, or much more than most people. For ease of data analysis and because of the small number of participants in each group, these categories were combined into three (less than most people, similar to most people, and more than most people). Table 2 shows the number of students in each group who received a raw score in each quadrant. The ASD group showed a particular pattern in that they were similar to most people or more than most people in all quadrants except for sensation seeking, in which 63.0% were less than most people. The ADHD group did not show the same consistent trends, but nearly three-fourths of participants (71.4%) rated more than most people for low registration, and nearly two-thirds of participants (60.7%) rated similar to most people for sensation avoiding. A mean score for each quadrant was

also calculated and is displayed in Table 3. A Mann–Whitney *U* test revealed that the ADHD group received significantly higher scores in the sensation seeking quadrant than the ASD group.

Table 3 also shows the mean scores from the AASP standardization study compared with the ADHD and ASD groups (Brown & Dunn, 2002). Both the ADHD and the ASD groups had higher mean scores than the standardization group in the low registration, sensory sensitivity, and sensation avoiding quadrants; however, the standardization group had a higher mean score than both the ASD and ADHD groups in the sensation seeking quadrant. The ASD and ADHD groups differed significantly from the AASP standardization group across each of the quadrants tested.

Interviews

The purpose of the qualitative aspect of the study was to determine how sensory processing difficulties have an impact on students' functioning from staff and student perspectives. Three themes emerged from the analysis of qualitative data, as shown in Figure 1.

Theme 1: Study and Exam Environments. Sensory preferences were most evident when students discussed their study environments. Lighting level and background noise were important to students when considering study environments. One student with ASD described how clicking a pen had an impact on him when studying:

People clicking pens, that drives me mad! I can't even listen to music when I study; I know a lot of people can, but I can't, even not classical music—it does not work, I need complete silence. But yeah, clicking the pen—I'll kill you, I hate it I hate it!

Another student with ADHD indicated the importance of having some background noise to be able to focus: "I like to have a little bit of background noise, just something, whether it's music or the TV on. . . . I have a hard time studying when it's complete silence." Students also

Table 2. Students With ADHD (*N* = 28) and ASD (*N* = 27) Who Scored in Each Quadrant

Quadrant	Less Than Most People, <i>n</i> (%)		Similar to Most People, <i>n</i> (%)		More Than Most People, <i>n</i> (%)	
	ADHD Group	ASD Group	ADHD Group	ASD Group	ADHD Group	ASD Group
Low registration	0 (0)	0 (0)	8 (28.6)	5 (18.5)	20 (71.4)	22 (81.5)
Sensation seeking	12 (42.9)	17 (63.0)	13 (46.4)	10 (37.0)	3 (10.7)	0 (0)
Sensory sensitivity	0 (0)	0 (0)	12 (42.9)	8 (29.6)	16 (57.1)	19 (70.4)
Sensation avoiding	0 (0)	0 (0)	17 (60.7)	10 (37.0)	11 (39.3)	17 (63.0)

Note. ADHD = attention deficit hyperactivity disorder; ASD = autism spectrum disorder.

Table 3. Comparisons of Mean Scores Across Groups

Quadrant and Group	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>	<i>p</i>
Comparing ADHD and ASD Groups Using Mann–Whitney <i>U</i> Test						
Low registration				—	—	.350
ADHD	40.64	8.74	28			
ASD	42.81	7.96	27			
Sensation seeking				—	—	.041
ADHD	44.89	8.21	28			
ASD	40.26	6.43	27			
Sensory sensitivity				—	—	.404
ADHD	44.18	8.97	28			
ASD	46.63	10.12	27			
Sensation avoiding				—	—	.097
ADHD	41.32	9.37	28			
ASD	45.63	9.78	27			
Comparing ASD Group With an AASP Standardization Study						
Low registration				9.98	521	.0001
ASD	42.81	7.96	27			
AASP	30.29	6.25	496			
Sensation seeking				7.17	521	.0001
ASD	40.26	6.43	27			
AASP	49.91	6.83	496			
Sensory sensitivity				8.41	521	.0001
ASD	46.63	10.12	27			
AASP	33.71	7.63	496			
Sensation avoiding				7.48	521	.0001
ASD	45.63	9.78	27			
AASP	34.57	7.34	496			
Comparing ADHD Group With an AASP Standardization Study						
Low registration				8.32	522	.0001
ADHD	40.64	8.74	28			
AASP	30.29	6.25	496			
Sensation seeking				3.74	522	.0002
ADHD	44.89	8.21	28			
AASP	49.91	6.83	496			
Sensory sensitivity				7.00	522	.0001
ADHD	44.18	8.97	28			
AASP	33.71	7.63	496			
Sensation avoiding				4.66	522	.0001
ADHD	41.32	9.37	28			
AASP	34.57	7.34	496			

Note. — not applicable; AASP = Adolescent/Adult Sensory Profile; ADHD = attention deficit hyperactivity disorder; ASD = autism spectrum disorder; *df* = degree of freedom; *M* = mean; *SD* = standard deviation.

discussed their ideal exam environments, with many preferring low-distraction venues.

Theme 2: Choice of Leisure Activity. Staff participants working with students with ADHD described how sensory preferences could influence students’ choices of leisure activity. Some students with ADHD commented on how being involved in physical activity was a coping mechanism for them. A staff participant who worked with students with ADHD observed, “Some students very much like climbing, but I also think there’s a sensory element to that

as well; a lot of students like rowing, again, there’s a sensory element, kind of that pedantic, rhythmical movement.”

Theme 3: Social Life. Sensory preferences also had an impact on social life. For example, students commented that the sensory environment of nightclubs was difficult for them. One student with ASD reported,

If they [friends] were doing something, they would be going out to a stupid nightclub, and like I would do it the odd time but apart from all the sensory things in the nightclub, I’d be bored. I’d sooner just go out and do things!

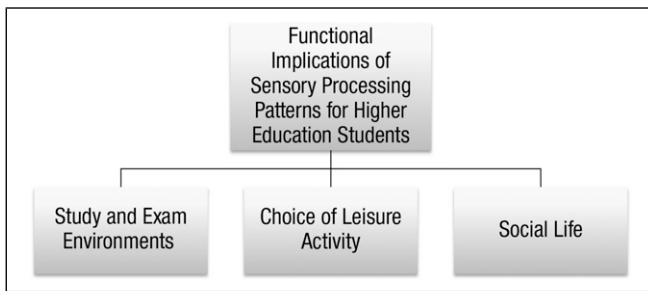


Figure 1. Functional implications of sensory processing patterns for higher education students: Themes from interviews.

Discussion

The results of this study are consistent with those of the previous literature in showing that the sensory processing patterns of students with ADHD and ASD differ from those of the general population. Although the sensory preferences of students in either group are not homogeneous, patterns can be seen from both the quantitative and the qualitative data in this study. Such patterning could have implications for practice in that these patterns could inform best practice and generalized supports offered to this cohort in higher education.

As described in the literature review, much of the previous research on ADHD and sensory processing relates to children or adolescents, and researchers have proposed that children with ADHD have definite sensory processing difficulties compared with control groups. For example, Gutman and Szczepanski (2005) found that students with ADHD do have sensory preferences that are different in some ways from those of the general population, particularly in the low registration quadrant; in our study, 71.4% of participants scored as more than most people in this quadrant. High scores in low registration could contribute to students with ADHD finding it difficult to interact with low-intensity stimuli, for example, quiet study activities (Brown & Dunn, 2002). Similarly, Gutman and Szczepanski stated that adults with ADHD are prone to sensory over- and underload, with little insight into their own sensory difficulties. The same study suggested that therapists working with these adults should focus on developing clients' level of insight into the interplay of sensory experiences and performance of day-to-day activities, which will enable them to monitor and regulate the amount of sensory stimulation they receive from their environment. Therefore, it is necessary to take into account these sensory preferences in individual intervention planning.

In relation to ASD, the literature has shown that children can have sensory sensitivities that the general population may not have (Dunn, 1997; Rogers & Ozonoff, 2005; Tavassoli et al., 2014). Although a dearth

of research in relation to adults with ASD and their sensory sensitivities exists, this study and others support the assertion that sensory sensitivities are pervasive into adulthood (Tavassoli et al., 2014). The statistical analysis of AASP scores showed that the majority of this cohort of students differed from the general population. In the areas of low registration, sensory sensitivity, and sensation avoiding, all students with ASD were either more than most people or similar to most people. These high scores likely indicate an increased awareness of sensory stimuli. In contrast, all students were found to be less than most people or similar to most people with regard to sensation seeking. Previous research (e.g., Ermer & Dunn, 1998) and this study show that the AASP can be used to discriminate sensory processing differences between children with ADHD and children with ASD.

A key finding of this study is that sensory preferences do have an impact on students' day-to-day functioning in higher education, as indicated by the qualitative results. Three themes were identified: study and exam environments, choice of leisure activities, and social life. Linking these functional implications with the *Occupational Therapy Practice Framework* (3rd ed.; American Occupational Therapy Association, 2014) shows that these students have difficulties in the occupations of formal education participation, leisure participation, and social participation. According to the *Framework*, they also have challenges in relation to their physical and social environments. Students with ASD reported that they can be auditory sensitive, which may have an impact on their ability to absorb information because they cannot filter out background noise, which was also shown in their quadrant scores. Johnson and Irving (2008) suggested that higher education facilities present environments that can be overwhelming for students with sensory sensitivities and that can prevent them from fully engaging in their daily tasks.

When interviewed, students with ADHD expressed a preference for low-distraction exam venues. This is consistent with Lewis and Nolan's (2013) finding that provision of low-distraction exam venues enables students who experience sensory defensiveness to participate better in exams. In both groups of students, sensory preferences had an impact on their preferred study environments. However, several preferred environments were described, indicating that one environment does not suit every student with sensory processing difficulties.

Limitations

The primary limitation of this study is the small number of participants, which means that results cannot be

generalized. The AASP was modified from its original version to an online version, which may have decreased the validity and reliability compared with the original measure; however, all participants in the study completed the questionnaire in the same format, and every effort was made to make the format as similar as possible to the original measure. The qualitative data in this study also provide new information regarding the functional impact of sensory processing difficulties. Therefore, despite the limitations of this study, it succeeds in addressing the research aims and providing new information about these populations.

Implications for Occupational Therapy Practice

The results of this study have the following implications for occupational therapy practice in higher education:

- The Adolescent/Adult Sensory Profile should be completed with all students with ADHD and ASD so that their individualized sensory preferences can be identified and so that strategies for incorporating these preferences into their routine can be implemented.
- Occupational therapy practitioners need to be cognizant of possibilities for environmental adaptation, including of the institutional and social environments. They need to be aware of how reasonable accommodations can be tailored to suit individual clients. These accommodations can be achieved by working closely with university disability services, examination offices, libraries, and housing departments in the provision of environmental adaptation and reasonable accommodations.
- Occupational therapy practitioners should consider developing self-management programs for students that address risky behaviors, sensory diets, and management of leisure occupations. Specific staff awareness training in understanding the impact of sensory processing and sensory sensitivities on students' academic progress and ability to learn should be developed and delivered from an occupational therapy perspective.

Conclusion

Measuring sensory preferences is an important step in guiding the correct provision of reasonable accommodations for higher education students with ADHD and ASD and in enabling their student role. ▲

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complex issues that these students have to face on a daily basis in a higher education environment.

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