A Trans-Diagnostic Investigation of Attention and Diverse Phenotypes of "Auditory Hyperreactivity" in Autism, ADHD, and the General Population

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Abstract

Experiences of "auditory hyperreactivity" and decreased sound tolerance, which can be separated into phenotypes such as hyperacusis and misophonia, are prevalent in autism and ADHD and impact quality of life and wellbeing. Furthermore, atypical patterns of attention regulation are common in both autism and ADHD. While ADHD is traditionally defined by inattention, and while the monotropism hypothesis posits that autism is characterized by intense focus, increasing evidence suggests both hyper-focus and susceptibility to distraction are elevated in both diagnoses. It is currently unclear whether hyper-focusing on stimuli or having one's attention captured by them could lead to sensory hyperreactivity; therefore, this study investigates associations between auditory hyperreactivity and hyper-focus and inattention. 492 adults (122 ADHD-only, 130 autistic-only, 141 autistic+ADHD, 99 comparison) completed questionnaires indexing hyper-focus, inattention, and various forms of auditory hyperreactivity; participants also completed a psychoacoustic misophonia measure. Per questionnaires, auditory hyperreactivity was markedly elevated in either autistic and ADHD participants relative to comparison participants (.46≤ Cliff's δ≤.84), whereas differences between autism and ADHD alone were small (.05≤|Cliff's δ|≤.21). Numerous associations between forms of self-reported auditory hyperreactivity and attention variables were found in neurodivergent groups, though fewer associations attained significance in the comparison group. However, self-reported misophonia was only modestly related to psychoacoustic misophonia scores (.22≤ Spearman's ρ≤.31), and psychoacoustic misophonia scores were not significantly associated with attention (.02≤ Spearman's ρ≤.20). These findings generally support the idea that attention may be connected to many neurodivergent people's auditory

hyperreactivity, but also emphasize the need for improved measurement of sensory experiences.

Keywords: hyper-focus, monotropism, inattention, hyperacusis, misophonia

1. Introduction

Atypical sensory experiences and behaviours are common in both Attention Dysregulation Hyperactivity Development (ADHD)[1] and Autism Spectrum Development (ASD). In autism, studies examining autism diagnostic measures and health/educational records have reported prevalence estimates of 72-74% (Carson et al., 2021; Kirby et al., 2022), and studies using dedicated sensory measures often report considerably higher prevalences (Crane et al., 2009; Dellapiazza et al., 2018). Furthermore, although some studies suggest differences from typical sensory processing could be more pronounced in autism than ADHD (Little et al., 2015; Schulz et al., 2022), others find no or only modest differences between autism and ADHD (Cheung & Siu, 2009; Clince et al., 2016; Dellapiazza et al., 2020; Scheerer et al., 2022). Unfortunately, these common neurodivergent experiences of sensory discomfort and distress often have serious disabling consequences. Indeed, sensory processing appears to be associated with (Lin & Huang, 2019) or an aspect of (McConachie et al., 2020) autistic people's quality of life. In both autism and ADHD, sensory processing appears to be related to participation in activities (Engel-Yeger & Ziv-On, 2011; Ismael et al., 2018; Little et al., 2015), to sleep (Dwyer, Ferrer, et al., 2022; Lufi & Tzischinsky, 2014; Mimouni-Bloch et al., 2021;

[1] Throughout this article, we endeavour to use terminology that is accurate, non-stigmatizing, and respectful of the identities of marginalized groups. For example, in light of evidence of hyper-focus in ADHD, the traditional label of an attention "deficit" appears to be not only laden with derogatory value judgements, but also to be empirically inaccurate in many contexts. Prior commentaries and guidelines provide further detail that informed our terminology choices (e.g., Bottema-Beutel et al., 2021; Dwyer, 2022; Dwyer et al., 2022; Gernsbacher, 2017; National Center on Disability and Journalism, 2021; Sinclair, 2013).

Tzischinsky et al., 2018), and to anxiety (Bitsika et al., 2020; Lane & Reynolds, 2019; Normansell-Mossa et al., 2021).

1.1. Sensory Phenotyping

Although many sensory measures reflect a concept of generalized "hyperreactivity" or "hypersensitivity" in neurodivergent people (Baranek et al., 2006; Lai et al., 2019; Robertson & Simmons, 2013), there are likely multiple distinct constructs underlying it (Williams et al., 2023), even in single sensory modalities such as hearing (Jastreboff & Jastreboff, 2015; Williams, He, et al., 2021).[2] Unfortunately, it is presently unclear how these more specific sensory constructs might differ across autism and ADHD.

One aspect of auditory "hyperreactivity" might be *auditory distractibility*: the capture of attention by sounds, interfering with people's ability to concentrate on tasks, which has been reported in both autism (Howe & Stagg, 2016; Landon et al., 2016) and ADHD (Cassuto et al., 2013; Johnson, 2014; Oja et al., 2016). Such experiences of auditory distractibility need not necessarily be uncomfortable or distressing.

There also appear to be multiple varieties of decreased sound tolerance, including *misophonia* (Jastreboff & Jastreboff, 2015; Williams, He, et al., 2021). Misophonia is characterized by strong emotional and autonomic reactions, including irritation, anger, and disgust, towards specific trigger sounds; the reactions are driven not by the intensity of the sounds but by the patterns and meanings of sounds (Cavanna & Seri, 2015; Ferrer-Torres & Giménez-Llort, 2022; Swedo et al., 2022) and they accordingly require sound identification

[2] Due to this complex structure, terms such as "decreased sound tolerance" or terms for specific varieties thereof are often used in preference to "hyperreactivity"; however, as the present study includes multiple forms of decreased sound tolerance as well as auditory distractibility/filtering issues, we use "hyperreactivity."

(Savard et al., 2022). Repetitive oral/nasal sounds (e.g., chewing) appear to be particularly common or strong triggers, but other human-generated and non-human-generated sounds can also elicit misophonic reactions (Enzler, Loriot, et al., 2021; Hansen et al., 2021).

A further form of decreased sound tolerance is *hyperacusis*, which is sometimes defined as reduced tolerance of sounds that are generally perceived as normal (e.g., Adams et al., 2020), although more precise definitions of hyperacusis focus on stimulus properties such as intensity or frequency (Jastreboff & Jastreboff, 2015), e.g., by describing hyperacusis as being characterized by diminished sound tolerance at intensity levels that are tolerated well by most people, resulting in experiences of increased loudness (Williams, He, et al., 2021). Such experiences are evident in both autism (Khalfa et al., 2004) and ADHD (Lucker et al., 1996). Furthermore, a subset of individuals appear to experience *pain hyperacusis*, or physical pain in the ears caused by loud sounds (Scheerer et al., 2024; Williams, He, et al., 2021). Autistic and ADHD people also report experiences of *sensory overload* (Scheydt et al., 2017), a construct which might often be difficult to disentangle from the reduced tolerance of loud sounds characteristic of hyperacusis. In sensory overload, either excessive stimulus intensity or an excessive number or diversity of stimuli can cause people to become overwhelmed and to struggle to process information (Scheydt et al., 2017). This can lead to internally distressing experiences of “shutdown” or provoke externalizing “meltdown” reactions (Belek, 2018).

Yet another form of decreased sound tolerance is *phonophobia*, a specific phobia towards some sounds, which is associated with anticipatory anxiety and avoidance (Williams, He, et al., 2021). Although some authors conceptualize phonophobia as a form of misophonia (Jastreboff & Jastreboff, 2015), the anticipatory fear and anxiety characterizing phonophobia appear distinct from anger and disgust reactions in misophonia (Williams, He, et al., 2021). However, it is only to be expected that sensory discomfort and distress, including misophonia (Jager et al., 2020), would contribute towards anxiety, as shown by longitudinal studies (Carpenter et al., 2019; Green et al., 2012). Thus, in practice, phonophobia may sometimes be difficult to disentangle from other forms of decreased sound tolerance (Jacquemin et al., 2024).

1.2. Attention and Sensory Experiences

Many theories have been advanced in an effort to explain, cognitively or neurobiologically, the origin of atypical sensory behaviours and experiences in neurodevelopmental disabilities (Ward, 2018). Some views suggest that attention plays a crucial, and perhaps neglected, role (Green & Wood, 2019; Liss et al., 2006; Murray et al., 2005; Thielen & Gillebert, 2019).

Interestingly, although ADHD is canonically associated with distractibility and inattention, ADHD people can also exhibit attentional hyper-focus, particularly in highly engaging activities, such as “screen time” (Grotewiel et al., 2023; Hupfeld et al., 2019; Ozel-Kizil et al., 2016; Sedgwick et al., 2019). Meanwhile, autism is associated with slowness to disengage attention (Sacrey et al., 2014) and with focused, intense interests (Uljarević et al., 2022), and it is often considered to be closely linked to hyper-focusing of attention (Rapaport et al., n.d.; Russell et al., 2019). Indeed, the autistic-developed monotropism theory (Garau et al., 2023; Murray et al., 2005), postulating that autism is fundamentally characterized by a narrow focusing of attention on a small range of targets of intense interest to a given autistic individual, attracts broad support in communities of autistic adults (Warren, 2021). However, autistic people can also display enhanced processing of background stimuli (Remington et al., 2019;

Remington & Fairnie, 2017) and a susceptibility towards exogenous, stimulus-driven capture of attention (Allenmark et al., 2021; Keehn et al., 2019; Poole et al., 2018; Venker et al., 2021). Thus, contrary to stereotypes, both autism and ADHD can be associated in different contexts with hyper-focus and with susceptibility towards distraction/inattention.

These atypical attentional styles could be related to atypical sensory experiences. The developers of the monotropism account insightfully noted this possibility, suggesting that autistic experiences of hypo-sensitivity to stimuli might reflect stimuli falling outside the focus of attention, while sensory discomfort might sometimes reflect hyper-attention to stimuli or stimuli exogenously disrupting a focused attention tunnel (Murray et al., 2005; see also Liss et al., 2006). Similarly, diminished interoception might sometimes reflect reduced attention towards bodily signals, whereas anxiety or other factors might result in heightened attention to bodily sensations and lead towards somatization (Trevisan et al., 2021). We speculate that both hyper-focus and susceptibility towards distraction/inattention could be related to sensory hyper-reactivity: that hyper-reactivity may partly reflect susceptibility towards noticing and exogenously directing attention towards distracting or distressing stimuli, after which hyper-focusing of attention and difficulty disengaging could exacerbate the experience.

It is possible that measures capable of more precisely distinguishing different sensory phenotypes, such as hyperacusis and misophonia, could aid understanding of any links between attention and sensory experiences. For example, it seems reasonable to suggest that intense misophonic emotional reactions would require individuals to attend to the sounds that trigger these reactions, and indeed, heightened attention to detail has been reported in misophonic people (Andermane et al., 2023; Simner et al., 2022) and trigger sounds appear to capture attention and interfere with task performance (da Silva & Sanchez, 2019).

1.3. Present Study

The present study aims to characterize the auditory sensory experiences of autistic-only; ADHD-only; autistic+ADHD; and non-autistic, non-ADHD people, with particular focus on auditory distractibility, misophonia, and loudness discomfort. Furthermore, it aims to evaluate convergence between questionnaire and psychoacoustic measures of misophonia. Finally, it aims to explore associations between auditory sensory experiences and measures of hyper-focus and inattention. We hypothesize that:

1. Loudness discomfort and misophonia will be elevated in the autistic-only and autistic+ADHD groups relative to ADHD-only individuals, and in the ADHD-only group relative to comparison participants.
2. Auditory distractibility will be elevated in the autistic+ADHD and ADHD-only groups relative to autism-only, and in the autistic-only group relative to comparison participants.
3. Questionnaire misophonia scores will converge robustly with the psychoacoustic misophonia measure.
4. Decreased sound tolerance phenotypes, including misophonia and loudness discomfort, will be separately associated with both inattention and hyper-focus.

2. Methods

2.1. Participants

The study sample and recruitment procedures have been described in more detail elsewhere (Dwyer et al., 2024). We recruited four groups of participants: autistic people who were not ADHD (autistic-only), ADHD participants who were not autistic (ADHD-only), participants who were both autistic and ADHD (autistic+ADHD), and comparison participants who were neither autistic nor ADHD (comparison).

Both neurodivergent and comparison participants were recruited from CloudResearch (Litman et al., 2017) and Prolific (Palan & Schitter, 2018). Furthermore, many autistic participants were recruited from SPARK Research Match (Feliciano et al., 2018).

1038 unique, complete screening responses were received (63 CloudResearch, 649 Prolific, and 325 SPARK). Self-identifications as autistic or ADHD were accepted, but participants were required to have ASRS-6 ADHD trait scores consistent with these identifications as described below. Participants with uncorrected hearing loss or who missed attention checks were excluded. Comparison participants with first- or second-degree autistic and ADHD relatives were excluded.

A total of 609 unique participants provided responses to the full survey; however, some participants were removed due to poor or discrepant data (*n*=82) or RAADS-14 autistic trait scores inconsistent with their group assignment (*n*=35). This left a final sample of 492 participants (Table 1): 99 comparison (10 CloudResearch, 89 Prolific), 122 ADHD-only (7 CloudResearch, 115 Prolific), 130 autistic-only (38 Prolific, 92 SPARK), and 141 autistic+ADHD (1 CloudResearch, 37 Prolific, 103 SPARK). All participants received $15 USD for completing the final survey. CloudResearch and Prolific participants additionally received $0.55 for the screening survey.

Table 1. Demographic characteristics of participants. Analyses of ordinal variables use omnibus Kruskal-Wallis tests and Wilcoxon-Mann-Whitney *post-hocs*; however, comparisons of the ages of ADHD and autism diagnoses use only Wilcoxon-Mann-Whitney tests, due to the availability of autism and ADHD diagnostic data only from autistic and ADHD participants. Analyses of categorical variables use Fisher's exact tests.

	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons		
	M (*SD*)	Range	*M* (*SD*)	Range	*M* (*SD*)	Range	*M* (*SD*)	Range	Kruskal *p*	η^2 [95% CI]	Post-hoc Wilcoxon (Benjamini-Hochberg FDR-corrected)
Age (years)	36.74 (11.75)	19.00 – 67.00	34.43 (10.07)	18.00 – 72.00	37.28 (14.81)	18.00 – 70.00	35.46 (12.30)	18.00 – 75.00	.69	.00 [–.01, .02]	N/A
Education[1]	5.48 (1.97)	1.00 – 10.00	5.26 (1.97)	2.00 – 10.00	5.75 (2.22)	1.00 – 10.00	4.79 (2.08)	1.00 – 10.00	**.0008**	.03 [.01, .07]	Autistic+ADHD < Autistic-only, comparison
ASRS-6	5.76 (3.34)	0.00 – 13.00	17.22 (2.70)	10.00 – 23.00	11.38 (3.50)	2.00 – 17.00	17.29 (3.12)	10.00 – 24.00	**<.0001**	.66 [.61, .70]	Autistic+ADHD, ADHD-only > Autistic-only, comparison Autistic-only > comparison
ASRS-18 Inattention[2]	9.71 (4.57)	0.00 – 21.00	25.28 (5.54)	15.00 – 36.00	16.60 (5.47)	1.00 – 28.00	25.01 (4.89)	14.00 – 36.00	**< .0001**	.56 [.50, .61]	Autistic+ADHD, ADHD-only > Autistic-only, comparison Autistic-only > comparison
ASRS-18 Hyperacti-vity-Impulsivity	6.86 (4.53)	0.00 – 21.00	19.97 (6.26)	7.00 – 35.00	14.89 (6.63)	0.00 – 30.00	22.08 (6.20)	5.00 – 36.00	**< .0001**	.43 [.36, .50]	Autistic+ADHD > ADHD-only, Autistic-only, comparison ADHD-only > Autistic-only, comparison Autistic-only > comparison

AHQ Dispositional Hyper-Focus	9.03 (6.54)	0.00 – 28.00	20.94 (6.36)	1.00 – 30.00	18.16 (7.35)	0.00 – 30.00	23.01 (5.81)	3.00 – 30.00	**<.0001**	.32 [.25, .39]	Autistic+ADHD > ADHD-only, Autistic-only, comparison ADHD-only > Autistic-only, comparison Autistic-only > comparison
RAADS-14	5.43 (4.09)	0.00 – 13.00	18.76 (9.64)	0.00 – 42.00	31.45 (7.32)	14.00 – 42.00	31.60 (7.16)	15.00 – 42.00	**<.0001**	.57 [.51, .63]	Autistic+ADHD, Autistic-only > ADHD-only, comparison ADHD-only > comparison
	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Categorical Statistical Comparisons		
	Count (%)		Count (%)		Count (%)		Count (%)		Fisher *p*	Cramér V [95% CI]	Post-hoc Fisher (Benjamini-Hochberg FDR-corrected)
Gender	42 F (42.42%) 46 M (46.46%) 11 nonbinary (11.11%)		53 F (43.44%) 51 M (41.80%) 18 nonbinary (14.75%)		53 F (40.77%) 58 M (44.62%) 19 nonbinary (14.62%)		58 female (41.13%) 56 male (39.72%) 27 nonbinary (19.15%)		.76	.06 [.04, .15]	N/A
Sex	54 M (54.55%) 45 F (45.45%)		54 M (44.26%) 68 F (55.74%)		50 M (38.46%) 80 F (61.54%)		61 M (43.26%) 80 F (56.74%)		.11	.11 [.05, .21]	N/A
Race/ Ethnicity	71 Non-Hispanic White (71.72%)		90 non-Hispanic White (73.77%)		102 non-Hispanic White (78.46%)		107 non-Hispanic White (76.43%)		.65	.06 [.03, .17]	N/A
Co-occurring conditions[3]	17 misophonia (17.17%)		49 misophonia (40.16%)		76 misophonia (58.46%)		98 misophonia (69.50%)		**< .0001**	.38 [.31, .46]	Autistic+ADHD, Autistic-only > ADHD-only, comparison ADHD-only > comparison

	0 auditory processing disorder (0.00%)	7 auditory processing disorder (5.74%)	23 auditory processing disorder (17.69%)	36 auditory processing disorder (25.53%)	**< .0001**	.29 [.23, .36]	Autistic+ADHD, Autistic-only > ADHD-only, comparison ADHD-only > comparison
	9 tinnitus (9.09%)	15 tinnitus (12.30%)	16 tinnitus (12.31%)	25 tinnitus (17.73%)	.27	.09 [.04, .20]	N/A
	22 anxiety (22.22%)	89 anxiety (72.95%)	85 anxiety (65.38%)	101 anxiety (71.63%)	**< .0001**	.40 [.32, .49]	Comparison < Autistic-only, ADHD-only, Autistic+ADHD
	19 depression (19.19%)	65 depression (53.28%)	64 depression (49.23%)	77 depression (54.61%)	**< .0001**	.27 [.20, .35]	Comparison < Autistic-only, ADHD-only, Autistic+ADHD
	2 eating disorder (2.02%)	16 eating disorder (13.11%)	6 eating disorder (4.62%)	14 eating disorder (9.93%)	**.005**	.16 [.10, .24]	Autistic+ADHD, ADHD-only > comparison ADHD-only > Autistic-only
	1 learning disability (1.01%)	8 learning disability (6.56%)	12 learning disability (9.23%)	30 learning disability (21.28%)	**<.0001**	.24 [.17, .33]	Autistic+ADHD > Autistic-only, ADHD-only, comparison Autistic-only > comparison
	1 obsessive-compulsive disorder (1.01%)	23 obsessive-compulsive disorder (18.85%)	21 obsessive-compulsive disorder (16.15%)	33 obsessive-compulsive disorder (23.40%)	**<.0001**	.22 [.18, .28]	Comparison < Autistic-only, ADHD-only, Autistic+ADHD
ADHD dx status		93 diagnosed (76.23%)		118 diagnosed (83.69%)	.16	.09 [.00, .21]	

ADHD dx subtype[4]			33 combined (42.31%) 39 inattentive (50.00%) 6 hyperactive-impulsive (7.69%)				45 combined (50.00%) 32 inattentive (35.56%) 13 hyperactive-impulsive (14.44%)		.12	.16 [.05, .31]	N/A
Autism dx status					106 diagnosed (81.54%)		113 diagnosed (80.14%)		.88	.02 [.00, .15]	
	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons (Two Groups Only)		
	M (*SD*)	Range	*M* (*SD*)	Range	*M* (*SD*)	Range	*M* (*SD*)	Range	Whitney-Mann *p*	Cliff δ [95% CI]	
Age at ADHD dx			21.87 (11.77)	4.00 – 49.00			20.84 (14.30)	2.00 – 70.00	.21	.10 [−.05, .25]	
Age at autism dx					27.66 (17.17)	0.50 – 68.00	24.78 (15.19)	2.00 – 70.00	.30	.08 [−.07, .23]	

Note. Values of $p < .05$ presented in bold.

1. Education was operationalized as an ordinal scale ranging from 1 (“Some high school or less”) to 10 (“Doctorate degree (for example: PhD, EdD)”). Average responses were around 5 (“Associate degree (for example: AA, AS)”) to 6 (“Bachelor's degree (for example: BA, BS)”).
2. ASRS-18 Inattention and Hyperactivity-Impulsivity scores reported here are based on summing scores when considering all response options, i.e., in line with “Method 3” as described by Kessler et al. (2005).
3. Including self-reports of both self-identified and formally diagnosed co-occurring conditions, if current. In the case of misophonia only, participants were provided with a definition of misophonia (“Misophonia is a condition in which individuals have excessive and inappropriate emotional responses to specific "trigger" sounds (e.g., chewing, tapping, sniffling), even when those sounds do not seem loud to others. Anger, extreme irritation, disgust, and anxiety are the most common emotions, though some individuals may experience rage. Misophonic triggers may evoke a "fight or flight" response, including symptoms such as muscle tension, increased heart rate, and sweating.”). In all other cases, participants were not provided with a definition before being asked if they had the condition.
4. Note that some participants with formal diagnoses could not recall which subtype they had been diagnosed with.

2.2. Survey Measures

2.2.1. Adult ADHD Self-Report Scale (ASRS)

The six-item World Health Organization Adult ADHD Self-Report Scale (ASRS-6) (Kessler et al., 2005, 2007) was collected in the screening survey. The ASRS-6 offers multiple cut-off scores (10, 14, and 18) with varying sensitivity and specificity (Kessler et al., 2007). We varied cut-offs for different groups due to phenotypic overlap between autism and ADHD (Krakowski et al., 2021; Vaidya & Klein, 2022), as well as based on whether participants had formal diagnoses or were self-identified. The following participants were considered eligible:

- diagnosed or self-identified autistic participants who indicated that they were non-ADHD, and whose ASRS-6 scores fell under the least sensitive ADHD cut-off (18);
- participants who indicated that they were non-ADHD and non-autistic, and whose ASRS-6 scores fell under the middle cut-off (14);
- participants who self-identified as ADHD, but had no formal diagnosis, and whose ASRS-6 scores met or exceeded the middle cut-off (14);
- participants who had formal ADHD diagnoses and whose ASRS-6 scores met or exceeded the most sensitive cut-off (10); and
- non-autistic participants who reported formerly (but not currently) being ADHD, but whose ASRS-6 scores met or exceeded the middle cut-off (14).

In the full survey, we collected the longer 18-item version of the ASRS, the ASRS-18 (Kessler et al., 2005). As this included the six items ASRS-6 items, we re-calculated ASRS-6 scores and excluded participants who no longer met criteria for inclusion based on their second ASRS-6 score.

2.2.2. Ritvo Autism and Asperger Diagnostic Scale (RAADS-14)

The 14-item Ritvo Autism and Asperger Diagnostic Scale (RAADS-14; Eriksson et al., 2013) was collected in the full survey. Autistic participants were excluded if they did not have RAADS-14 scores at or exceeding cut-off (14). Comparison participants were excluded if they scored at or above cut-off. As ADHD-only participants often exceeded the autism cut-off in the validation sample (Eriksson et al., 2013), we did not exclude ADHD-only participants based on RAADS-14 scores.

2.2.3. Adult Hyperfocus Questionnaire (AHQ)

We presented a shortened version of the Adult Hyperfocus Questionnaire (AHQ) developed by Hupfeld et al. (2019). Participants answered items about the frequency of having experiences of hyper-focus in general (dispositional hyper-focus). As the original measure included doublet pairs of similar items, we, in consultation with Kathleen Hupfeld, removed one item from each doublet. This left 6 dispositional hyper-focus items.

The AHQ, as administered in the present study, also included items asking about experiences of school, hobby, and screen time hyper-focus, as well as the valence of hyper-focus experiences; these data are described elsewhere (Dwyer et al., 2024).

2.2.4. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A)

The Multidimensional Inventory of Sound Tolerance-Adult (MISTA-A) is a measure of decreased sound tolerance specifically developed to quantify multiple dimensions of sound intolerance and screen for clinically significant decreased sound tolerance in the adult population; this measure is specifically designed to be applicable for use in autistic adults, as well as other neurodivergent and non-neurodivergent adults experiencing decreased sound tolerance (Williams, Cascio, et al., 2021). 26 items (28 in the development version used in the present study) invite participants to report the frequency of experiences of decreased sound tolerance within the previous month; 24 of these items are grouped into four dimensions: Misophonia, Hyperacusis (that is, loudness hyperacusis and auditory overwhelm, including some anticipatory anxiety), Fear/Panic (reactions to sounds, not anticipatory phobia of them), and Pain (that is, pain hyperacusis) (Williams, 2024). Using a free online calculator (https://asdmeasures.shinyapps.io/MISTA_score/), the MIST-A or any subset of its items can be scored using item response theory to produce normed T-scores (based on 1348 US general population adults) for each of these four dimensions. These scores converge well with other measures of sound tolerance constructs, including semi-structured diagnostic interviews to assess for the major sound tolerance disorders (Williams, 2024). T-scores > 60 are considered indicative of clinically elevated sound intolerance, and scores >70 suggest severe difficulties. Note that 9 MIST-A items were used for screening; if participants endorsed never having experiences of sound intolerance on all screening items, the remaining MIST-A items were not presented, and T-scores were based only on the administered items.

In addition, two sets of supplemental items on the MIST-A development version (not published with the official scale but administered as part of the present study) ask participants to report the frequency of sound-evoked physical symptoms (15 items; two subscales of hyperacusis-related symptoms and non-specific symptoms), and provide ratings of sound-tolerance related functional impairment/quality of life (8 items). Raw scores on these subscales are presented in supplementary materials.

2.2.5. Vanderbilt Auditory Distractibility Questionnaire (VADQ)

The Vanderbilt Auditory Distractibility Questionnaire (VADQ) is a brief, 7-item, unidimensional measure of auditory distractibility originally developed for use with autistic adults (Williams, 2021).

2.3. Sound Rating Measures

2.3.1. Core Discriminant Sounds (CDS)

A version of the Core Discriminant Sounds (CDS) misophonia measure developed by Enzler et al. (2021) was implemented in Qualtrics. Participants first listened to a white noise stimulus and were asked to adjust the volume "until it is playing at a clear, comfortable volume: neither too low nor too high." Participants then listened to practice sounds ("marimba" and "squeaking door") and were given opportunities to adjust the volume. Once volume was adjusted, participants were asked not to change their system sound level. Several types of sound were presented, including 10 common misophonia triggers, consisting of mouth sounds ("chewing 1," "chewing 2," "slurping"), breathing/nasal sounds ("breath running," "sniffling," "snoring"), throat sounds (swallowing," "throat clearing"), and repetitive sounds ("keyboard," "pen clicking"). We also presented 4 canonically unpleasant sounds ("clapping," "fingernails on chalkboard," "fork scratch plate," "scream"), and 7 canonically pleasant sounds ("birds," "fountain," "harp," "laugh," "ocean," "piano," "underwater"), using stimuli from prior research (Enzler, Fournier, et al., 2021; Enzler, Loriot, et al., 2021). Sounds were presented twice in a randomized order, with a short break between blocks, at an equal root mean square intensity. Participants pressed a button to play each sound, after which a horizontal 101-point visual analogue scale (VAS) from "pleasant" to "unpleasant" was presented with the instruction that, "If the sound is very pleasant, you should click on the far left of the scale. If the sound is very unpleasant, you must click on the far right of the scale. If the sound is neutral, you should click in the middle of the scale." Scores ranged from 0 (very pleasant) to 100 (very unpleasant). Participants could replay the sound before giving an answer.

We examined median ratings for canonically pleasant, unpleasant, and misophonia trigger sounds as an outcome in the present study. Following Enzler, Loriot, et al. (2021), we also calculated Core Discriminant Sound Misophonia (CDS-M) scores for misophonic trigger sounds, which reflect positive differences between a participant's median rating for a sound and the 75% quantile rating from control participants (defined here as non-autistic, non-ADHD participants reporting no current or historical misophonia), divided by the maximum possible value (the largest possible difference between a participant's rating and the 75% quantile), multiplied by 100. Sound-specific CDS scores were then averaged to produce the CDS-M total score, as well as CDS scores for mouth, breathing/nose, throat, and repetitive sounds. Sounds with 75% quantile ratings > 90 (extremely negative) in control participants were excluded from computation of CDS scores, to avoid magnifying minute differences (Supplementary Table 1). As a result, reactions to chewing sounds are not included in the CDS.

2.4. Data Analysis

All statistical analyses were conducted in R Studio, version 4.2.2.

2.4.1. Group Comparisons

Groups were compared on continuous variables using two-way ordinal probit regression (Harrell, 2022; Ripley et al., 2022), with autism and ADHD as separate independent variables. Significant interactions were probed using Wilcoxon-Mann-Whitney tests to compare all groups, with a Benjamini-Yekutieli false discovery rate correction for multiple comparisons (Benjamini & Yekutieli, 2001). Cliff's δ (Cliff, 1993; Torchiano, 2022) is reported as an effect size. Delta values of approximately ±0.11, ±0.28, and ±0.43 are equivalent to Cohen's benchmarks of "small," "medium" and "large" effect sizes (i.e., *d* of 0.2, 0.5, and 0.8, based on parametric equivalency between *d* and δ under normality (McGraw & Wong, 1992)).

Comparisons of groups on misophonia CDS scores also used ordinal probit regression, but with the additional independent variable of self-reported misophonia status (currently misophonic vs. never misophonic), as well as autism and ADHD status. Participants who reported historical but not current misophonia were excluded from this analysis.

2.4.2. Associations of Measures

Associations among misophonia measures were examined using Spearman's ordinal correlation coefficient separately in each group; a Benjamini-Yekutieli false discovery rate correction for four multiple comparisons (four groups) was applied.

Unique effects of AHQ Dispositional Hyper-Focus (AHQ-DHF) and ASRS-18 Inattention (ASRS-I) scores, each controlling for the other, on sensory measures were examined using partial Spearman's correlations (Kim, 2015).

Furthermore, correlation matrices among all variables employed in this study are presented in Supplementary Tables 2-5, and correlations between sensory questionnaires and other variables presented by (Dwyer et al., 2024) are presented in Supplementary Tables 6-9.

3. Results

3.1. Group Comparisons

3.1.1. Decreased Sound Tolerance and Auditory Distractibility

As described in Table 2, we observed main effects of autism and of ADHD on T-scores from each of the four MIST-A experience subscales (Misophonia, *Figure 1A*; Hyperacusis, *Figure 1B*; Fear/Panic, *Figure 1C*; and Pain, *Figure 1D*), driven by elevated scores in autistic and ADHD people relative to non-autistic and non-ADHD people (large effects). However, we also observed interactions, complicating interpretation of the main effects. Post-hoc tests in Table 2 found higher scores in autistic+ADHD than ADHD-only on all subscales (small to medium effects), while autistic+ADHD people reported higher scores than autistic-only on Hyperacusis, Fear/Panic, and Pain (small to medium effects). Furthermore, autistic-only participants reported more Hyperacusis and auditory Pain than ADHD-only participants (small effects), but there was little to suggest autistic-only people differed from ADHD-only people in experiences of Misophonia or auditory Fear/Panic. All neurodivergent groups had higher scores than comparison participants on all MIST-A experience subscales.

There were main effects of autism and ADHD on Auditory Distractibility (*Figure 1E*), with greater Auditory Distractibility in autistic and ADHD people relative to non-autistic and non-ADHD people, but an interaction of autism and ADHD was also apparent. Post-hoc tests in Table 2 found elevated scores in autistic+ADHD people (medium effect), and at a trend level in autistic-only people, relative to ADHD-only participants. All neurodivergent groups reported more auditory distractibility issues than participants in the comparison group (large effects).

There were also main effects of autism and ADHD on ratings of misophonic trigger sounds in the sound ratings task, with autistic and ADHD participants giving higher (i.e., more unpleasant) ratings than non-autistic and non-ADHD participants (*Figure 1F*). An interaction of autism and ADHD was also observed; the neurodivergent groups did not significantly differ from one another in *post-hoc* tests, but there were medium differences between each and the comparison group (Table 2).

As reported in Table 2, there was a main effect of autism on ratings of canonically pleasant sounds in the sound ratings task, with autistic participants giving higher (i.e., less pleasant) ratings to canonically pleasant sounds than non-autistic participants (*Figure 1G*).

There were no main effects or interactions of autism and ADHD on ratings of canonically unpleasant sounds (*Figure 1H*).

Raw scores on MIST-A Symptom and Impairment subscales are presented in Supplementary Table 10.

However, it should be noted that patterns of sound tolerance differences among the neurodivergent groups depended upon the RAADS and ASRS autistic and ADHD cut-offs used to include and exclude participants; more rigorous ADHD trait criteria could increase sound tolerance issues in ADHD participants relative to autistic participants (Supplementary Table 13), while more rigorous autistic trait criteria could reverse some of these changes (Supplementary Table 16).

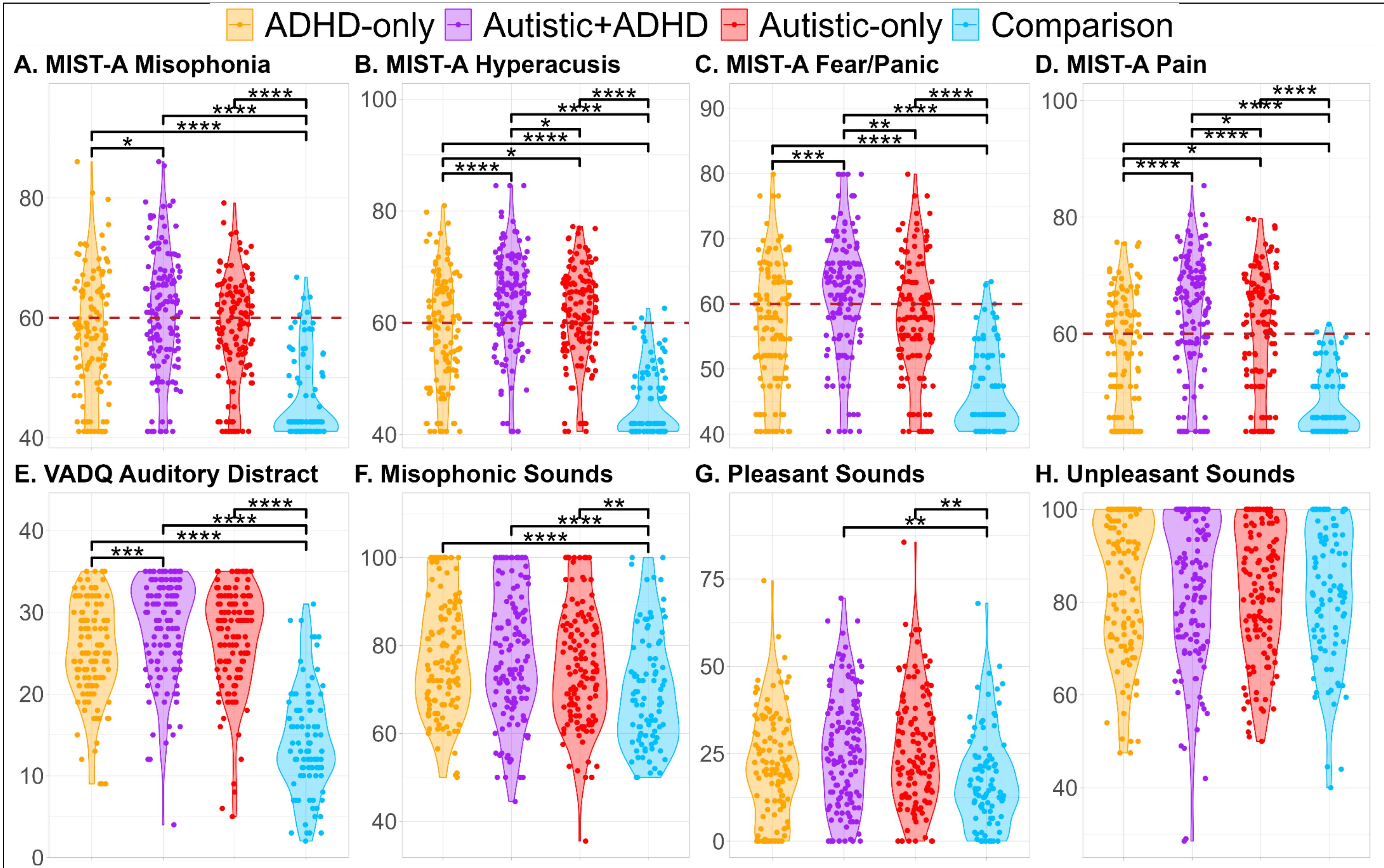

Figure 1. Violin plots, with overlaid horizontally jittered data points, depicting scores on the MIST-A and VADQ, and CDS ratings, as a function of group. Panels A-D depict MIST-A experience subscale T-scores; the dotted line at 60 represents the cut-off for scores indicative of clinical difficulties. Panel E depicts VADQ scores. Finally, Panels F-H depict median ratings of misophonic trigger, pleasant, and unpleasant sounds from the sound ratings task. Pairwise comparisons use Benjamini-Yekutieli-corrected Wilcoxon-Mann-Whitney tests, as in Table 2.

Table 2. Results of ordinal probit regression analyses, as well as Benjamini-Yekutieli FDR-corrected Wilcoxon-Mann-Whitney post-hoc tests, comparing groups on MIST-A T-scores, VADQ total scores, and median ratings from the CDS task. Coefficients and their 95% confidence intervals are reported. For post-hoc tests, Cliff's δ and its 95% confidence interval are reported as effect sizes. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants.

	Main Effects (*p*, coefficient, 95% CI)		Interaction (*p*, coefficient, 95% CI)	Wilcoxon post-hocs (corrected *p*, Cliff's δ, 95% CI)					
	Autism	ADHD		ADHD-only			Autistic+ADHD		Autistic-only
				Autistic+ ADHD	Autistic- only	Comparison	Autistic-only	Comparison	Comparison
MIST-A Misophonia T-score	<.0001**** 1.24 [0.95, 1.53]	<.0001**** 1.18 [0.89, 1.47]	<.0001**** –0.89 [–1.26, –0.51]	.03* –.19 [–.32, –.05]	>.99 –.05 [–.19, .09]	<.0001**** .59 [.46, .70]	.09 .15 [.01, .29]	<.0001**** .72 [.61, .80]	<.0001**** .66 [.54, .75]
MIST-A Hyperacusis T-score	<.0001**** 1.77 [1.47, 2.07]	<.0001**** 1.46 [1.17, 1.76]	<.0001**** –1.16 [–1.54, –0.78]	<.0001**** –.32 [–.45, –.18]	.04* –.18 [–.32, –.03]	<.0001**** .70 [.58, .79]	.04* .18 [.04, .31]	<.0001**** .87 [.79, .92]	<.0001**** .84 [.75, .90]
MIST-A Fear/ Panic T-score	<.0001**** 1.29 [1.00, 1.58]	<.0001**** 1.12 [0.84, 1.41]	.0001*** –0.73 [–1.11, –0.36]	.0001*** –.30 [–.43, –.16]	.54 –.09 [–.23, .05]	<.0001**** .59 [.45, .69]	.003** .23 [.09, .37]	<.0001**** .79 [.70, .86]	<.0001**** .67 [.55, .77]
MIST-A Pain T-score	<.0001**** 1.22 [0.93, 1.51]	<.0001**** 0.82 [0.53, 1.11]	.01* –0.47 [–0.85, –0.09]	<.0001**** –.38 [–.50, –.24]	.01* –.21 [–.34, –.07]	<.0001**** .46 [.31, .58]	.02** .18 [.04, .32]	<.0001**** .75 [.64, .83]	<.0001**** .64 [.52, .74]
VADQ Auditory Distractibility	<.0001**** 1.88 [1.57, 2.18]	<.0001**** 1.61 [1.31, 1.91]	<.0001**** –1.36 [–1.75, –0.97]	.0002*** –.30 [–.43, –.16]	.07 –.17 [–.30, –.02]	<.0001**** .78 [.67, .85]	.13 .14 [–.00, .27]	<.0001**** .86 [.78, .91]	<.0001**** .82 [.72, .88]
Sound Ratings Misophonia	.002** 0.43 [0.16, 0.70]	<.0001**** 0.63 [0.35, 0.91]	.02* –0.44 [–0.81, –0.07]	>.99 –.01 [–.16, .13]	.46 .10 [–.04, .25]	<.0001**** .36 [.20, .49]	.40 .12 [–.03, .25]	<.0001**** .35 [.20, .48]	.006** .26 [.10, .40]
Sound Ratings Pleasant	.0003*** 0.50 [0.23, 0.77]	.14 0.21 [–0.07, 0.49]	.25 –0.22 [–0.59, 0.15]	.20 –.15 [–.28, –.00]	.20 –.14 [–.28, .00]	.20 .15 [–.01, .30]	>.99 .00 [–.14, .14]	.002*** .28 [.13, .42]	.002*** .29 [.14, .43]
Sound Ratings Unpleasant	.66 0.06 [–0.21, 0.33]	.19 0.19 [–0.09, 0.47]	.80 –0.05 [–0.42, 0.33]	>.99 –.01 [–.16, .13]	>.99 .07 [–.07, .22]	>.99 .11 [–.05, .26]	>.99 .08 [–.06, .22]	>.99 .12 [–.03, .27]	>.99 .03 [–.12, .19]

3.1.1.1. Core Discriminant Sound (CDS) Scores

When psychoacoustic Core Discriminant Sound (CDS) scores were calculated from misophonic trigger sounds in the sound rating task, both chewing sounds from Enzler, Loriot, et al. (2021) were excluded due to control 75% quantiles > 90. All other misophonic trigger sounds were included.

There were main effects of self-reported misophonia on CDS Misophonia (CDS-M) total, CDS mouth sound, and CDS repetitive sound scores, with self-identified misophonic participants having higher (i.e., more misophonic) scores than non-misophonic participants (*Figure 2*; Table 3). There were also main effects of ADHD on CDS-M total and CDS breathing/nasal sound scores, with ADHD participants having higher scores than non-ADHD participants, and a main effect of autism on CDS repetitive sound scores, with autistic participants having higher scores than non-autistic participants.

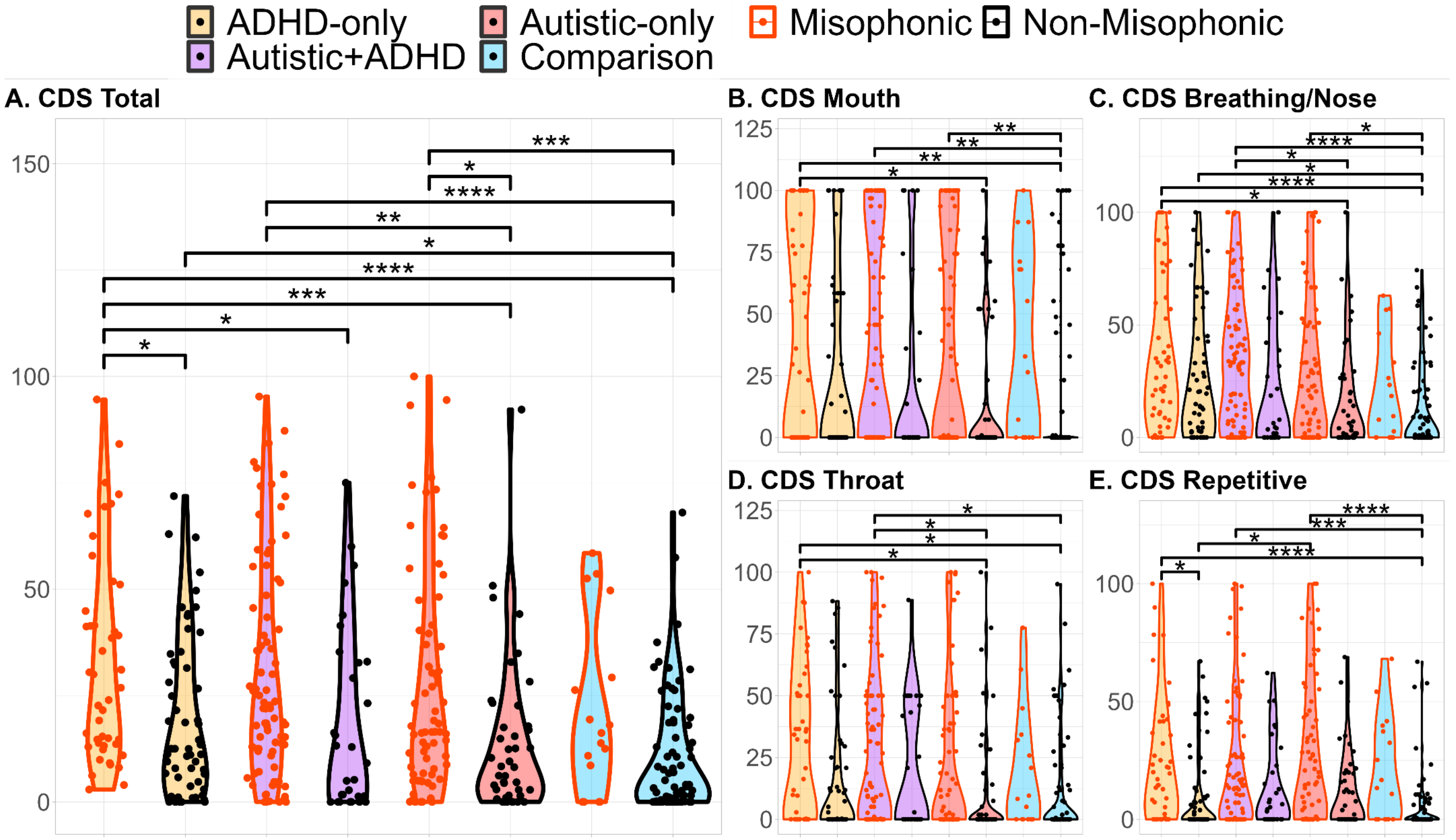

Figure 2. Violin plots, with horizontally jittered data points, depicting CDS scores as a function of group (ADHD-only, autistic+ADHD, autistic-only, and comparison) and self-reported misophonia status (currently misophonic vs. non-misophonic; historical misophonia was excluded). CDS scores, averaged across sounds, are based on taking the positive differences between a participant's rating of a sound and the 75% quantile of non-autistic, non-ADHD, non-misophonic participants' ratings, then rescaling those differences on a scale of 0 (i.e., the participant's rating of the sound was equal to or less than the 75% quantile, i.e., as or more pleasant than the 75% quantile rating) to 100 (i.e., the participant's rating was the maximum possible unpleasantness rating). Pairwise Wilcoxon tests use a Benjamini-Yekutieli FDR correction for 28 comparisons.

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Table 3. Results of ordinal probit regression analyses comparing groups on CDS Misophonia (CDS-M) total scores. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. For effects of misophonia, the reference group is non-misophonic participants. Participants self-reporting historical but not current misophonia are excluded.

	Main Effects (*p*, coefficient, 95% CI)			Interactions (*p*, coefficient, 95% CI)			
	Autism	ADHD	Misophonia	Autism x ADHD	Autism x Misophonia	ADHD x Misophonia	Autism x ADHD x Misophonia
CDS-M Total	.21 0.25 [–0.14, 0.63]	.004* 0.53 [0.17, 0.88]	.04* 0.57 [0.02, 1.11]	.14 –0.44 [–1.03, 0.15]	.88 0.05 [–0.61, 0.71]	.75 0.11 [–0.56, 0.78]	.91 –0.05 [–0.92, 0.82]
CDS Mouth	.64 0.11 [–0.36, 0.58]	.14 0.32 [–0.10, 0.75]	.03* 0.66 [0.06, 1.26]	.59 –0.20 [–0.90, 0.51]	.97 –0.01 [–0.75, 0.73]	.97 –0.01 [–0.76, 0.73]	.86 –0.09 [–1.08, 0.90]
CDS Breathing/ Nose	.22 0.25 [–0.15, 0.65]	.0008*** 0.62 [0.26, 0.99]	.20 0.37 [–0.19, 0.93]	.08 –0.55 [–1.16, 0.06]	.94 –0.03 [–0.71, 0.66]	.93 0.03 [–0.65, 0.72]	.67 0.20 [–0.70, 1.10]
CDS Throat	.97 –0.01 [–0.45, 0.43]	.28 0.22 [–0.18, 0.61]	.18 0.40 [–0.18, 0.98]	.96 0.02 [–0.65, 0.68]	.95 0.02 [–0.70, 0.75]	.77 0.11 [–0.60, 0.82]	.82 –0.11 [–1.06, 0.84]
CDS Repetitive	.02* 0.50 [0.08, 0.93]	.13 0.31 [–0.09, 0.71]	.006** 0.82 [0.24, 1.40]	.51 –0.22 [–0.86, 0.43]	.43 –0.29 [–0.99, 0.42]	.77 –0.11 [–0.82, 0.61]	.75 –0.15 [–1.08, 0.77]

3.2. Associations of Measures

3.2.1. Convergence of Misophonia Measures

MIST-A Misophonia T-scores and CDS-M scores were significantly and positively correlated in all four groups: ADHD-only, Spearman's ρ=.26, corrected *p*=.006, 95% CI=[.08, .42]; autistic+ADHD, ρ=.25, corrected *p*=.006, 95% CI=[.09, .41]; autistic-only, ρ=.22, corrected *p*=.01, 95% CI=[.05, .38]; and comparison participants, ρ=.31, corrected *p*=.006, 95% CI=[.11, .48] (*Supplementary Figures 1-2*). However, effect sizes were only weak to moderate.

3.2.2. Associations of Sensory Measures and Attention

As reported in Table 4, there were clear, unique associations between AHQ Dispositional Hyper-Focus scores and ASRS Inattention scores and MIST-A and VADQ scores. For example, in ADHD-only participants, Inattention was positively and moderately associated with all MIST-A sound tolerance T-scores and with Auditory Distractibility (*Figure 3A-E*; *Supplementary Figure 3A-E*). All of those associations except that involving MIST-A Fear/Panic remained statistically significant even after controlling for Hyper-Focus – which, in ADHD-only participants, was itself weakly to moderately associated with Auditory Distractibility and self-reported Misophonia, Hyperacusis, and Fear/Panic

In autistic+ADHD participants, Hyper-Focus was moderately related to Hyperacusis, auditory Fear/Panic, and auditory Pain, and these effects remained significant when controlling for Inattention (Table 4; *Figure 3B-D; Supplementary Figure 3B-D*). Moreover, autistic+ADHD participants' Auditory Distractibility was moderately related to Inattention, and this effect remained significant when controlling for Hyper-Focus (*Figure 3E, Supplementary Figure 3E*).

In autistic-only participants, Hyper-Focus was significantly and moderately associated with auditory Pain, even controlling for inattention (Table 4; *Figure 3D; Supplementary Figure 3D*). Moreover, autistic-only participants' self-reported misophonia was weakly related to inattention, and their experiences of Hyperacusis and auditory Fear/Panic were weakly or moderately related to both Hyper-Focus and Inattention (*Figure 3A-C; Supplementary Figure 3A-C*); these associations failed to attain statistical significance in partial correlations, so that it unclear whether unique effects of a single attentional index can account for the relationships, or whether an underlying source of shared attentional variance might be involved.

Meanwhile, in comparison participants, only Auditory Distractibility was significantly (and moderately) associated with inattention after accounting for Hyper-Focus (Table 4; *Figure 3E; Supplementary Figure 3E*). There was also a moderate association between control participants' Hyper-Focus and auditory Fear/Panic, but this did not remain after accounting for Inattention (*Figure 3C; Supplementary Figure 3C*). However, neither Inattention nor Hyper-Focus significantly predicted CDS Misophonia (CDS-M) scores (Table 4; *Figure 3F; Supplementary Figure 3F*).

Further associations are in Supplementary Table 11 (*Supplementary Figure 4*).

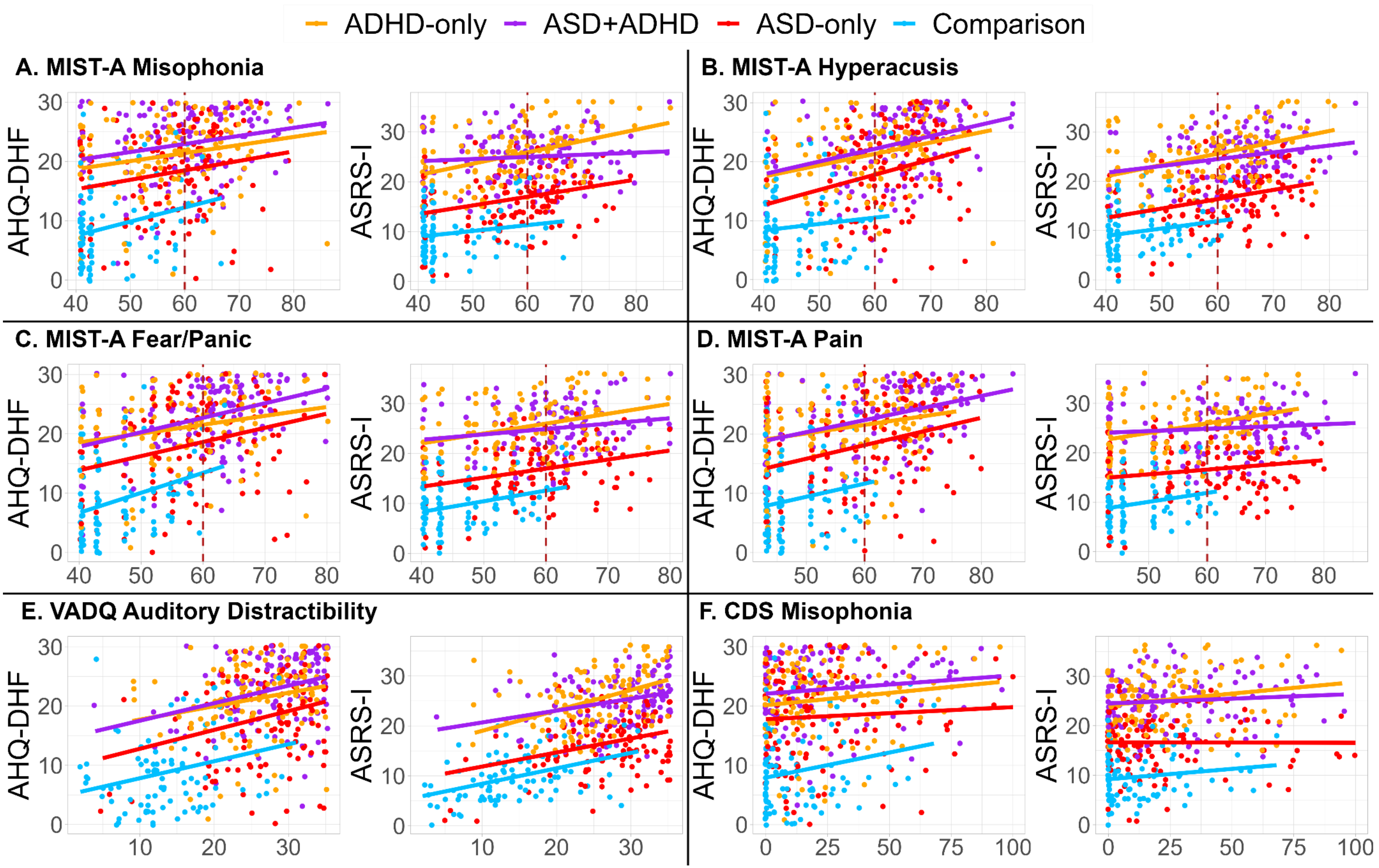

Figure 3. Linear slopes representing associations between sensory variables (MIST-A sound intolerance T-scores, Panels A-D; VADQ auditory distractibility, Panel E; and CDS Misophonia scores, Panel F) and AHQ Dispositional Hyper-Focus (AHQ-DHF) and ASRS Inattention (ASRS-I). Note that statistical analyses use Spearman's ordinal correlation, not the linear slopes depicted here. Data points are slightly jittered for display purposes. Vertical lines on MIST-A plots are cut-offs suggesting clinically significant auditory sensory issues.

Table 4. Spearman's correlations between sensory measures and (1) AHQ Dispositional Hyper-Focus (AHQ-DHF) scores and (2) ASRS-18 Inattention (ASRS-I) scores, separately in each group (ADHD-only, autistic+ADHD, autistic-only, and comparison). First row in cells: *p*-values for both raw and partial correlations are Benjamini-Yekutieli FDR-corrected for eight comparisons (4 groups x 2 attention measures). Second row: raw correlations and partial correlations, controlling for the other attention measure (i.e., for correlations between sensory measures and AHQ-DHF, controlling for ASRS-I, and vice versa). Third row: 95% confidence intervals of correlations were based on 1000 bootstrap iterations. Effects significant at *p*<.05 after correction are bolded.

		Correlations (corrected *p*, Spearman's ρ, 95% CI)							
		ADHD-only		Autistic+ADHD		Autistic-only		Comparison	
		AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I
MIST-A Misophonia	Raw	**.03* +.26 [+.06, +.43]**	**.0001*** +.40 [+.23, +.55]**	.06 +.22 [+.04, +.37]	>.99 +.05 [–.13, +.23]	.07 +.21 [+.02, +.37]	**.02* +.27 [+.10, +.44]**	.42 +.16 [–.05, +.37]	.97 +.11 [–.11, +.29]
	Partial	.72 +.13 [–.08, +.32]	**.002** +.35 [+.18, +.51]**	.08 +.23 [+.06, +.39]	>.99 –.04 [–.23, +.16]	.72 +.12 [–.05, +.28]	.13 +.21 [+.05, +.38]	.72 +.14 [–.08, +.35]	>.99 +.05 [–.17, +.25]
MIST-A Hyperacusis	Raw	**.002** +.32 [+.13, +.50]**	**<.0001**** +.42 [+.24, +.58]**	**.0002*** +.36 [+.20, +.51]**	.07 +.20 [+.03, +.37]	**.002** +.32 [+.14, +.46]**	**.003** +.30 [+.13, +.46]**	>.99 +.05 [–.17, +.25]	.35 +.17 [–.02, +.35]
	Partial	.16 +.19 [–.02, +.38]	**.001** +.35 [+.17, +.53]**	**.001** +.34 [+.17, +.48]**	>.99 +.08 [–.10, +.24]	.07 +.23 [+.05, +.40]	.16 +.19 [+.03, +.37]	>.99 –.01 [–.23, +.20]	.49 +.16 [–.03, +.35]
MIST-A Fear/Panic	Raw	**.02* +.25 [+.07, +.43]**	**.005** +.32 [+.13, +.47]**	**.0008*** +.35 [+.18, +.50]**	.14 +.17 [+.01, +.34]	**.01* +.27 [+.09, +.43]**	**.02* +.25 [+.09, +.41]**	**.02* +.30 [+.08, +.50]**	.13 +.21 [+.01, +.39]
	Partial	.37 +.15 [–.03, +.34]	.054 +.26 [+.06, +.43]	**.003** +.33 [+.16, +.48]**	>.99 +.05 [–.12, +.22]	.15 +.19 [+.01, +.37]	.32 +.16 [+.01, +.32]	.12 +.25 [+.01, +.45]	.80 +.12 [–.07, +.31]
MIST-A Pain	Raw	.09 +.22 [+.03, +.39]	**.003** +.33 [+.14, +.50]**	**.0001*** +.38 [+.23, +.52]**	.61 +.11 [–.07, +.28]	**.003** +.31 [+.15, +.47]**	.70 +.10 [–.07, +.28]	.61 +.14 [–.06, +.34]	.42 +.17 [–.02, +.35]
	Partial	>99 +.10 [–.08, +.30]	**.02* +.28 [+.08, +.44]**	**.0001*** +.38 [+.21, +.52]**	>.99 –.03 [–.22, +.15]	**.008** +.30 [+.13, +.46]**	>.99 –.03 [–.19, +.16]	>.99 +.11 [–.11, +.33]	>.99 +.13 [–.07, +.31]
VADQ Auditory Distractibility	Raw	**.02* +.27 [+.09, +.43]**	**<.0001**** +.48 [+.32, +.61]**	**.002** +.31 [+.15, +.46]**	**.001** +.32 [+.18, +.49]**	.07 +.20 [+.02, +.37]	.06 +.21 [+.02, +.37]	**.03* +.27 [+.07, +.45]**	**<.0001**** +.45 [+.26, +.62]**

Table 4. Spearman's correlations between sensory measures and (1) AHQ Dispositional Hyper-Focus (AHQ-DHF) scores and (2) ASRS-18 Inattention (ASRS-I) scores, separately in each group (ADHD-only, autistic+ADHD, autistic-only, and comparison). First row in cells: *p*-values for both raw and partial correlations are Benjamini-Yekutieli FDR-corrected for eight comparisons (4 groups x 2 attention measures). Second row: raw correlations and partial correlations, controlling for the other attention measure (i.e., for correlations between sensory measures and AHQ-DHF, controlling for ASRS-I, and vice versa). Third row: 95% confidence intervals of correlations were based on 1000 bootstrap iterations. Effects significant at *p*<.05 after correction are bolded.

		Correlations (corrected *p*, Spearman's ρ, 95% CI)							
		ADHD-only		Autistic+ADHD		Autistic-only		Comparison	
		AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I
	Partial	.50 +.13 [–.06, +.30]	**<.0001****** **+.43** **[+.25, +.57]**	.06 +.22 [+.03, +.40]	**.048*** **+.24** **[+.08, +.39]**	.50 +.13 [–.06, +.31]	.50 +.14 [–.04, +.32]	.50 +.14 [–06, +.35]	**.001**** **+.39** **[+.18, +.58]**
CDS Misophonia (CDS-M)	Raw	>.99 +.10 [–.10, +.28]	.76 +.20 [–.01, +.37]	>.99 +.12 [–.07, +.28]	>.99 +.14 [–.04, +.31]	>.99 +.07 [–.11, +.25]	>.99 +.02 [–.14, +.19]	>.99 +.09 [–.12, +.27]	>.99 +.07 [–.13, +.26]
	Partial	>.99 +.03 [–.16, +.20]	>.99 +.17 [–.01, +.35]	>.99 +.08 [–.10, +.25]	>.99 +.10 [–.07, +.28]	>.99 +.07 [–.12, +.25]	>.99 –.01 [–.19, +.17]	>.99 +.07 [–.16, +.25]	>.99 +.04 [–.17, +.25]

4. Discussion

The present study explored auditory sensory phenotypes and their relation to hyper-focus and inattention in autistic, ADHD, autistic+ADHD, and general population participants. Participants filled out a multidimensional questionnaire indexing a variety of distinct forms of decreased sound tolerance, as well as questionnaires regarding auditory distractibility issues, hyper-focus, and inattention. Furthermore, study participants rated the pleasantness of various sounds, including common misophonia trigger sounds. We investigated group differences in decreased sound tolerance, auditory distractibility, and sound ratings; convergence of questionnaire-based and sound-rating-based misophonia measures; and relationships between attention and sensory phenotypes.

4.1. Group Differences in Decreased Sound Tolerance and Auditory Distractibility

4.2.1. Questionnaire Measures

Group differences on questionnaire-based sensory measures were large and robust; in particular, autistic and ADHD participants reported more experiences of all sound tolerance problems indexed by the MIST-A than did non-autistic and non-ADHD people. They also reported more auditory distractibility.

Moreover, there were small-to-moderate statistical differences among the three neurodivergent groups (autistic-only, ADHD-only, and autistic+ADHD), though these were sometimes subtler and less consistent. As predicted by Hypothesis 1, autistic-only people reported more experiences of hyperacusis than ADHD-only participants. However, in supplementary analyses, this effect was not consistently maintained when higher levels of autistic and ADHD traits were required for inclusion in the study. Meanwhile, although

Hypothesis 1 had also predicted more misophonia in autistic than ADHD-only participants; however, autistic-only and ADHD-only participants did not statistically differ in their reported MIST-A experiences of anger/Misophonia (which largely excluded the influences of co-occurring hyperacusis).

Interestingly, while we had expected to find more auditory distractibility issues in ADHD than autism, due to the overlap between auditory distractibility and ADHD traits, this hypothesis – Hypothesis 2 – was not supported by the data. There was even a trend for autistic-only people to report *more* susceptibility to auditory distraction than ADHD-only people.

Patterns on other subscales were similar: in the analysis presented in the main text, autistic-only people reported more auditory pain relative to ADHD-only participants, but these effects were not consistently maintained in supplementary analyses with more stringent inclusion criteria. ADHD-only and autistic-only people did not differ in proneness to auditory fear/panic.

In general, then, sensory questionnaire scores seemed to highlight similarities between autism and ADHD, and appeared consistent with the idea that sensory discomfort and distress could be an important transdiagnostic phenotype in multiple neurodevelopmental disabilities.

However, statistical differences between autistic+ADHD people and all other groups were clearer. Autistic+ADHD people reported the greatest sound tolerance challenges on most scales, such as the MIST-A Hyperacusis experiences scale, even compared to autistic-only and ADHD-only participants, and these effects were largely maintained in supplementary analyses with different inclusion/exclusion criteria. While interactions imply the effects of autism and

ADHD are not strictly additive/cumulative, their sensory impacts certainly appear to build on one another. Whether this appears to be an effect of “general neurological disability” or a more specific factor that can be traced to a common autism, ADHD, or neurodevelopmentally-linked etiology remains to be seen and should be the subject of future research into individual differences.

4.2.2. Sound Ratings

We also explored sensory phenotypes by asking participants to rate the pleasantness of short sounds canonically considered to be misophonia triggers, pleasant sounds, or unpleasant sounds.

Ratings of canonical misophonia triggers were used to derive Core Discriminant Sound Misophonia (CDS-M) scores, with nonzero scores reflecting ratings of specific sounds that exceeded the 75% quantile of non-misophonic general population participants’ ratings. As one might expect, CDS-M scores were elevated in misophonic participants compared to non-misophonic participants, suggesting that misophonic participants’ self-identifications were valid. This effect was obtained even though chewing sounds, a common misophonia trigger, were deleted from the CDS-M battery due to non-misophonic participants frequently also reporting negative (albeit less negative) reactions to them. Apropos thereof, after reading a definition of misophonia, participants in the neurodivergent groups were more likely than comparison participants to identify themselves as misophonic, and autistic participants were more likely to identify as misophonic than ADHD-only participants. However, interestingly, ADHD people also had higher CDS-M scores than non-ADHD people, controlling for self-reported misophonia status. While this effect was not consistently maintained in all supplementary analyses with altered inclusion criteria, it does imply that ADHD people might sometimes experience misophonic symptoms without identifying themselves as misophonic, even if they are exposed to information about misophonia. When we examined specific types of misophonic trigger sounds, ADHD affected CDS scores for breathing/nasal sounds, and an effect of autism on CDS scores for repetitive sounds, such as a pen clicking.

We also examined responses to canonically pleasant and unpleasant sounds. Interestingly, autistic people rated canonically pleasant sounds (e.g., ocean sounds, bird chirping) more negatively than non-autistic people. In prior research, people with hyperacusis have rated pleasant sounds negatively (Enzler, Fournier, et al., 2021); however, as participants themselves set the intensities of sound presentation in the present study, loudness discomfort was probably not the main cause of these negative ratings. A seemingly more plausible explanation might be idiosyncratic, misophonia-like reactions to certain canonically-pleasant sounds in some autistic people, with participants finding them irritating or uncomfortable. However, per the correlation matrix in Supplementary Table 4, there were trends (nonsignificant after correction) for autistic-only people who rated misophonic sounds negatively to rate canonically-pleasant sounds more positively. Future studies, carefully controlling the intensity of presented stimuli, will be better-suited to investigate why autistic people had less enthusiastic reactions to pleasant sounds.

4.3. Convergence of Sound Ratings and Questionnaires

We examined associations between CDS-M scores and MIST-A Misophonia scores, finding positive correlations in all four groups, as predicted by Hypothesis 3. Nevertheless, these correlations were only modest in size; they did not support the convergent validity of the two measures. The correlation coefficients were also smaller than those reported in prior research (Enzler, Loriot, et al., 2021). It is possible that this reflects our use of the misophonia subscale of a multidimensional sound tolerance questionnaire, rather than a misophonia-specific tool, and the lack of chewing sounds in the CDS misophonia scores from the present study. Additionally, while Enzler et al.'s study was primarily focused on misophonia, the present study aimed to understand auditory processing and attention more generally in neurodivergent groups recruited from registries. Many participants still reported misophonia, but it is possible that their misophonia phenotypes were less extreme than a self-selected online sample, which might have attenuated correlations. Regardless, the limited convergence emphasizes both the difficulty and the importance of reconciling sensory measures from different modalities (Uljarević et al., 2017). Future studies incorporating more misophonia-specific tools may be better able to clarify the relationships between measures; future studies should also consider extending the duration of sounds and/or presenting trigger sounds alongside other stimuli, more closely replicating real-world conditions.

4.4. Attention and Sensory Phenotypes

Finally, the present study examined whether decreased sound tolerance and auditory distractibility were associated with reports of hyper-focus and inattention.

As predicted by Hypothesis 4, there were robust associations between attention scores and scores on questionnaire measures of decreased sound tolerance and auditory distractibility. When we used partial correlations to examine specific links between hyper-focus and sensory phenotypes, controlling for inattention, and vice versa, we found unique significant associations of both hyper-focus and inattention with different sensory response patterns in different groups, especially among neurodivergent participants. This supports the idea that hyper-focus and inattention can each be involved in experiences of sensory discomfort and distraction. As noted by the developers of the monotropism account, hyper-focusing on unpleasant stimuli might lead to sensory distress and decreased sound tolerance (Murray et al., 2005). Meanwhile, a susceptibility to inattention and distraction might increase people's chances of noticing unpleasant or uncomfortable stimuli in their environments. Further research could endeavour to better understand the precise nature of these relationships by using cognitive and developmental tasks to isolate more specific attentional processes and phenotypes that could be involved in both neurodivergent sensory experiences and experiences of hyper-focus and/or inattention, such as attention disengagement (Baranek et al., 2018) or salience-driven attention capture.

Interestingly, while the present study was not intended to compare sensory-attention associations across groups, we visually noted that associations between hyper-focus and decreased sound tolerance seemed strongly evident in autistic+ADHD participants; links between inattention and decreased sound tolerance seemed weak in that group. Contributions of hyper-focus and inattention appeared more balanced in autistic-only and ADHD-only participants; in some cases, their respective effects appeared to cancel one another out in partial correlation analyses, which could be interpreted to suggest the influence of a shared underlying atypical regulation of attention. Conversely, in the comparison group, only experiences of auditory fear/panic and auditory distractibility were significantly related to attention measures; experiences of hyperacusis and misophonia were not significantly related to hyper-focus and inattention. This could reflect the more restricted range of auditory distress scores in comparison participants, or it could suggest that attention is more heavily involved in experiences of auditory distress within autism and ADHD than outside them.

There was one way in which Hypothesis 4 was not supported: the present study did not observe associations between attention measures and CDS scores. This raises the possibility that the observed associations among the sensory and attention questionnaire measures might have reflected shared variance due to the common method (Choi & Pak, 2005); for example, some participants may have been biased to use certain ranges of response options on Likert-type questions. Fortunately, the MIST-A and AHQ both have clearly-defined response options (e.g., an experience arises 1-2 times per month), which may reduce the subjectivity of responses. Instead, a key factor may be that the attention and sensory questionnaires both invited participants to reflect on their real-world experiences. Real-world environments are often complex and multisensory, and people are often simultaneously presented with many different possible targets of attention. In contrast, the sound rating tasks presented participants with a single stimulus at a time, so participants would have had little option but to focus their attention on that stimulus. Including multiple stimuli, such as presenting misophonic triggers amidst recordings of conversations or other stimuli, might have more closely replicated real-world conditions, perhaps allowing attention allocation to shape individual differences in response patterns.

4.5. Limitations

Although the present study benefits from a large sample size, autistic leadership, good gender representation, specific measurement of different forms of decreased sound tolerance, and participant groups that are statistically equivalent in key demographic characteristics, this study also has limitations.

As noted in Dwyer et al. (2024), the online nature of this study made verifying diagnostic group assignments difficult. ASRS-6 and RAADS-14 scores were used to exclude participants whose questionnaire responses appeared inconsistent with their reported diagnoses and identities. However, setting inclusion and exclusion criteria was challenging. ADHD people often obtain high RAADS-14 autistic trait scores (Eriksson et al., 2013), preventing us from excluding ADHD-only participants based on autistic traits. To address this issue, we conducted supplementary analyses using different inclusion and exclusion criteria; we suggest that both group differences which were not observed reasonably consistently across the main text, and these supplementary analyses, should be regarded with caution.

Similarly, because misophonia is a relatively novel category, community access to misophonia diagnoses and information is limited, and a consensus on diagnostic assessment procedures is lacking (Ferrer-Torres & Giménez-Llort, 2022; Williams, 2022), we presented participants with a definition of misophonia and asked them whether they considered themselves misophonic per that definition. Due to the brevity of the definition, some participants may not have realized it applied to them, or may have misunderstood it. We also did not collect any information about participants' misophonia triggers and the overlap between these and the canonical misophonic triggers from the sound ratings task.

Furthermore, we recognize the present study sample contains a disproportionately high number of non-Hispanic White participants, thereby contributing to the exclusion of racialized minorities from research. Our sample also appeared unusually well-educated and contained almost no participants with intellectual disabilities. Thus, it is unclear how well our findings apply to many multiply marginalized neurodivergent communities. Finally, the sound rating task as administered in this study is not without limitations. Chewing sounds were so widely disliked that there was not sufficient variability to include reactions to them in the computation of misophonia scores; more nuanced stimuli might help to avoid similar ceiling effects in future research. Moreover, participants in the sound rating task were instructed to play all sounds at a consistent level, but we cannot verify whether some participants might have adjusted their speaker volume partway through the task. We assume that different participants likely played the sounds at different intensities from one another, but we lack information about what those intensities might have been.

5. Conclusions

We found evidence that both autistic and ADHD people experience much higher levels of numerous distinct forms and consequences of decreased sound tolerance – including misophonia, hyperacusis, fear/panic, and auditory pain – relative to the general population; neurodivergent participants also experienced more susceptibility to auditory distraction. Within neurodivergent groups, statistical differences between autistic-only and ADHD-only participants sometimes appeared or disappeared depending on the inclusion criteria employed, but autistic+ADHD people consistently appeared to experience more of several kinds of sound-induced discomfort and distress, including hyperacusis, than autistic-only and ADHD-only people.

We also observed group differences when participants completed sound rating tasks. Unsurprisingly, self-identified misophonic participants, who were more likely to be neurodivergent, rated misophonic trigger sounds more negatively than non-misophonic participants. Interestingly, autistic people also rated canonically pleasant sounds more harshly than non-autistic people. Scores based on sound ratings of misophonic triggers did converge with questionnaire anger/misophonia scores, but only modestly. We speculate that more tasks featuring multiple stimuli competing for attention might converge more closely with questionnaire reports based on participants' real-world experiences.

Questionnaire-based measures of attention, sound tolerance, and auditory distractibility were clearly associated in the neurodivergent groups, suggesting that hyper-focus and inattention/distractibility can play an important role in neurodivergent people's real-world experiences of sensory hyper-reactivity. Participants might hyper-focus on uncomfortable or distracting stimuli, or be more likely to become distracted and be bothered by background sensory stimuli. We did not observe associations between sound rating task responses and attention questionnaires, but given that the sound rating tasks present participants with only one stimulus at a time, individual differences in attention allocation might have little influence on sound ratings in this study. Adding more auditory or multisensory stimuli to such tasks may increase their realism and allow attention to play a larger role.

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Ethical considerations

This study received institutional approval from the University of California, Davis Institutional Review Board. All participants provided informed consent electronically. No identifying details, photos, or video are included in this submission.

Declaration of competing interests

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Data availability

Data are available from the authors on reasonable request.

References

Adams, B., Sereda, M., Casey, A., Byrom, P., Stockdale, D., & Hoare, D. J. (2020). A Delphi survey to determine a definition and description of hyperacusis by clinician consensus. *International Journal of Audiology*. https://doi.org/10.1080/14992027.2020.1855370

Allenmark, F., Shi, Z., Pistorius, R. L., Theisinger, L. A., Koutsouleris, N., Falkai, P., Müller, H. J., & Falter-Wagner, C. M. (2021). Acquisition and use of 'priors' in autism: Typical in deciding where to look, atypical in deciding what is there. *Journal of Autism and Developmental Disorders*, *51*, 3744–3758. https://doi.org/10.1007/s10803-020-04828-2

Andermane, N., Bauer, M., Simner, J., & Ward, J. (2023). A symptom network model of misophonia: From heightened sensory sensitivity to clinical comorbidity. *Journal of Clincial Psychology*. https://doi.org/10.1002/jclp.23552

Baranek, G. T., David, F. J., Poe, M. D., Stone, W. L., & Watson, L. R. (2006). Sensory Experiences Questionnaire: Discriminating sensory features in young children with autism, developmental delays, and typical development. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *47*(6), 591–601. https://doi.org/10.1111/j.1469-7610.2005.01546.x

Baranek, G. T., Woynaroski, T. G., Nowell, S., Turner-Brown, L., DuBay, M., Crais, E. R., & Watson, L. R. (2018). Cascading effects of attention disengagement and sensory seeking on social symptoms in a community sample of infants at-risk for a future diagnosis of autism spectrum disorder. *Developmental Cognitive Neuroscience*, *29*, 30–40. https://doi.org/10.1016/j.dcn.2017.08.006

Belek, B. (2018). Articulating sensory sensitivity: From bodies with autism to autistic bodies. *Medical Anthropology*, *38*(1), 30–43. https://doi.org/10.1080/01459740.2018.1460750

Benjamini, Y., & Yekutieli, D. (2001). The control of the false discovery rate in multiple testing under dependency. *The Annals of Statistics*, *29*(4). https://doi.org/10.1214/aos/1013699998

Bitsika, V., Arnold, W. A., & Sharpley, C. F. (2020). The role of sensory features in mediating associations between autism symptoms and anxiety in boys with autism spectrum disorder.

Journal of Autism and Developmental Disorders, *50*, 2464–2474. https://doi.org/10.1007/s10803-019-03917-1

Bottema-Beutel, K., Kapp, S. K., Lester, J. N., Sasson, N. J., & Hand, B. N. (2021). Avoiding ableist language: Suggestions for autism researchers. *Autism in Adulthood*, *3*(1), 18–29. https://doi.org/10.1089/aut.2020.0014

Carpenter, K. L. H., Baranek, G. T., Copeland, W. E., Compton, S., Zucker, N., Dawson, G., & Egger, H. L. (2019). Sensory Over-Responsivity: An Early Risk Factor for Anxiety and Behavioral Challenges in Young Children. *Journal of Abnormal Child Psychology*, *47*(6), 1075–1088. https://doi.org/10.1007/s10802-018-0502-y

Carson, T. B., Valente, M. J., Wilkes, B. J., & Richard, L. (2021). Brief report: Prevalence and severity of auditory sensory over-responsivity in autism as reported by parents and caregivers. *Journal of Autism and Developmental Disorders*. https://doi.org/10.1007/s10803-021-04991-0

Cassuto, H., Ben-Simon, A., & Berger, I. (2013). Using environmental distractors in the diagnosis of ADHD. *Frontiers in Human Neuroscience*, *7*, 805. https://doi.org/10.3389/fnhum.2013.00805

Cavanna, A. E., & Seri, S. (2015). Misophonia: Current perspectives. *Neuropsychiatric Disease and Treatment*, *11*, 2117–2123. https://doi.org/10.2147/NDT.S81438

Cheung, P. P. P., & Siu, A. M. H. (2009). A comparison of patterns of sensory processing in children with and without developmental disabilities. *Research in Developmental Disabilities*, *30*(6), 1468–1480. https://doi.org/10.1016/j.ridd.2009.07.009

Choi, B. C. K., & Pak, A. W. P. (2005). A catalog of biases in questionnaires. *Preventing Chronic Disease*, *2*(1), A13.

Cliff, N. (1993). Dominance statistics: Ordinal analyses to answer ordinal questions. *Quantitative Methods in Psychology*, *114*(3), 494–509. https://doi.org/10.1037/0033-2909.114.3.494

Clince, M., Connolly, L., & Nolan, C. (2016). Comparing and Exploring the Sensory Processing Patterns of Higher Education Students With Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder. *The American Journal of Occupational Therapy*, *70*(2), 7002250010p1-7002250010p9. https://doi.org/10.5014/ajot.2016.016816

Crane, L., Goddard, L., & Pring, L. (2009). Sensory processing in adults with autism spectrum disorders. *Autism*, *13*(3), 215–228. https://doi.org/10.1177/1362361309103794

da Silva, F. E., & Sanchez, T. G. (2019). Evaluation of selective attention in patients with misophonia. *Brazilian Journal of Otorhinolaryngology*, *85*(3), 303–309. https://doi.org/10.1016/j.bjorl.2018.02.005

Dellapiazza, F., Michelon, C., Vernhet, C., Muratori, F., Blanc, N., Picot, M.-C., & Baghdadli, A. (2020). Sensory processing related to attention in children with ASD, ADHD, or typical development: Results from the ELENA cohort. *European Child & Adolescent Psychiatry*. https://doi.org/10.1007/s00787-020-01516-5

Dellapiazza, F., Vernhet, C., Blanc, N., Miot, S., Schmidt, R., & Baghdadli, A. (2018). Links between sensory processing, adaptive behaviours, and attention in children with autism spectrum disorder: A systematic review. *Psychiatry Research*, *270*, 78–88. https://doi.org/10.1016/J.PSYCHRES.2018.09.023

Dwyer, P. (2022). Stigma, incommensurability, or both? Pathology-first, person-first, and identity-first language and the challenges of discourse in divided autism communities. *Journal of Developmental & Behavioral Pediatrics*, *43*(2), 111–113. https://doi.org/10.1097/DBP.0000000000001054

Dwyer, P., Ferrer, E., Saron, C. D., & Rivera, S. M. (2022). Exploring sensory subgroups in typical development and autism spectrum development using factor mixture modelling. *Journal of Autism and Developmental Disorders*, *52*, 3840–3860. https://doi.org/10.1007/s10803-021-05256-6

Dwyer, P., Ryan, J. G., Williams, Z. J., & Gassner, D. L. (2022). First do no harm: Suggestions regarding respectful autism language. *Pediatrics*, *149*(s4), e2020049437N. https://doi.org/10.1542/peds.2020-049437N

Dwyer, P., Williams, Z. J., Lawson, W. B., & Rivera, S. M. (2024). A trans-diagnostic investigation of attention, hyper-focus, and monotropism in autism, attention dysregulation hyperactivity development, and the general population. *Neurodiversity*. https://doi.org/10.1177/27546330241237883

Engel-Yeger, B., & Ziv-On, D. (2011). The relationship between sensory processing difficulties and leisure activity preference of children with different types of ADHD. *Research in Developmental Disabilities*, *32*(3), 1154–1162. https://doi.org/10.1016/j.ridd.2011.01.008

Enzler, F., Fournier, P., & Noreña, A. J. (2021). A psychoacoustic test for diagnosing hyperacusis based on ratings of natural sounds. *Hearing Research*, *400*, 108124. https://doi.org/10.1016/j.heares.2020.108124

Enzler, F., Loriot, C., Fournier, P., & Noreña, A. J. (2021). A psychoacoustic test for misophonia assessment. *Scientific Reports*, *11*, 11044. https://doi.org/10.1038/s41598-021-90355-8

Eriksson, J. M., Andersen, L. M., & Bejerot, S. (2013). RAADS-14 Screen: Validity of a screening tool for autism spectrum disorder in an adult psychiatric population. *Molecular Autism*, *4*(1), 49. https://doi.org/10.1186/2040-2392-4-49

Feliciano, P., Daniels, A. M., Green Snyder, L., Beaumont, A., Camba, A., Esler, A., Gulsrud, A. G., Mason, A., Gutierrez, A., Nicholson, A., Paolicelli, A. M., McKenzie, A. P., Rachubinski, A. L., Stephens, A. N., Simon, A. R., Stedman, A., Shocklee, A. D., Swanson, A., Finucane, B., … Chung, W. K. (2018). SPARK: A US Cohort of 50,000 Families to Accelerate Autism Research. *Neuron*, *97*(3), 488–493. https://doi.org/10.1016/j.neuron.2018.01.015

Ferrer-Torres, A., & Giménez-Llort, L. (2022). Misophonia: A Systematic Review of Current and Future Trends in This Emerging Clinical Field. *International Journal of Environmental Research and Public Health*, *19*(11), 6790. https://doi.org/10.3390/ijerph19116790

Garau, V., Murray, A., Woods, R., Chown, N., Hallett, S., Murray, F., Wood, R., & Fletcher-Watson, S. (2023). *Development and Validation of a Novel Self-Report Measure of Monotropism in Autistic and Non-Autistic People: The Monotropism Questionnaire*. Open Science Framework. https://doi.org/10.17605/OSF.IO/WPX5G

Gernsbacher, M. A. (2017). Editorial perspective: The use of person-first language in scholarly writing may accentuate stigma. *Journal of Child Psychology and Psychiatry*, *58*(7), 859–861. https://doi.org/10.1111/jcpp.12706

Green, S. A., Ben-Sasson, A., Soto, T. W., & Carter, A. S. (2012). Anxiety and sensory over-responsivity in toddlers with autism spectrum disorders: Bidirectional effects across time. *Journal of Autism & Developmental Disorders*, *42*(6), 1112–1119. https://doi.org/10.1007/s10803-011-1361-3

Green, S. A., & Wood, E. T. (2019). The role of regulation and attention in atypical sensory processing. *Cognitive Neuroscience*. https://doi.org/10.1080/17588928.2019.1592141

Grotewiel, M. M., Crenshaw, M. E., Dorsey, A., & Street, E. (2023). Experiences of hyperfocus and flow in college students with and without Attention Deficit Hyperactivity Disorder (ADHD). *Current Psychology*, *42*, 13265–13275. https://doi.org/10.1007/s12144-021-02539-0

Hansen, H., Leber, A., & Saygin, Z. (2021). What sound sources trigger misophonia? Not just chewing and breathing. *Journal of Clinical Psychology*, *77*(11), 2609–2625. https://doi.org/10.1002/jclp.23196

Harrell, F. (2022, October 14). *Package 'rms.'* Vanderbilt University. http://mirror.psu.ac.th/pub/cran/web/packages/rms/rms.pdf

Howe, F. E. J., & Stagg, S. D. (2016). How sensory experiences affect adolescents with an autistic spectrum condition within the classroom. *Journal of Autism and Developmental Disorders*, *46*(5), 1656–1668. https://doi.org/10.1007/s10803-015-2693-1

Hupfeld, K. E., Abagis, T. R., & Shah, P. (2019). Living "in the zone": Hyperfocus in adult ADHD. *ADHD Attention Deficit and Hyperactivity Disorders*, *11*(2), 191–208. https://doi.org/10.1007/s12402-018-0272-y

Ismael, N., Lawson, L. M., & Hartwell, J. (2018). Relationship between sensory processing and participation in daily occupations for children with autism spectrum disorder: A systematic review of studies that used Dunn's sensory processing framework. *American Journal of Occupational Therapy*, *72*(3), 7203205030. https://doi.org/10.5014/ajot.2018.024075

Jacquemin, L., Schecklmann, M., & Baguley, D. M. (2024). Hypersensitivity to Sounds. In W. Schlee, B. Langguth, D. De Ridder, S. Vanneste, T. Kleinjung, & A. R. Møller (Eds.), *Textbook of Tinnitus* (pp. 25–34). Springer International Publishing. https://doi.org/10.1007/978-3-031-35647-6_3

Jager, I., de Koning, P., Bost, T., Denys, D., & Vulink, N. (2020). Misophonia: Phenomenology, comorbidity and demographics in a large sample. *PLOS ONE*, *15*(4), e0231390. https://doi.org/10.1371/journal.pone.0231390

Jastreboff, P. J., & Jastreboff, M. M. (2015). Decreased sound tolerance: Hyperacusis, misophonia, diplacousis, and polyacousis. In G. G. Celesia & G. Hickok (Eds.), *Handbook of Clinical Neurology* (Vol. 129, pp. 375–387). Elsevier. https://doi.org/10.1016/B978-0-444-62630-1.00021-4

Johnson, K. L. (2014). *The Effect of Auditory Distractions on Working Memory in People Diagnosed with Attention Deficit Hyperactivity Disorder* [University of Mississippi]. https://egrove.olemiss.edu/hon_thesis/555/

Keehn, B., Westerfield, M., & Townsend, J. (2019). Brief report: Cross-modal capture: Preliminary evidence of inefficient filtering in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *49*(1), 385–390. https://doi.org/10.1007/s10803-018-3674-y

Kessler, R. C., Adler, L. A., Gruber, M. J., Sarawate, C. A., Spencer, T., & Van Brunt, D. L. (2007). Validity of the World Health Organization Adult ADHD Self-Report Scale (ASRS) Screener in a representative sample of health plan members. *International Journal of Methods in Psychiatric Research*, *16*(2), 52–65. https://doi.org/10.1002/mpr.208

Kessler, R. C., Adler, L., Ames, M., Demler, O., Faraone, S., Hiripi, E., Howes, M. J., Jin, R., Secnik, K., Spencer, T., Ustun, T. B., & Walters, E. E. (2005). The World Health Organization adult ADHD self-report scale (ASRS): A short screening scale for use in the general population. *Psychological Medicine*, *35*, 245–256.

Khalfa, S., Bruneau, N., Rogé, B., Georgieff, N., Veuillet, E., Adrien, J.-L., Barthélémy, C., & Collet, L. (2004). Increased perception of loudness in autism. *Hearing Research*, *198*(1–2), 87–92. https://doi.org/10.1016/j.heares.2004.07.006

Kim, S. (2015). ppcor: An R Package for a Fast Calculation to Semi-partial Correlation Coefficients. *Communications for Statistical Applications and Methods*, *22*(6), 665–674. https://doi.org/10.5351/CSAM.2015.22.6.665

Kirby, A. V., Bilder, D. A., Wiggins, L. D., Hughes, M. M., Davis, J., Hall-Lande, J. A., Lee, L.-C., McMahon, W. M., & Bakian, A. V. (2022). Sensory features in autism: Findings from a large population-based surveillance system. *Autism Research*, *15*(4), 751–760. https://doi.org/10.1002/aur.2670

Krakowski, A. D., Szatmari, P., Crosbie, J., Schachar, R., Duku, E., Georgiades, S., & Anagnostou, E. (2021). Latent structure of combined autistic and ADHD symptoms in clinical and general population samples: A scoping review. *Frontiers in Psychiatry*, *12*, 654120. https://doi.org/10.3389/fpsyt.2021.654120

Lai, C. Y. Y., Yung, T. W. K., Gomez, I. N. B., & Siu, A. M. H. (2019). Psychometric properties of Sensory Processing and Self-Regulation Checklist (SPSRC). *Occupational Therapy International*. https://doi.org/10.1155/2019/8796042

Landon, J., Shepherd, D., & Lodhia, V. (2016). A qualitative study of noise sensitivity in adults with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *32*, 43–52. https://doi.org/10.1016/j.rasd.2016.08.005

Lane, S. J., & Reynolds, S. (2019). Sensory Over-Responsivity as an Added Dimension in ADHD. *Frontiers in Integrative Neuroscience*, *13*, 40. https://doi.org/10.3389/fnint.2019.00040

Lin, L.-Y., & Huang, P.-C. (2019). Quality of life and its related factors for adults with autism spectrum disorder. *Disability and Rehabilitation*, *41*(8), 896–903. https://doi.org/10.1080/09638288.2017.1414887

Liss, M., Saulnier, C., Fein, D., & Kinsbourne, M. (2006). Sensory and attention abnormalities in autistic spectrum disorders. *Autism*, *10*(2), 155–172. https://doi.org/10.1177/1362361306062021

Litman, L., Robinson, J., & Abberbock, T. (2017). TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior Research Methods*, *49*(2), 433–442. https://doi.org/10.3758/s13428-016-0727-z

Little, L. M., Ausderau, K., Sideris, J., & Baranek, G. T. (2015). Activity participation and sensory features among children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *45*(9), 2981–2990. https://doi.org/10.1007/s10803-015-2460-3

Lucker, J. R., Geffner, D., & Koch, W. (1996). Perception of loudness in children with ADD and without ADD. *Child Psychiatry and Human Development*, *26*(3), 181–190. https://doi.org/10.1007/BF02353359

Lufi, D., & Tzischinsky, O. (2014). The Relationships Between Sensory Modulation and Sleep Among Adolescents With ADHD. *Journal of Attention Disorders*, *18*(8), 646–653. https://doi.org/10.1177/1087054712457036

McConachie, H., Wilson, C., Mason, D., Garland, D., Parr, J. R., Rattazzi, A., Rodgers, J., Skevington, S., Uljarević, M., & Magiati, I. (2020). What is important in measuring quality of life? Reflections by autistic adults in four countries. *Autism in Adulthood*, *2*(1), 4–12. https://doi.org/10.1089/aut.2019.0008

McGraw, K. O., & Wong, S. P. (1992). A common language effect size statistic. *Psychological Bulletin*, *111*(2), 361–365. https://doi.org/10.1037/0033-2909.111.2.361

Mimouni-Bloch, A., Offek, H., Engel-Yeger, B., Rosenblum, S., Posener, E., Silman, Z., & Tauman, R. (2021). Association between sensory modulation and sleep difficulties in children with Attention Deficit Hyperactivity Disorder (ADHD). *Sleep Medicine*, *84*, 107–113. https://doi.org/10.1016/j.sleep.2021.05.027

Murray, D., Lesser, M., & Lawson, W. (2005). Attention, monotropism and the diagnostic criteria for autism. *Autism*, *9*(2), 139–156. https://doi.org/10.1177/1362361305051398

National Center on Disability and Journalism. (2021). *Disability Language Style Guide*. https://ncdj.org/style-guide/

Normansell-Mossa, K. M., Top, D. N., Russell, N., Freeston, M., Rodgers, J., & South, M. (2021). Sensory sensitivity and intolerance of uncertainty influence anxiety in autistic adults. *Frontiers in Psychology*, *12*, 731753. https://doi.org/10.3389/fpsyg.2021.731753

Oja, L., Huotilainen, M., Nikkanen, E., Oksanen-Hennah, H., Laasonen, M., Voutilainen, A., von Wendt, L., & Alho, K. (2016). Behavioral and electrophysiological indicators of auditory distractibility in children with ADHD and comorbid ODD. *Brain Research*, *1632*, 42–50. https://doi.org/10.1016/j.brainres.2015.12.003

Ozel-Kizil, E. T., Kokurcan, A., Aksoy, U. M., Kanat, B. B., Sakarya, D., Bastug, G., Colak, B., Altunoz, U., Kirici, S., Demirbas, H., & Oncu, B. (2016). Hyperfocusing as a dimension of adult attention deficit hyperactivity disorder. *Research in Developmental Disabilities*, *59*, 351–358. https://doi.org/10.1016/j.ridd.2016.09.016

Palan, S., & Schitter, C. (2018). Prolific.ac—A subject pool for online experiments. *Journal of Behavioral and Experimental Finance*, *17*, 22–27. https://doi.org/10.1016/j.jbef.2017.12.004

Poole, D., Gowen, E., Warren, P. A., & Poliakoff, E. (2018). Visual-tactile selective attention in autism spectrum condition: An increased influence of visual distractors. *Journal of Experimental Psychology: General*, *147*(9), 1309–1324. https://doi.org/10.1037/xge0000425

Rapaport, H., Clapham, H., Adams, J., Lawson, W., Porayska-Pomsta, K., & Pellicano, E. (n.d.). *“In a state of flow”: A qualitative examination of Autistic adults’ phenomenological experiences of task immersion*.

Remington, A., & Fairnie, J. (2017). A sound advantage: Increased auditory capacity in autism. *Cognition*, *166*, 459–465. https://doi.org/10.1016/j.cognition.2017.04.002

Remington, A., Hanley, M., O’Brien, S., Riby, D. M., & Swettenham, J. (2019). Implications of capacity in the classroom: Simplifying tasks for autistic children may not be the answer. *Research in Developmental Disabilities*, *85*, 197–204. https://doi.org/10.1016/J.RIDD.2018.12.006

Ripley, B., Venables, B., Bates, D. M., Hornik, K., Gebhardt, A., & Firth, D. (2022, October 12). *Package "MASS."* https://cran.r-project.org/web/packages/MASS/MASS.pdf

Robertson, A. E., & Simmons, D. R. (2013). The relationship between sensory sensitivity and autistic traits in the general population. *Journal of Autism and Developmental Disorders*, *43*(4), 775–784. https://doi.org/10.1007/s10803-012-1608-7

Russell, G., Kapp, S. K., Elliott, D., Elphick, C., Gwernan-Jones, R., & Owens, C. (2019). Mapping the autistic advantage from the accounts of adults diagnosed with autism: A qualitative study. *Autism in Adulthood*, *1*(2), 124–133. https://doi.org/10.1089/aut.2018.0035

Sacrey, L.-A. R., Armstrong, V. L., Bryson, S. E., & Zwaigenbaum, L. (2014). Impairments to visual disengagement in autism spectrum disorder: A review of experimental studies from infancy to adulthood. *Neuroscience and Biobehavioral Reviews*, *47*, 559–577. https://doi.org/10.1016/j.neubiorev.2014.10.011

Savard, M.-A., Sares, A. G., Coffey, E. B. J., & Deroche, M. L. D. (2022). Specificity of Affective Responses in Misophonia Depends on Trigger Identification. *Frontiers in Neuroscience*, *16*, 879583. https://doi.org/10.3389/fnins.2022.879583

Scheerer, N. E., Boucher, T. Q., Arzanpour, S., Iarocci, G., & Birmingham, E. (2024). Autistic and Non-Autistic Experiences of Decreased Sound Tolerance and Their Association with Mental Health and Quality of Life. *Autism in Adulthood*, aut.2023.0117. https://doi.org/10.1089/aut.2023.0117

Scheerer, N. E., Pourtousi, A., Yang, C., Ding, Z., Stojanoski, B., Anagnostou, E., Nicolson, R., Kelley, E., Georgiades, S., Crosbie, J., Schachar, R., Ayub, M., & Stevenson, R. A. (2022). Transdiagnostic Patterns of Sensory Processing in Autism and ADHD. *Journal of Autism and Developmental Disorders*. https://doi.org/10.1007/s10803-022-05798-3

Scheydt, S., Müller Staub, M., Frauenfelder, F., Nielsen, G. H., Behrens, J., & Needham, I. (2017). Sensory overload: A concept analysis. *International Journal of Mental Health Nursing*, *26*, 110–120. https://doi.org/10.1111/inm.12303

Schulz, S. E., Kelley, E., Anagnostou, E., Nicolson, R., Georgiades, S., Crosbie, J., Schachar, R., Ayub, M., & Stevenson, R. A. (2022). Sensory Processing Patterns Predict Problem Behaviours in Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder. *Advances in Neurodevelopmental Disorders*. https://doi.org/10.1007/s41252-022-00269-3

Sedgwick, J. A., Merwood, A., & Asherson, P. (2019). The positive aspects of attention deficit hyperactivity disorder: A qualitative investigation of successful adults with ADHD. *ADHD Attention Deficit and Hyperactivity Disorders*, *11*(3), 241–253. https://doi.org/10.1007/s12402-018-0277-6

Simner, J., Koursarou, S., Rinaldi, L. J., & Ward, J. (2022). Attention, flexibility, and imagery in misophonia: Does attention exacerbate everyday disliking of sound? *Journal of Clinical and Experimental Neuropsychology*, *00*(00), 1–12. https://doi.org/10.1080/13803395.2022.2056581

Sinclair, J. (2013). Why I dislike “Person First” language. *Autonomy, the Critical Journal of Interdisciplinary Autism Studies*, *1*(2), 2–3.

Swedo, S. E., Baguley, D. M., Denys, D., Dixon, L. J., Erfanian, M., Fioretti, A., Jastreboff, P. J., Kumar, S., Rosenthal, M. Z., Rouw, R., Schiller, D., Simner, J., Storch, E. A., Taylor, S., Werff, K. R. V., Altimus, C. M., & Raver, S. M. (2022). Consensus Definition of Misophonia: A Delphi Study. *Frontiers in Neuroscience*, *16*, 841816. https://doi.org/10.3389/fnins.2022.841816

Thielen, H., & Gillebert, C. R. (2019). Sensory sensitivity: Should we consider attention in addition to prediction? *Cognitive Neuroscience*, *10*(3), 158–160. https://doi.org/10.1080/17588928.2019.1593125

Torchiano, M. (2022, October 13). *Package ‘effsize.’* https://pbil.univ-lyon1.fr/CRAN/web/packages/effsize/effsize.pdf

Trevisan, D. A., Mehling, W. E., & McPartland, J. C. (2021). Adaptive and maladaptive bodily awareness: Distinguishing interoceptive sensibility and interoceptive attention from anxiety-induced somatization in autism and alexithymia. *Autism Research*, *14*(2), 240–247. https://doi.org/10.1002/aur.2458

Tzischinsky, O., Meiri, G., Manelis, L., Bar-Sinai, A., Flusser, H., Michaelovski, A., Zivan, O., Ilan, M., Faroy, M., Menashe, I., & Dinstein, I. (2018). Sleep disturbances are associated with specific sensory sensitivities in children with autism. *Molecular Autism*, *9*(1), 22. https://doi.org/10.1186/s13229-018-0206-8

Uljarević, M., Alvares, G. A., Steele, M., Edwards, J., Frazier, T. W., Hardan, A. Y., & Whitehouse, A. J. O. (2022). Toward better characterization of restricted and unusual interests in youth with autism. *Autism*, *26*(5), 1296–1304. https://doi.org/10.1177/13623613211056720

Uljarević, M., Baranek, G., Vivanti, G., Hedley, D., Hudry, K., & Lane, A. (2017). Heterogeneity of sensory features in autism spectrum disorder: Challenges and perspectives for future research. *Autism Research*, *10*(5), 703–710. https://doi.org/10.1002/aur.1747

Vaidya, C. J., & Klein, C. (2022). Comorbidity of Attention-Deficit Hyperactivity Disorder and Autism Spectrum Disorders: Current status and promising directions. In *Current Topics in Behavioural Neurosciences*. https://doi.org/10.1007/7854_2022_334

Venker, C. E., Mathée, J., Neumann, D., Edwards, J., Saffran, J., & Weismer, S. E. (2021). Competing perceptual salience in a visual word recognition task differentially affects children with and without autism spectrum disorder. *Autism Research*, *14*(6), 1147–1162. https://doi.org/10.1002/aur.2457

Ward, J. (2018). Individual differences in sensory sensitivity: A synthesising framework and evidence from normal variation and developmental conditions. *Cognitive Neuroscience*, *10*(3), 139–157. https://doi.org/10.1080/17588928.2018.1557131

Warren, P. (2021, July 25). Dinah Murray obituary. *The Guardian*. https://www.theguardian.com/society/2021/jul/25/dinah-murray-obituary

Williams, Z. J. (2021, May). *Vanderbilt Auditory Distractibility Questionnaire (VADQ)*. ResearchGate. http://dx.doi.org/10.13140/RG.2.2.14831.36000

Williams, Z. J. (2022, May 3). Decreased sound tolerance in autism: Understanding and distinguishing between hyperacusis, misophonia, and phonophobia. *ENT & Audiology News*. https://www.entandaudiologynews.com/features/audiology-features/post/decreased-sound-tolerance-in-autism-understanding-and-distinguishing-between-hyperacusis-misophonia-and-phonophobia

Williams, Z. J. (2024). *Investigating the Nature of Decreased Sound Tolerance in Autistic and Non-Autistic Adults* [Vanderbilt University]. https://ir.vanderbilt.edu/items/a9e54a3e-61db-467b-b2cf-2eb0e9f8b977

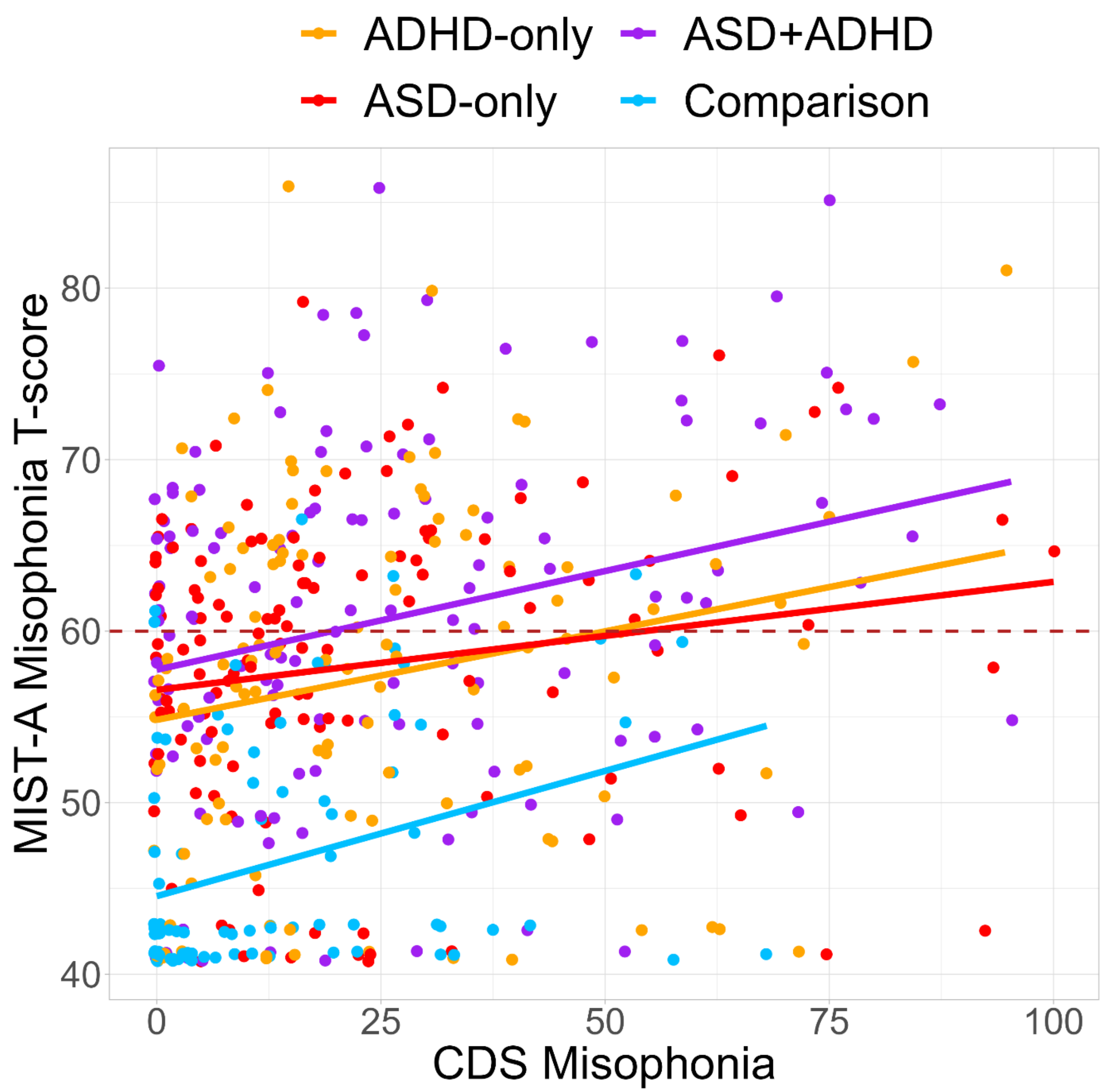
Williams, Z. J., Cascio, C. J., & Woynaroski, T. G. (2021, May). *Multidimensional Inventory of Sound Tolerance in Adults (MIST-A)*. ResearchGate. http://dx.doi.org/10.13140/RG.2.2.10492.28802/1

Williams, Z. J., He, J. L., Cascio, C. J., & Woynaroski, T. G. (2021). A review of decreased sound tolerance in autism: Definitions, phenomenology, and potential mechanisms. *Neuroscience and Biobehavioral Reviews*, *121*, 1–17. https://doi.org/10.1016/j.neubiorev.2020.11.030

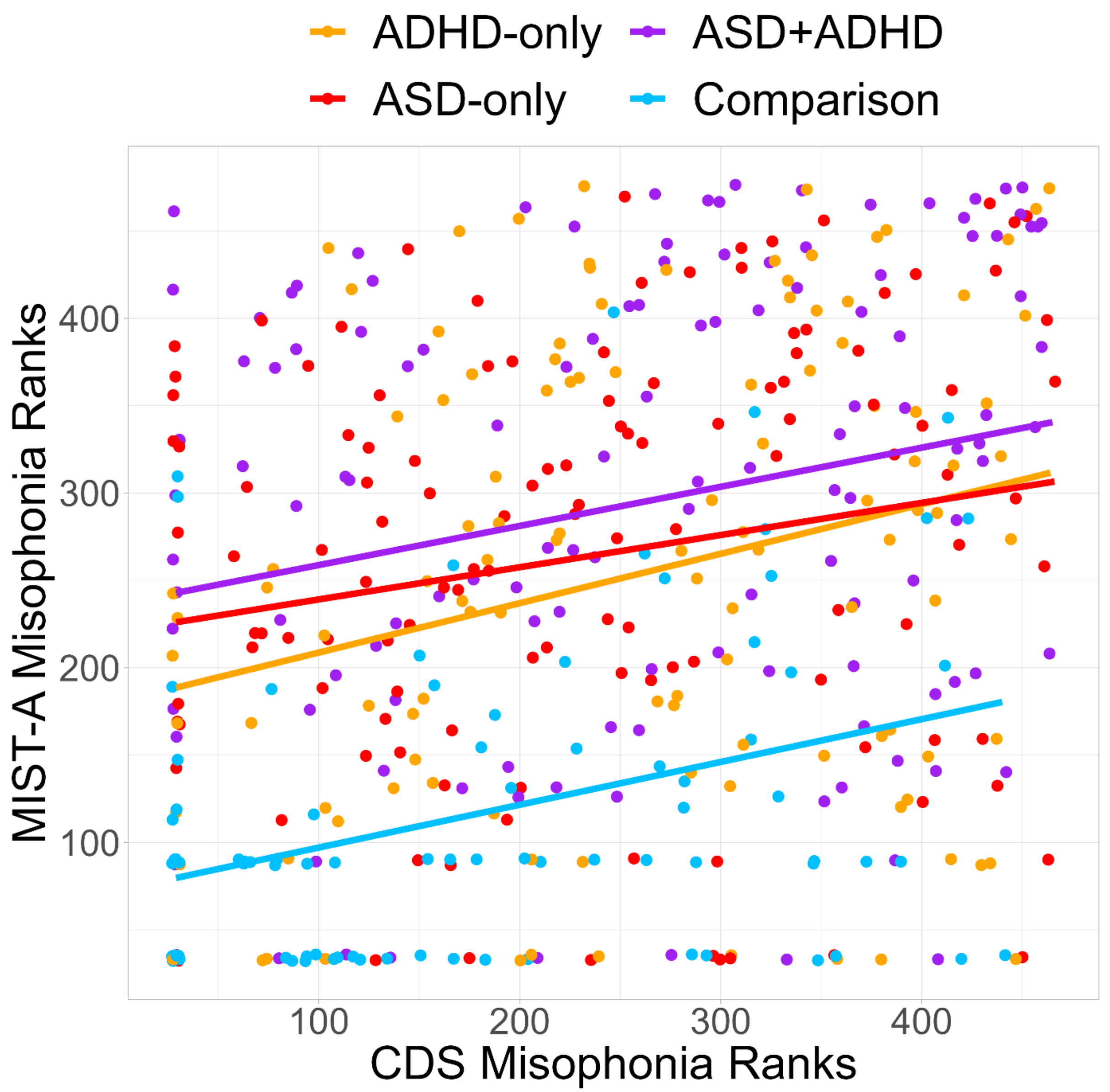
Williams, Z. J., Schaaf, R., Ausderau, K. K., Baranek, G. T., Barrett, D. J., Cascio, C. J., Dumont, R. L., Eyoh, E. E., Failla, M. D., Feldman, J. I., Foss-Feig, J. H., Green, H. L., Green, S. A., He, J. L., Kaplan-Kahn, E. A., Keçeli-Kaysılı, B., MacLennan, K., Mailloux, Z., Marco, E. J., … Woynaroski, T. G. (2023). Examining the latent structure and correlates of sensory reactivity in autism: A multi-site integrative data analysis by the autism sensory research consortium. *Molecular Autism*, *14*(1), 31. https://doi.org/10.1186/s13229-023-00563-4

Supplementary Materials

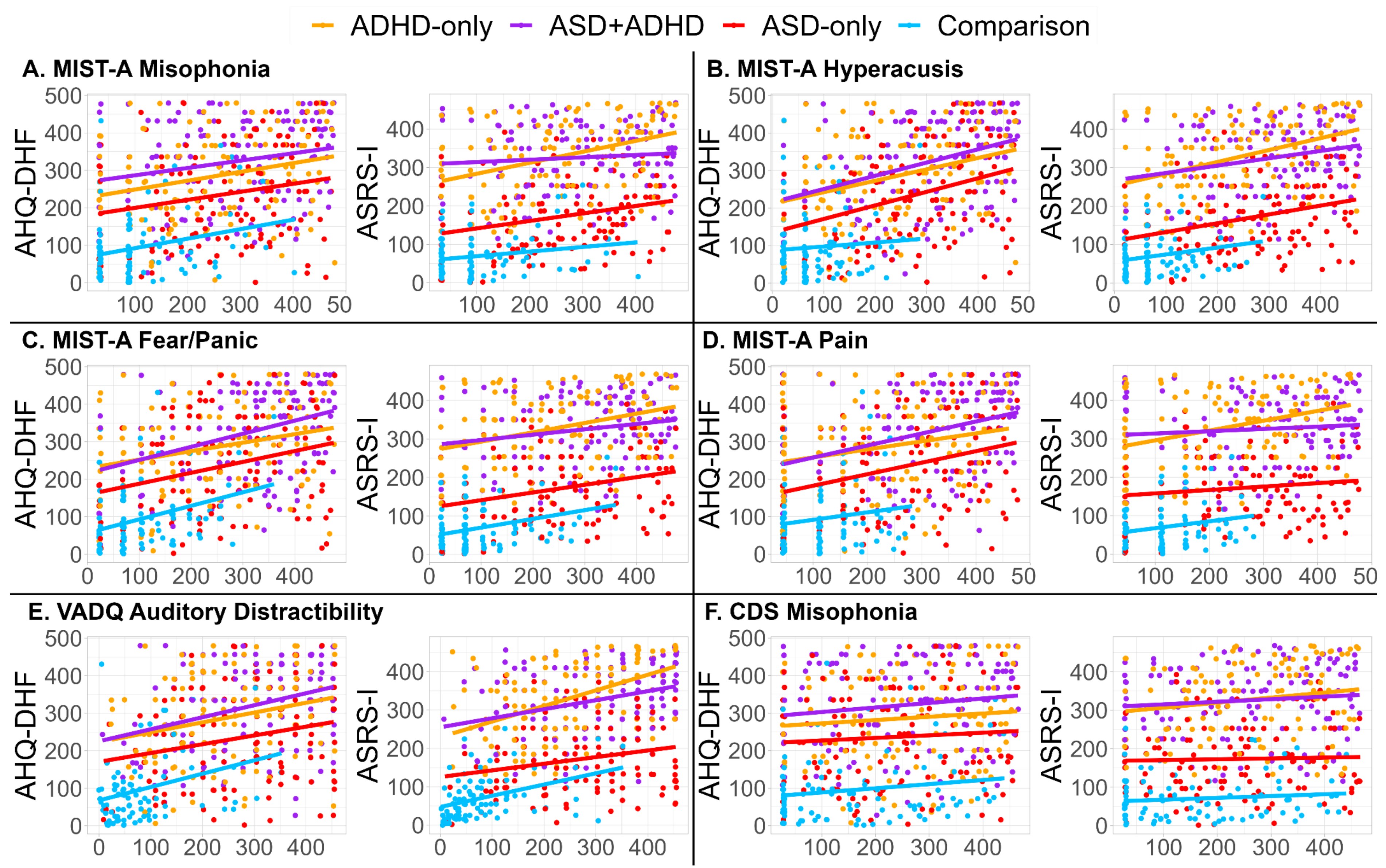
Supplementary Figures



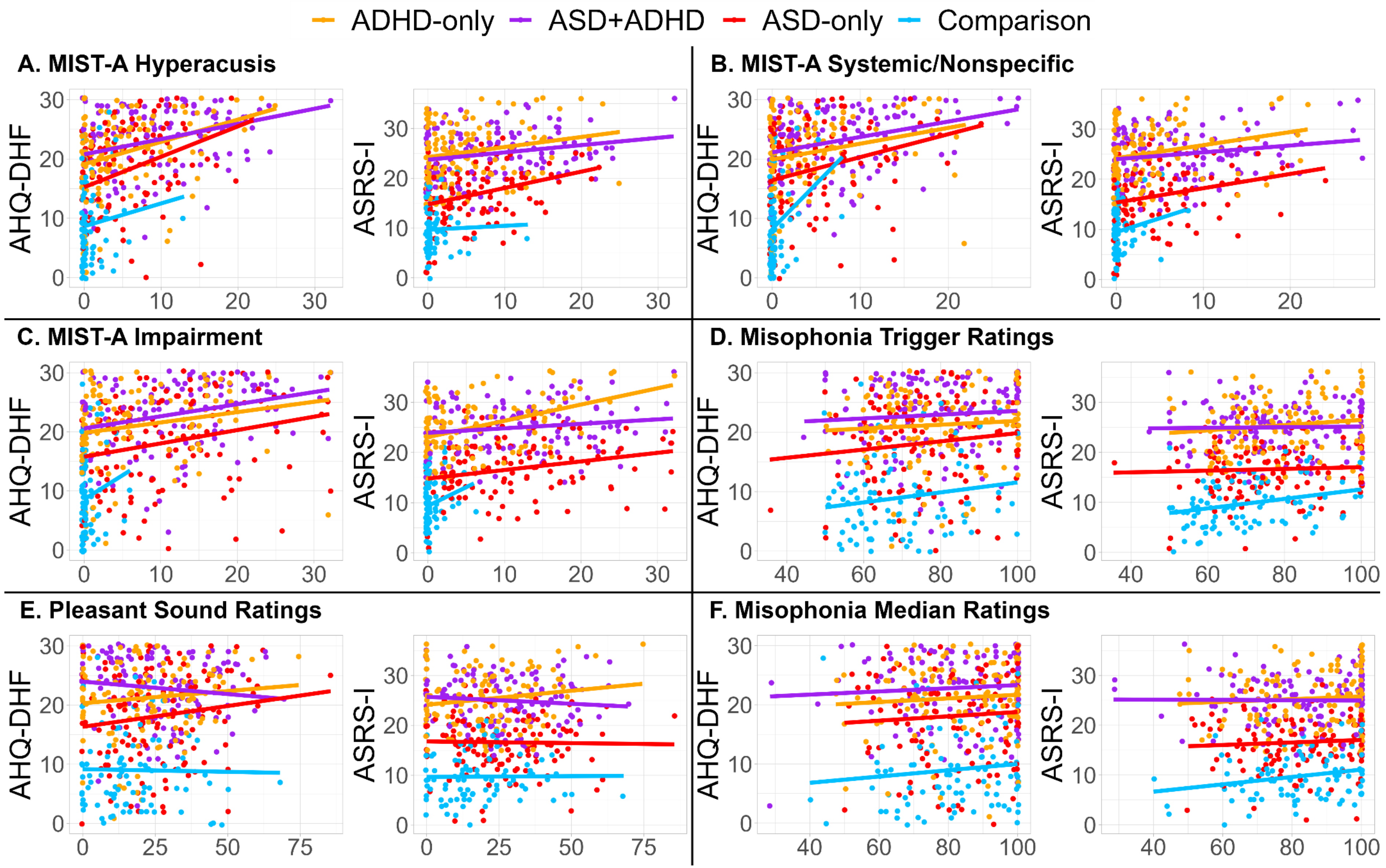
Supplementary Figure 1. Linear slopes representing associations between CDS misophonia and MIST-A misophonia scores. Note that analyses in the main text use Spearman's ordinal correlation, not the linear slopes depicted here (see *Supplementary Figure 2* for ordinal slopes). Data points are slightly jittered for display purposes. The horizontal dotted line represents the cut-offs suggesting clinically significant levels of misophonia (i.e., T-scores of 60 or greater).



Supplementary Figure 2. Ranked datapoints representing CDS misophonia and MIST-A misophonia scores, as well as ordinal slopes reflecting associations between these data points. Data points are slightly jittered for display purposes.



Supplementary Figure 3. Slopes representing ordinal associations between sensory ranked variables (MIST-A sound intolerance T-scores, Panels A-D; VADQ auditory distractibility, Panel E; and CDS Misophonia scores, Panel F) and AHQ Dispositional Hyper-Focus (AHQ-DHF) and ASRS Inattention (ASRS-I). Raw data underlying these ranks are depicted in *Figure 3* from the main text. Data points are slightly jittered for display purposes.



Supplementary Figure 4. Linear slopes representing associations between MIST-A symptoms (of hyperacusis, Panel A; and nonspecific, Panel B), MIST-A sound intolerance-related impairment (Panel C), median sound ratings (of misophonic triggers, Panel D; of canonically pleasant sounds, Panel E; and of canonically unpleasant sounds, Panel F) and AHQ Dispositional Hyper-Focus (AHQ-DHF) and ASRS Inattention (ASRS-I). Note that statistical analyses use Spearman's ordinal correlation, not these linear slopes. Data points are slightly jittered for display purposes.

Supplementary Tables

Supplementary Table 1. 75% quantiles of ratings of misophonic trigger sounds (for use in computing CDS misophonia scores) in non-autistic, non-ADHD participants reporting no current or historical misophonia (n=74 with usable data).
Sounds in cells where the 75% quantile exceeded 90 were not used when computing CDS scores, in order to avoid magnifying small differences – are shaded red. As a result, chewing sounds did not appear in the computation of the final CDS in this study.

		Quantile
Breathing/ Nasal	Breath Running	63.00
	Sniffling	78.38
	Snoring	89.63
Mouth	Chewing 1	93.88
	Chewing 2	97.13
	Slurping	84.38
Repet-itive	Keyboard	55.00
	Pen Click	59.88
Throat	Swallowing	88.88
	Throat Clearing	68.88

Supplementary Table 2. Matrix depicting ordinal Spearman's correlations among all measures in the present study in the **ADHD-only group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 253 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. AHQ Disp. HF	2. AHQ School HF	3. AHQ Hobby HF	4. AHQ Screen HF	5. ASRS Inattention	6. ASRS Hyper	7. RAADS-14	8. MIST-A Misophonia	9. MIST-A Hyperacusis	10. MIST-A Fear/Panic	11. MIST-A Pain	12. MIST-A Hyperacusis Symptom	13. MIST-A Non-specific	14. MIST-A Impairment	15. VADQ Auditory Distraction	16. Sound Rating Misophonia	17. Sound Rating Pleasant	18. Sound Rating Unpleasant	19. CDS-M Total	20. CDS-M Mouth	21. CDS-M Breathing/ Nose	22. CDS-M Throat	23. CDS-M Repetitive
1. AHQ Disp. HF		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0002*** .004**	.03* .32	.001** .02*	.004** .06	.0003*** .007**	.007** .09	.02* .21	.0002*** .004**	.006** .08	.002** .03*	.004** .053	.57 >.99	.67 >.99	.52 >.99	.30 >.99	.98 >.99	.31 >.99	.004** .06	.99 >.99
2. AHQ School HF	.43 [.27, .57]		<.0001**** <.0001****	.002** .03*	.29 >.99	.03* .36	.007** .09	.003** .049*	.0003*** .006**	.006** .08	.03* .35	<.0001**** .0006***	.0002*** .004**	.02* .25	.15 >.99	.55 >.99	.86 >.99	.14 >.99	.09 .82	.64 >.99	.08 .78	.11 >.99	.07 .73
3. AHQ Hobby HF	.59 [.46, .70]	.51 [.36, .63]		<.0001**** <.0001****	.0006*** .01*	.001** .02*	.0006*** .01*	.0005*** .01*	.0004*** .008**	.008** .10	.001** .02*	.0003*** .006**	.0007*** .01*	.005** .07	.054 .55	.85 >.99	.90 >.99	.72 >.99	.44 >.99	.65 >.99	.85 >.99	.0004*** .009**	.59 >.99
4. AHQ Screen HF	.54 [.40, .65]	.28 [.11, .44]	.51 [.37, .63]		<.0001**** <.0001****	.0005*** .01*	.0008*** .01*	<.0001**** .0003***	.001*** .02*	.009** .12	.02* .26	.004** .06	.03* .28	.003** .051	.04* .42	.99 >.99	.09 .85	.88 >.99	.70 >.99	.31 >.99	.74 >.99	.009** .11	.27 >.99
5. ASRS Inattention	.34 [.17, .49]	.10 [-.08, .27]	.31 [.14, .47]	.42 [.26, .56]		.0006*** .01*	<.0001**** <.0001****	<.0001**** .0002***	<.0001**** <.0001****	.0005*** .009**	.0003*** .007**	.050* .52	.010** .13	<.0001**** .001**	<.0001**** <.0001****	.08 .77	.29 >.99	.34 >.99	.03* .38	.04* .41	.24 >.99	.45 >.99	.02* .26
6. ASRS Hyper	.20 [.02, .37]	.20 [.02, .36]	.29 [.12, .45]	.31 [.14, .47]	.31 [.14, .46]		.002** .04*	.0003*** .006**	.0002*** .004**	.0005*** .01*	.005** .08	.01* .16	<.0001**** .0002***	.006** .08	.048* .50	.79 >.99	.14 >.99	.91 >.99	.99 >.99	.38 >.99	.80 >.99	.18 >.99	.59 >.99
7. RAADS-14	.30 [.12, .45]	.25 [.07, .41]	.31 [.14, .46]	.30 [.13, .46]	.46 [.30, .59]	.28 [.10, .44]		<.0001**** .0002***	<.0001**** <.0001****	<.0001**** .0001***	.0001*** .002**	<.0001**** .0010***	<.0001**** .0006***	<.0001**** <.0001****	<.0001**** <.0001****	.44 >.99	.29 >.99	.26 >.99	.09 .82	.28 >.99	.38 >.99	.33 >.99	.008** .10
8. MIST-A Misophonia	.26 [.08, .42]	.27 [.09, .43]	.31 [.14, .46]	.39 [.23, .53]	.40 [.24, .54]	.33 [.16, .48]	.40 [.24, .54]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.12 >.99	.86 >.99	.08 .82	.005** .07	.21 >.99	.03* .37	.003** .051	.10 .91
9. MIST-A Hyperacusis	.32 [.15, .47]	.33 [.16, .48]	.32 [.15, .47]	.30 [.12, .45]	.42 [.26, .56]	.34 [.17, .49]	.46 [.31, .59]	.80 [.73, .86]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.26 >.99	.84 >.99	.03* .37	.006** .08	.13 >.99	.02* .19	.02* .23	.15 >.99
10. MIST-A Fear/Panic	.25 [.07, .41]	.25 [.07, .41]	.24 [.07, .40]	.24 [.06, .40]	.32 [.14, .47]	.31 [.14, .47]	.41 [.24, .55]	.62 [.50, .72]	.78 [.69, .84]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.51 >.99	.34 >.99	.78 >.99	.12 >.99	.28 >.99	.07 .70	.04* .40	.56 >.99
11. MIST-A Pain	.22 [.04, .38]	.20 [.02, .36]	.29 [.12, .45]	.21 [.03, .37]	.33 [.15, .48]	.25 [.08, .41]	.35 [.18, .50]	.66 [.55, .75]	.69 [.58, .77]	.54 [.39, .65]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0001***	.15 >.99	.72 >.99	.63 >.99	.02* .23	.12 >.99	.06 .61	.04* .43	.049* .51
12. MIST-A Hyp-eracusis Sympt.	.34 [.17, .49]	.38 [.21, .52]	.33 [.16, .48]	.26 [.08, .42]	.18 [.00, .35]	.23 [.05, .39]	.37 [.20, .51]	.65 [.53, .74]	.69 [.59, .78]	.59 [.46, .70]	.68 [.57, .76]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0004***	.71 >.99	.65 >.99	.79 >.99	.28 >.99	.53 >.99	.52 >.99	.07 .71	.25 >.99
13. MIST-A Non-specific	.25 [.07, .41]	.34 [.17, .49]	.30 [.13, .46]	.20 [.03, .37]	.24 [.06, .40]	.40 [.24, .54]	.38 [.21, .52]	.57 [.44, .68]	.71 [.61, .79]	.67 [.55, .76]	.56 [.42, .67]	.73 [.63, .80]		<.0001**** <.0001****	.001** .02*	.54 >.99	.39 >.99	.75 >.99	.59 >.99	.71 >.99	.89 >.99	.14 >.99	.59 >.99
14. MIST-A Impairment	.28 [.11, .44]	.21 [.03, .37]	.25 [.08, .42]	.27 [.09, .43]	.36 [.19, .51]	.25 [.07, .41]	.48 [.33, .61]	.76 [.67, .82]	.83 [.76, .88]	.67 [.56, .76]	.67 [.56, .76]	.72 [.63, .80]	.65 [.54, .75]		<.0001**** <.0001****	.99 >.99	.48 >.99	.48 >.99	.15 >.99	.08 .82	.57 >.99	.15 >.99	.07 .70
15. VADQ Auditory Distract	.27 [.09, .43]	.13 [-.05, .31]	.18 [-.00, .35]	.19 [.01, .36]	.48 [.33, .61]	.18 [.00, .35]	.46 [.31, .59]	.46 [.31, .59]	.59 [.46, .70]	.44 [.28, .58]	.41 [.25, .55]	.39 [.22, .53]	.29 [.11, .45]	.56 [.42, .67]		.01* .16	.21 >.99	.01* .15	<.0001**** .001**	.001** .02*	.008** .10	.02* .19	.002** .03*
16. Sound Rating Misophonia	.05 [-.13, .23]	.06 [-.13, .23]	.02 [-.16, .20]	.00 [-.18, .18]	.16 [-.02, .33]	.03 [-.16, .20]	.07 [-.11, .25]	.14 [-.04, .31]	.10 [-.08, .28]	.06 [-.12, .24]	.13 [-.05, .31]	-.03 [-.21, .15]	-.06 [-.24, .12]	.00 [-.18, .18]	.23 [.05, .39]		.12 >.99	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0010*** .02*
17. Sound Rating Pleasant	.04 [-.14, .22]	.02 [-.16, .20]	.01 [-.17, .19]	.16 [-.02, .33]	.10 [-.08, .27]	.14 [-.05, .31]	.10 [-.08, .27]	-.02 [-.20, .16]	.02 [-.16, .20]	.09 [-.09, .26]	-.03 [-.21, .15]	.04 [-.14, .22]	.08 [-.10, .26]	.07 [-.12, .24]	.12 [-.06, .29]	-.14 [-.32, .04]		.008** .10	.02* .26	.004** .06	.03* .36	.44 >.99	.49 >.99
18. Sound Rating Unpleasant	.06 [-.12, .24]	.14 [-.05, .31]	.03 [-.15, .21]	.01 [-.17, .19]	.09 [-.09, .27]	-.01 [-.19, .17]	.10 [-.08, .28]	.16 [-.02, .33]	.20 [.02, .36]	.03 [-.16, .21]	.05 [-.14, .22]	.02 [-.16, .20]	-.03 [-.21, .15]	.06 [-.12, .24]	.23 [.05, .40]	.60 [.47, .70]	-.24 [-.41, -.07]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.003** .051	.02* .21
19. CDS-M Total	.10 [-.09, .27]	.16 [-.02, .33]	.07 [-.11, .25]	.04 [-.15, .22]	.20 [.01, .36]	.00 [-.18, .18]	.16 [-.02, .33]	.26 [.08, .42]	.25 [.08, .42]	.14 [-.04, .32]	.22 [.04, .38]	.10 [-.08, .28]	.05 [-.13, .23]	.14 [-.05, .31]	.36 [.19, .51]	.91 [.87, .93]	-.21 [-.38, -.03]	.64 [.51, .73]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .001**
20. CDS-M Mouth	-.00 [-.18, .18]	.04 [-.14, .22]	-.04 [-.22, .14]	-.09 [-.27, .09]	.19 [.01, .36]	-.08 [-.26, .10]	.10 [-.08, .28]	.12 [-.07, .29]	.14 [-.04, .31]	.10 [-.08, .28]	.14 [-.04, .32]	.06 [-.12, .24]	.04 [-.15, .21]	.16 [-.02, .33]	.30 [.12, .45]	.69 [.58, .77]	-.27 [-.43, -.09]	.52 [.38, .64]	.75 [.65, .82]		<.0001**** <.0001****	.003** .051	.003** .04*
21. CDS-M Breathing/ Nose	.09 [-.09, .27]	.16 [-.02, .33]	.02 [-.16, .20]	-.03 [-.21, .15]	.11 [-.07, .28]	.02 [-.16, .20]	.08 [-.10, .26]	.20 [.02, .36]	.22 [.04, .39]	.17 [-.01, .34]	.17 [-.01, .34]	.06 [-.12, .24]	.01 [-.17, .19]	.05 [-.13, .23]	.24 [.07, .41]	.81 [.74, .87]	-.20 [-.37, -.02]	.63 [.50, .72]	.85 [.80, .90]	.58 [.44, .69]		<.0001**** <.0001****	.27 >.99
22. CDS-M Throat	.26 [.09, .42]	.15 [-.03, .32]	.32 [.15, .47]	.24 [.06, .40]	.07 [-.11, .25]	.12 [-.06, .30]	.09 [-.09, .27]	.27 [.09, .43]	.21 [.04, .38]	.19 [.01, .36]	.19 [.01, .36]	.17 [-.01, .34]	.14 [-.05, .31]	.13 [-.05, .31]	.22 [.04, .39]	.56 [.42, .67]	-.07 [-.25, .11]	.27 [.09, .43]	.61 [.48, .71]	.27 [.09, .43]	.43 [.27, .57]		.89 >.99
23. CDS-M Repetitive	-.00 [-.18, .18]	.16 [-.02, .33]	.05 [-.13, .23]	.10 [-.08, .28]	.21 [.03, .37]	.05 [-.13, .23]	.24 [.07, .41]	.15 [-.03, .32]	.13 [-.05, .30]	-.05 [-.23, .13]	.18 [.00, .35]	.11 [-.07, .28]	.05 [-.13, .23]	.17 [-.01, .34]	.29 [.11, .44]	.30 [.13, .46]	.06 [-.12, .24]	.22 [.04, .38]	.36 [.19, .51]	.27 [.10, .43]	.10 [-.08, .28]	-.01 [-.19, .17]	

Measures:

1. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Hyper-Focus (HF), measuring frequency of experiences of hyper-focus; 2. AHQ School Hyper-Focus (HF); 3. AHQ Hobby Hyper-Focus (HF); 4. AHQ Screen Time Hyper-Focus (HF);
5. Adult ADHD Self-Report Scale (ASRS) Inattention scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005); 6. ASRS Hyperactivity/Impulsivity scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005);
7. Ritvo Autism and Asperger Diagnostic Scale-14 (RAADS-14) measure of autistic traits;
8. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 9. MIST-A Hyperacusis Experiences T-scores; 10. MIST-A Fear/Panic Experiences T-scores; 11. MIST-A Pain Experiences T-scores;
12. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Hyperacusis Symptoms; 13. MIST-A Systemic Nonspecific Symptoms;
14. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Impairment;
15. Vanderbilt Auditory Distractibility Questionnaire (VADQ);
16. Median Ratings of Canonical Misophonic Trigger Sounds; 17. Median Ratings of Canonically Pleasant Sounds; 18. Median Ratings of Canonically Unpleasant Sounds;
19. Core Discriminant Sounds-Misophonia (CDS-M) Total Scores; 20. CDS-M Mouth Sound Scores; 21. CDS-M Breathing/Nasal Sound Scores; 22. CDS-M Throat Sound Scores; and 23. CDS-M Repetitive Sound Scores.

Supplementary Table 3. Matrix depicting ordinal Spearman's correlations among all measures in the present study in the **autistic+ADHD group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 253 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. AHQ Disp. HF	2. AHQ School HF	3. AHQ Hobby HF	4. AHQ Screen HF	5. ASRS Inattention	6. ASRS Hyper	7. RAADS-14	8. MIST-A Misophonia	9. MIST-A Hyperacusis	10. MIST-A Fear/Panic	11. MIST-A Pain	12. MIST-A Hyperacusis Symptom	13. MIST-A Non-specific	14. MIST-A Impairment	15. VADQ Auditory Distraction	16. Sound Rating Misophonia	17. Sound Rating Pleasant	18. Sound Rating Unpleasant	19. CDS-M Total	20. CDS-M Mouth	21. CDS-M Breathing/ Nose	22. CDS-M Throat	23. CDS-M Repetitive
1. AHQ Disp. HF		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0006***	<.0001**** .0009***	.001** .02*	.01* .13	<.0001**** .0004***	<.0001**** .0009***	<.0001**** .0002***	.0002*** .003**	.0003*** .005**	.0001*** .002**	.0003*** .005**	.55 >.99	.02* .19	.51 >.99	.18 >.99	.90 >.99	.12 .95	.30 >.99	.87 >.99
2. AHQ School HF	.45 [.31, .57]		<.0001**** <.0001****	.0002*** .004**	.03* .32	<.0001**** .0005***	.002** .02*	.07 .59	<.0001**** .002**	.0007*** .01*	.0008*** .01*	.002** .03*	<.0001**** <.0001****	.006** .07	.01** .11	.047* .43	.20 >.99	.94 >.99	.11 .90	.55 >.99	.15 >.99	.006** .07	.51 >.99
3. AHQ Hobby HF	.60 [.48, .70]	.47 [.33, .59]		<.0001**** <.0001****	.007** .09	.0008*** .01*	.0006*** .009**	.0004*** .008**	<.0001**** .0002***	<.0001**** .0008***	.001** .02*	.0002*** .004**	<.0001**** .002**	<.0001**** .0008***	.0005*** .009**	.19 >.99	.18 >.99	.62 >.99	.06 .51	.45 >.99	.02* .16	.04* .37	.48 >.99
4. AHQ Screen HF	.56 [.44, .67]	.31 [.15, .45]	.51 [.38, .62]		.0001*** .003**	.009** .11	.20 >.99	.01* .13	.01* .14	.13 >.99	.02* .19	.006** .07	.13 >.99	.01* .14	.004** .06	.02* .21	.16 >.99	.22 >.99	.01* .11	.26 >.99	.06 .54	.01* .11	.11 .91
5. ASRS Inattention	.36 [.20, .50]	.19 [.01, .35]	.23 [.06, .39]	.33 [.16, .47]		<.0001**** <.0001****	.005** .07	.56 >.99	.02* .19	.051 .46	.19 >.99	.07 .61	.22 >.99	.17 >.99	.0002*** .004**	.71 >.99	.20 >.99	.74 >.99	.12 .99	.11 .88	.24 >.99	.24 >.99	.50 >.99
6. ASRS Hyper	.35 [.19, .49]	.36 [.20, .50]	.29 [.12, .44]	.23 [.06, .38]	.41 [.26, .54]		<.0001**** <.0001****	.03* .27	<.0001**** <.0001****	<.0001**** .0003***	.0002*** .004**	<.0001**** .0007***	<.0001**** <.0001****	.0003*** .006**	.0001*** .003**	.07 .63	.61 >.99	.11 .90	.010** .11	.047* .43	.006** .08	.02* .19	.39 >.99
7. RAADS-14	.28 [.11, .43]	.27 [.11, .43]	.30 [.13, .45]	.11 [-.06, .28]	.24 [.07, .40]	.42 [.26, .55]		.005** .07	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0007***	.0002*** .004**	.0003*** .005**	.0002*** .004**	<.0001**** <.0001****	.003** .04*	.23 >.99	.07 .59	.0003*** .006**	.02* .20	.0008*** .01*	.0007*** .01*	.03* .33
8. MIST-A Misophonia	.22 [.05, .37]	.16 [-.01, .32]	.30 [.14, .44]	.22 [.05, .37]	.05 [-.12, .22]	.19 [.02, .35]	.24 [.07, .40]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0003*** .005**	.01* .14	.92 >.99	.79 >.99	.003** .045*	.03* .28	.003** .04*	.01* .11	.46 >.99
9. MIST-A Hyperacusis	.36 [.21, .50]	.33 [.17, .47]	.38 [.22, .51]	.21 [.05, .37]	.20 [.03, .36]	.43 [.28, .56]	.40 [.25, .54]	.66 [.56, .75]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.004** .049*	.74 >.99	.24 >.99	.0002*** .004**	.006** .07	.002** .03*	.0008*** .01*	.10 .84
10. MIST-A Fear/Panic	.35 [.19, .49]	.29 [.13, .44]	.35 [.19, .49]	.13 [-.04, .29]	.17 [-.00, .33]	.37 [.21, .51]	.42 [.27, .55]	.60 [.48, .70]	.83 [.77, .88]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.052 .47	.25 >.99	.20 >.99	.02* .23	.16 >.99	.02* .16	.04* .39	.72 >.99
11. MIST-A Pain	.38 [.22, .51]	.28 [.12, .43]	.28 [.12, .43]	.20 [.03, .36]	.11 [-.06, .28]	.32 [.15, .46]	.36 [.20, .50]	.58 [.46, .68]	.67 [.57, .75]	.63 [.51, .72]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.002** .02*	.07 .61	.44 >.99	.26 >.99	.009** .11	.03* .26	.01* .14	.02* .19	.38 >.99
12. MIST-A Hyperacusis Sympt.	.32 [.16, .46]	.27 [.10, .42]	.31 [.15, .46]	.24 [.07, .39]	.16 [-.01, .32]	.36 [.20, .50]	.32 [.16, .47]	.53 [.39, .64]	.69 [.59, .77]	.65 [.54, .73]	.80 [.73, .85]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .002**	.04* .35	.58 >.99	.47 >.99	.01* .11	.01* .14	.06 .56	.01* .16	.43 >.99
13. MIST-A Non-specific	.31 [.15, .45]	.39 [.23, .52]	.33 [.17, .47]	.13 [-.04, .29]	.11 [-.07, .27]	.43 [.28, .56]	.31 [.15, .46]	.47 [.32, .59]	.69 [.59, .77]	.64 [.52, .73]	.63 [.51, .72]	.69 [.59, .77]		<.0001**** <.0001****	.0004*** .007**	.009** .10	.70 >.99	.74 >.99	.003** .04*	.050 .45	.008** .10	.002** .02*	.23 >.99
14. MIST-A Impairment	.33 [.17, .47]	.23 [.07, .39]	.35 [.19, .49]	.21 [.04, .37]	.12 [-.05, .29]	.31 [.14, .46]	.32 [.15, .46]	.61 [.50, .71]	.78 [.70, .84]	.66 [.55, .74]	.61 [.50, .71]	.63 [.52, .72]	.67 [.56, .75]		<.0001**** <.0001****	.009** .10	.91 >.99	.92 >.99	.0005*** .008**	.03* .26	.002** .03*	.003** .04*	.15 >.99
15. VADQ Auditory Distract	.31 [.15, .46]	.23 [.06, .38]	.30 [.13, .45]	.25 [.08, .40]	.32 [.16, .47]	.33 [.17, .47]	.40 [.25, .54]	.31 [.15, .46]	.55 [.42, .66]	.49 [.35, .61]	.27 [.11, .43]	.34 [.18, .48]	.30 [.14, .45]	.41 [.25, .54]		.007** .08	.90 >.99	.007** .09	.0002*** .004**	.0005*** .008**	.0009*** .01*	.003** .04*	.44 >.99
16. Sound Rating Misophonia	.05 [-.12, .22]	.17 [.00, .34]	.11 [-.06, .28]	.20 [.03, .36]	.03 [-.14, .20]	.16 [-.02, .32]	.26 [.09, .41]	.22 [.05, .37]	.25 [.08, .41]	.17 [-.00, .33]	.16 [-.01, .32]	.18 [.01, .34]	.23 [.06, .38]	.23 [.06, .38]	.23 [.07, .39]		.44 >.99	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
17. Sound Rating Pleasant	-.20 [-.36, -.03]	-.11 [-.28, .06]	-.12 [-.28, .05]	-.12 [-.29, .05]	-.11 [-.28, .06]	-.04 [-.21, .13]	-.11 [-.27, .07]	.01 [-.16, .18]	-.03 [-.20, .14]	-.10 [-.27, .07]	-.07 [-.24, .10]	-.05 [-.22, .12]	-.03 [-.20, .14]	-.01 [-.18, .16]	.01 [-.16, .18]	-.07 [-.24, .10]		.38 >.99	.33 >.99	.96 >.99	.39 >.99	.09 .79	.72 >.99
18. Sound Rating Unpleasant	.06 [-.11, .23]	-.01 [-.18, .17]	.04 [-.13, .21]	.11 [-.06, .27]	.03 [-.14, .20]	.14 [-.03, .30]	.16 [-.01, .32]	-.02 [-.19, .15]	.10 [-.07, .27]	.11 [-.06, .28]	.10 [-.07, .27]	.06 [-.11, .23]	.03 [-.14, .20]	-.01 [-.18, .16]	.23 [.07, .39]	.41 [.25, .54]	-.08 [-.25, .10]		<.0001**** <.0001****	.002** .03*	<.0001**** <.0001****	.004** .049*	.04* .35
19. CDS-M Total	.12 [-.05, .28]	.14 [-.03, .31]	.17 [-.00, .33]	.22 [.05, .38]	.14 [-.04, .30]	.23 [.06, .38]	.31 [.15, .46]	.25 [.09, .41]	.32 [.16, .47]	.20 [.03, .36]	.23 [.06, .38]	.22 [.05, .38]	.26 [.09, .41]	.30 [.14, .45]	.32 [.16, .47]	.89 [.85, .92]	-.09 [-.25, .09]	.42 [.27, .56]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
20. CDS-M Mouth	.01 [-.16, .18]	.05 [-.12, .22]	.07 [-.11, .24]	.10 [-.07, .27]	.14 [-.03, .31]	.17 [.00, .34]	.20 [.03, .36]	.19 [.02, .35]	.24 [.07, .40]	.12 [-.05, .29]	.19 [.02, .35]	.22 [.05, .37]	.17 [.00, .33]	.19 [.02, .35]	.30 [.14, .45]	.75 [.66, .81]	-.00 [-.18, .17]	.27 [.10, .42]	.76 [.68, .83]		<.0001**** <.0001****	<.0001**** <.0001****	.0001*** .003**
21. CDS-M Breathing/ Nose	.14 [-.03, .30]	.13 [-.05, .29]	.21 [.04, .37]	.16 [-.01, .33]	.10 [-.07, .27]	.24 [.07, .39]	.29 [.12, .44]	.26 [.09, .41]	.27 [.10, .42]	.21 [.04, .37]	.22 [.05, .37]	.16 [-.01, .33]	.23 [.06, .39]	.27 [.10, .42]	.29 [.12, .44]	.78 [.70, .84]	-.08 [-.24, .10]	.48 [.34, .60]	.91 [.87, .93]	.61 [.49, .71]		<.0001**** <.0001****	.0002*** .004**
22. CDS-M Throat	.09 [-.08, .26]	.24 [.07, .40]	.18 [.01, .34]	.22 [.05, .38]	.10 [-.07, .27]	.20 [.03, .36]	.29 [.13, .44]	.22 [.05, .38]	.29 [.12, .44]	.18 [.01, .34]	.20 [.03, .36]	.21 [.04, .37]	.27 [.11, .43]	.26 [.09, .41]	.26 [.09, .41]	.80 [.73, .85]	-.15 [-.31, .02]	.25 [.08, .41]	.81 [.74, .86]	.57 [.44, .68]	.71 [.61, .78]		.002** .03*
23. CDS-M Repetitive	.01 [-.16, .19]	.06 [-.12, .23]	-.06 [-.23, .11]	.14 [-.03, .30]	.06 [-.11, .23]	.08 [-.10, .24]	.18 [.01, .35]	.06 [-.11, .23]	.14 [-.03, .31]	.03 [-.14, .20]	.08 [-.10, .24]	.07 [-.10, .24]	.10 [-.07, .27]	.12 [-.05, .29]	.07 [-.11, .24]	.49 [.34, .61]	.03 [-.14, .20]	.18 [.01, .34]	.53 [.40, .65]	.33 [.17, .48]	.32 [.16, .47]	.27 [.10, .42]	

Measures:

1. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Hyper-Focus (HF), measuring frequency of experiences of hyper-focus; 2. AHQ School Hyper-Focus (HF); 3. AHQ Hobby Hyper-Focus (HF); 4. AHQ Screen Time Hyper-Focus (HF);
5. Adult ADHD Self-Report Scale (ASRS) Inattention scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005); 6. ASRS Hyperactivity/Impulsivity scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005);
7. Ritvo Autism and Asperger Diagnostic Scale-14 (RAADS-14) measure of autistic traits;
8. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 9. MIST-A Hyperacusis Experiences T-scores; 10. MIST-A Fear/Panic Experiences T-scores; 11. MIST-A Pain Experiences T-scores;
12. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Hyperacusis Symptoms; 13. MIST-A Systemic Nonspecific Symptoms;
14. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Impairment;
15. Vanderbilt Auditory Distractibility Questionnaire (VADQ);
16. Median Ratings of Canonical Misophonic Trigger Sounds; 17. Median Ratings of Canonically Pleasant Sounds; 18. Median Ratings of Canonically Unpleasant Sounds;
19. Core Discriminant Sounds-Misophonia (CDS-M) Total Scores; 20. CDS-M Mouth Sound Scores; 21. CDS-M Breathing/Nasal Sound Scores; 22. CDS-M Throat Sound Scores; and 23. CDS-M Repetitive Sound Scores.

Supplementary Table 4. Matrix depicting ordinal Spearman's correlations among all measures in the present study in the **autistic-only group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 253 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. AHQ Disp. HF	2. AHQ School HF	3. AHQ Hobby HF	4. AHQ Screen HF	5. ASRS Inattention	6. ASRS Hyper	7. RAADS-14	8. MIST-A Misophonia	9. MIST-A Hyperacusis	10. MIST-A Fear/Panic	11. MIST-A Pain	12. MIST-A Hyperacusis Symptom	13. MIST-A Non-specific	14. MIST-A Impairment	15. VADQ Auditory Distraction	16. Sound Rating Misophonia	17. Sound Rating Pleasant	18. Sound Rating Unpleasant	19. CDS-M Total	20. CDS-M Mouth	21. CDS-M Breathing/ Nose	22. CDS-M Throat	23. CDS-M Repetitive
1. AHQ Disp. HF		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0006*** .01*	.0002*** .004**	.02* .21	.0002*** .005**	.002** .03*	.0004*** .008**	<.0001**** .0001***	.0002*** .005**	.0008*** .02*	.02* .30	.23 >.99	.11 >.99	.27 >.99	.45 >.99	.80 >.99	.31 >.99	.49 >.99	.78 >.99
2. AHQ School HF	.61 [.49, .71]		<.0001**** <.0001****	<.0001**** .0005***	<.0001**** .001**	.0009*** .02*	.10 >.99	.35 >.99	.004** .06	.04* .44	.01* .18	.005** .07	.01* .18	.02* .26	.005** .08	.49 >.99	.11 >.99	.98 >.99	.30 >.99	.45 >.99	.31 >.99	.49 >.99	.69 >.99
3. AHQ Hobby HF	.74 [.65, .81]	.47 [.33, .59]		<.0001**** <.0001****	.0010*** .02*	.03* .38	.002** .03*	.002** .03*	.0008*** .02*	.17 >.99	.04* .45	.0007*** .01*	.003** .049*	.004** .07	.08 .85	.06 .65	.60 >.99	.35 >.99	.36 >.99	.20 >.99	.13 >.99	.16 >.99	.23 >.99
4. AHQ Screen HF	.60 [.47, .70]	.37 [.21, .51]	.51 [.37, .63]		<.0001**** .002**	.001** .02*	.009** .12	.003** .050	.02* .21	.11 >.99	.02* .26	<.0001**** .0003***	.002** .03*	.13 >.99	.25 >.99	.09 .94	.53 >.99	.45 >.99	.23 >.99	.92 >.99	.06 .65	.30 >.99	.72 >.99
5. ASRS Inattention	.40 [.25, .54]	.35 [.19, .50]	.29 [.12, .44]	.34 [.18, .49]		<.0001**** <.0001****	.002** .04*	.002** .03*	.0007*** .01*	.004** .07	.26 >.99	.002** .03*	.0005*** .01*	.0009*** .02*	.02* .25	.85 >.99	.66 >.99	.31 >.99	.85 >.99	.11 >.99	.59 >.99	.68 >.99	.69 >.99
6. ASRS Hyper	.30 [.13, .45]	.29 [.12, .44]	.19 [.02, .35]	.29 [.12, .44]	.43 [.27, .56]		.0009*** .02*	.01* .14	.0005*** .01*	<.0001**** .0004***	.0004*** .009**	<.0001**** <.0001****	<.0001**** .0004***	.004** .07	.06 .61	.56 >.99	.99 >.99	.11 >.99	.95 >.99	.08 .80	.72 >.99	.82 >.99	.99 >.99
7. RAADS-14	.32 [.16, .47]	.15 [-.03, .31]	.27 [.10, .42]	.23 [.06, .39]	.27 [.10, .42]	.29 [.12, .44]		.0005*** .01*	<.0001**** <.0001****	<.0001**** <.0001****	.0001*** .003**	.0003*** .006**	.0002*** .004**	<.0001**** <.0001****	<.0001**** <.0001****	.04* .48	.32 >.99	.03* .39	.02* .29	.36 >.99	.009** .13	.02* .30	.78 >.99
8. MIST-A Misophonia	.21 [.04, .37]	.08 [-.09, .25]	.28 [.11, .43]	.26 [.09, .41]	.27 [.10, .43]	.23 [.05, .38]	.30 [.14, .45]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0003***	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0002*** .004**	.03* .35	.29 >.99	.17 >.99	.01* .17	.15 >.99	.11 >.99	.03* .40	.42 >.99
9. MIST-A Hyperacusis	.32 [.16, .47]	.25 [.08, .41]	.29 [.12, .44]	.21 [.04, .37]	.30 [.13, .45]	.30 [.14, .45]	.44 [.29, .57]	.61 [.49, .71]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.09 .94	.25 >.99	.09 .91	.053 .58	.48 >.99	.37 >.99	.13 >.99	.053 .58
10. MIST-A Fear/Panic	.27 [.10, .42]	.18 [.01, .34]	.12 [-.05, .29]	.14 [-.03, .31]	.25 [.08, .41]	.37 [.21, .51]	.44 [.29, .57]	.49 [.35, .61]	.68 [.57, .76]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.28 >.99	.24 >.99	.005** .07	.16 >.99	.44 >.99	.38 >.99	.25 >.99	.45 >.99
11. MIST-A Pain	.31 [.14, .46]	.22 [.05, .38]	.18 [.01, .34]	.20 [.03, .36]	.10 [-.07, .27]	.31 [.14, .46]	.33 [.17, .48]	.38 [.22, .52]	.51 [.37, .63]	.57 [.44, .68]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0003*** .008**	.19 >.99	.63 >.99	.009** .13	.10 >.99	.58 >.99	.07 .73	.44 >.99	.85 >.99
12. MIST-A Hyperacusis Sympt.	.39 [.23, .53]	.25 [.08, .40]	.29 [.13, .45]	.38 [.22, .52]	.27 [.11, .43]	.41 [.26, .55]	.32 [.15, .47]	.44 [.29, .57]	.56 [.43, .67]	.53 [.40, .65]	.69 [.59, .77]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .002**	.09 .89	.52 >.99	.01* .14	.14 >.99	.19 >.99	.11 >.99	.39 >.99	.25 >.99
13. MIST-A Non-specific	.32 [.15, .47]	.22 [.05, .38]	.26 [.09, .41]	.27 [.10, .42]	.30 [.14, .45]	.37 [.21, .51]	.33 [.16, .47]	.49 [.35, .61]	.64 [.52, .73]	.59 [.47, .70]	.58 [.45, .68]	.70 [.60, .78]		<.0001**** <.0001****	.009** .13	.13 >.99	.71 >.99	.006** .09	.18 >.99	.59 >.99	.29 >.99	.48 >.99	.06 .65
14. MIST-A Impairment	.29 [.13, .44]	.20 [.03, .36]	.25 [.08, .40]	.13 [-.04, .30]	.29 [.12, .44]	.25 [.08, .41]	.43 [.28, .57]	.50 [.36, .62]	.78 [.71, .84]	.58 [.46, .69]	.49 [.35, .61]	.53 [.39, .64]	.60 [.47, .70]		<.0001**** <.0001****	.02* .23	.56 >.99	.07 .73	.008** .12	.22 >.99	.12 >.99	.049* .54	.008** .12
15. VADQ Auditory Distract	.20 [.03, .36]	.25 [.08, .40]	.15 [-.02, .32]	.10 [-.07, .27]	.21 [.03, .37]	.17 [-.00, .33]	.50 [.36, .62]	.33 [.16, .47]	.53 [.39, .64]	.44 [.28, .57]	.31 [.15, .46]	.34 [.18, .49]	.23 [.06, .39]	.52 [.38, .63]		.002** .04*	.66 >.99	.22 >.99	.001** .02*	.02* .30	.01* .17	.008** .12	.13 >.99
16. Sound Rating Misophonia	.11 [-.07, .28]	-.06 [-.23, .11]	.17 [-.01, .33]	.15 [-.03, .31]	.02 [-.16, .19]	.05 [-.12, .22]	.18 [.01, .34]	.19 [.02, .35]	.15 [-.03, .31]	.10 [-.08, .26]	.12 [-.06, .28]	.15 [-.02, .32]	.13 [-.04, .30]	.21 [.04, .37]	.27 [.10, .42]		.04* .42	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0001***
17. Sound Rating Pleasant	.14 [-.03, .31]	.14 [-.03, .31]	-.05 [-.22, .13]	-.06 [-.23, .12]	-.04 [-.21, .14]	-.00 [-.17, .17]	.09 [-.09, .26]	-.09 [-.26, .08]	.10 [-.07, .27]	.10 [-.07, .27]	-.04 [-.21, .13]	-.06 [-.23, .12]	.03 [-.14, .21]	.05 [-.12, .22]	.04 [-.14, .21]	-.18 [-.35, -.01]		.41 >.99	.005** .08	.19 >.99	.009** .13	.055 .60	.46 >.99
18. Sound Rating Unpleasant	.10 [-.08, .27]	-.00 [-.18, .17]	.08 [-.09, .25]	.07 [-.11, .24]	.09 [-.08, .26]	.14 [-.03, .31]	.19 [.02, .35]	.12 [-.05, .29]	.15 [-.02, .32]	.25 [.08, .40]	.23 [.06, .39]	.23 [.05, .38]	.24 [.07, .40]	.16 [-.01, .33]	.11 [-.07, .28]	.41 [.26, .55]	-.07 [-.24, .10]		<.0001**** <.0001****	.09 .89	<.0001**** <.0001****	<.0001**** .0002***	.03* .38
19. CDS-M Total	.07 [-.11, .24]	-.09 [-.26, .08]	.08 [-.09, .25]	.11 [-.07, .28]	.02 [-.16, .19]	-.01 [-.18, .17]	.20 [.03, .36]	.22 [.05, .38]	.17 [-.00, .34]	.12 [-.05, .29]	.15 [-.03, .31]	.13 [-.04, .30]	.12 [-.06, .29]	.23 [.06, .39]	.28 [.12, .44]	.87 [.82, .91]	-.25 [-.40, -.08]	.41 [.25, .54]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
20. CDS-M Mouth	.02 [-.15, .20]	-.07 [-.24, .11]	.11 [-.06, .28]	.01 [-.16, .18]	-.14 [-.31, .03]	-.16 [-.32, .02]	.08 [-.09, .25]	.13 [-.05, .29]	.06 [-.11, .23]	.07 [-.11, .24]	-.05 [-.22, .12]	-.12 [-.28, .06]	-.05 [-.22, .13]	.11 [-.07, .28]	.20 [.03, .36]	.65 [.54, .74]	-.12 [-.28, .06]	.15 [-.02, .32]	.72 [.62, .79]		<.0001**** <.0001****	<.0001**** <.0001****	.0010*** .02*
21. CDS-M Breathing/ Nose	.09 [-.09, .26]	-.09 [-.26, .08]	.13 [-.04, .30]	.17 [-.01, .33]	.05 [-.13, .22]	.03 [-.14, .20]	.23 [.06, .39]	.14 [-.03, .31]	.08 [-.10, .25]	.08 [-.10, .25]	.16 [-.01, .33]	.14 [-.03, .31]	.09 [-.08, .26]	.14 [-.04, .31]	.22 [.05, .38]	.80 [.72, .85]	-.23 [-.39, -.06]	.47 [.32, .59]	.85 [.79, .89]	.48 [.34, .61]		<.0001**** <.0001****	.002** .04*
22. CDS-M Throat	.06 [-.11, .23]	-.06 [-.23, .11]	.12 [-.05, .29]	.09 [-.08, .26]	.04 [-.14, .21]	.02 [-.15, .19]	.20 [.03, .36]	.19 [.01, .35]	.13 [-.04, .30]	.10 [-.07, .27]	.07 [-.11, .24]	.08 [-.10, .25]	.06 [-.11, .23]	.17 [.00, .34]	.23 [.06, .39]	.71 [.62, .79]	-.17 [-.33, .00]	.39 [.23, .53]	.72 [.63, .80]	.55 [.41, .66]	.62 [.50, .72]		.17 >.99
23. CDS-M Repetitive	-.02 [-.20, .15]	-.04 [-.21, .14]	-.11 [-.27, .07]	-.03 [-.20, .14]	.04 [-.14, .21]	-.00 [-.17, .17]	.03 [-.15, .20]	.07 [-.10, .24]	.17 [-.00, .34]	.07 [-.11, .24]	.02 [-.16, .19]	.10 [-.07, .27]	.17 [-.01, .33]	.23 [.06, .39]	.13 [-.04, .30]	.40 [.24, .53]	-.07 [-.24, .11]	.19 [.02, .35]	.51 [.37, .63]	.29 [.12, .44]	.27 [.10, .42]	.12 [-.05, .29]	

Measures:

1. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Hyper-Focus (HF), measuring frequency of experiences of hyper-focus; 2. AHQ School Hyper-Focus (HF); 3. AHQ Hobby Hyper-Focus (HF); 4. AHQ Screen Time Hyper-Focus (HF);
5. Adult ADHD Self-Report Scale (ASRS) Inattention scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005); 6. ASRS Hyperactivity/Impulsivity scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005);
7. Ritvo Autism and Asperger Diagnostic Scale-14 (RAADS-14) measure of autistic traits;
8. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 9. MIST-A Hyperacusis Experiences T-scores; 10. MIST-A Fear/Panic Experiences T-scores; 11. MIST-A Pain Experiences T-scores;
12. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Hyperacusis Symptoms; 13. MIST-A Systemic Nonspecific Symptoms;
14. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Impairment;
15. Vanderbilt Auditory Distractibility Questionnaire (VADQ);
16. Median Ratings of Canonical Misophonic Trigger Sounds; 17. Median Ratings of Canonically Pleasant Sounds; 18. Median Ratings of Canonically Unpleasant Sounds;
19. Core Discriminant Sounds-Misophonia (CDS-M) Total Scores; 20. CDS-M Mouth Sound Scores; 21. CDS-M Breathing/Nasal Sound Scores; 22. CDS-M Throat Sound Scores; and 23. CDS-M Repetitive Sound Scores.

Supplementary Table 5. Matrix depicting ordinal Spearman's correlations among all measures in the present study in the **comparison group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 253 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. AHQ Disp. HF	2. AHQ School HF	3. AHQ Hobby HF	4. AHQ Screen HF	5. ASRS Inattention	6. ASRS Hyper	7. RAADS-14	8. MIST-A Misophonia	9. MIST-A Hyperacusis	10. MIST-A Fear/Panic	11. MIST-A Pain	12. MIST-A Hyperacusis Symptom	13. MIST-A Non-specific	14. MIST-A Impairment	15. VADQ Auditory Distraction	16. Sound Rating Misophonia	17. Sound Rating Pleasant	18. Sound Rating Unpleasant	19. CDS-M Total	20. CDS-M Mouth	21. CDS-M Breathing/ Nose	22. CDS-M Throat	23. CDS-M Repetitive
1. AHQ Disp. HF		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0008*** .03*	<.0001**** <.0001****	.08 >.99	.12 >.99	.66 >.99	.004** .10	.18 >.99	.31 >.99	.052 .85	.48 >.99	.009** .19	.21 >.99	.55 >.99	.15 >.99	.42 >.99	.72 >.99	.43 >.99	.42 >.99	.046* .79
2. AHQ School HF	.50 [.33, .64]		<.0001**** <.0001****	.0009*** .03*	.01* .28	.0009*** .03*	.005** .12	.27 >.99	.07 >.99	.15 >.99	.12 >.99	.12 >.99	.27 >.99	.17 >.99	.16 >.99	.85 >.99	.39 >.99	.40 >.99	.88 >.99	.76 >.99	.48 >.99	.79 >.99	.23 >.99
3. AHQ Hobby HF	.80 [.72, .87]	.51 [.34, .64]		<.0001**** <.0001****	.007** .16	<.0001**** .0004***	.046* .79	.09 >.99	.38 >.99	.006** .15	.23 >.99	.16 >.99	.048* .80	.49 >.99	.06 .96	.43 >.99	.65 >.99	.09 >.99	.60 >.99	.80 >.99	.54 >.99	.56 >.99	.40 >.99
4. AHQ Screen HF	.53 [.37, .66]	.33 [.14, .50]	.60 [.46, .72]		.001** .04*	.0003*** .01*	.001** .04*	.16 >.99	.76 >.99	.004** .10	.51 >.99	.66 >.99	.14 >.99	.02* .48	.08 >.99	.07 >.99	.79 >.99	.56 >.99	.22 >.99	.56 >.99	.36 >.99	.21 >.99	.10 >.99
5. ASRS Inattention	.35 [.15, .52]	.26 [.05, .44]	.28 [.08, .46]	.33 [.13, .50]		<.0001**** <.0001****	.23 >.99	.31 >.99	.11 >.99	.04* .75	.10 >.99	.33 >.99	.53 >.99	.07 >.99	<.0001**** .0005***	.006** .15	.47 >.99	.04* .69	.51 >.99	.36 >.99	.45 >.99	.12 >.99	.12 >.99
6. ASRS Hyper	.52 [.35, .66]	.34 [.15, .51]	.45 [.27, .60]	.37 [.18, .54]	.52 [.35, .66]		.01* .23	.16 >.99	.23 >.99	.02* .35	.69 >.99	.27 >.99	.20 >.99	.46 >.99	.0004*** .02*	.10 >.99	.50 >.99	.13 >.99	.62 >.99	.09 >.99	.58 >.99	.81 >.99	.23 >.99
7. RAADS-14	.18 [-.02, .38]	.29 [.09, .47]	.21 [.00, .40]	.34 [.14, .51]	.13 [-.08, .32]	.27 [.06, .45]		.57 >.99	.07 >.99	.03* .51	.22 >.99	.19 >.99	.01** .21	.21 >.99	.01* .25	.41 >.99	.62 >.99	.38 >.99	.08 >.99	.049* .81	.23 >.99	.11 >.99	.84 >.99
8. MIST-A Misophonia	.16 [-.04, .36]	.12 [-.09, .31]	.18 [-.03, .37]	.15 [-.06, .34]	.11 [-.10, .31]	.15 [-.06, .34]	.06 [-.15, .26]		.006** .16	.17 >.99	.02* .48	.10 >.99	.008** .18	.001** .04*	.003** .09	.01* .26	.86 >.99	.79 >.99	.003** .08	.005** .14	.053 .86	.003** .08	.04* .69
9. MIST-A Hyperacusis	.05 [-.16, .25]	.19 [-.02, .38]	.09 [-.11, .29]	.03 [-.17, .23]	.17 [-.04, .36]	.13 [-.08, .32]	.19 [-.02, .38]	.28 [.08, .46]		.0007*** .03*	.0006*** .02*	<.0001**** <.0001****	.0006*** .02*	<.0001**** .001**	.03* .59	.34 >.99	.36 >.99	.56 >.99	.31 >.99	.06 >.99	.33 >.99	.10 >.99	.86 >.99
10. MIST-A Fear/Panic	.30 [.10, .47]	.15 [-.05, .35]	.28 [.08, .46]	.30 [.10, .47]	.21 [.01, .40]	.25 [.05, .43]	.23 [.03, .42]	.14 [-.06, .34]	.35 [.15, .51]		<.0001**** .0007***	.005** .12	.0001*** .007**	.06 .93	.11 >.99	.88 >.99	.77 >.99	>.99 >.99	.82 >.99	.52 >.99	.18 >.99	.72 >.99	.57 >.99
11. MIST-A Pain	.14 [-.07, .33]	.16 [-.04, .35]	.13 [-.08, .32]	.07 [-.14, .27]	.17 [-.03, .37]	.04 [-.17, .25]	.13 [-.08, .33]	.23 [.03, .42]	.35 [.16, .52]	.43 [.25, .59]		<.0001**** .0003***	.0009*** .03*	.04* .76	.04* .77	.84 >.99	.07 >.99	.93 >.99	.84 >.99	.89 >.99	.73 >.99	.37 >.99	.73 >.99
12. MIST-A Hyp-eracusis Sympt.	.11 [-.10, .30]	.16 [-.04, .35]	.15 [-.06, .34]	.05 [-.16, .25]	.10 [-.10, .30]	.12 [-.09, .32]	.14 [-.07, .34]	.17 [-.03, .36]	.49 [.32, .63]	.29 [.09, .47]	.46 [.28, .61]		<.0001**** <.0001****	<.0001**** .0002***	.55 >.99	.65 >.99	.43 >.99	.67 >.99	.93 >.99	.11 >.99	.53 >.99	.36 >.99	.98 >.99
13. MIST-A Non-specific	.20 [-.00, .39]	.12 [-.09, .31]	.21 [.00, .39]	.15 [-.05, .35]	.07 [-.14, .27]	.13 [-.07, .33]	.27 [.07, .45]	.27 [.08, .45]	.35 [.16, .52]	.38 [.20, .55]	.34 [.14, .51]	.50 [.34, .64]		.009** .20	.12 >.99	.77 >.99	.75 >.99	.30 >.99	.11 >.99	.38 >.99	.30 >.99	.07 >.99	.26 >.99
14. MIST-A Impairment	.07 [-.13, .27]	.14 [-.06, .34]	.07 [-.13, .27]	.23 [.03, .42]	.19 [-.01, .38]	.08 [-.13, .28]	.13 [-.07, .33]	.33 [.13, .50]	.42 [.24, .57]	.20 [-.01, .38]	.21 [.01, .40]	.47 [.29, .61]	.27 [.07, .45]		.007** .16	.11 >.99	.94 >.99	.59 >.99	.06 .91	.0005*** .02*	.40 >.99	.22 >.99	.009** .20
15. VADQ Auditory Distract	.27 [.07, .45]	.15 [-.06, .34]	.20 [-.01, .39]	.18 [-.02, .38]	.45 [.27, .60]	.37 [.17, .53]	.26 [.06, .44]	.31 [.11, .48]	.23 [.02, .41]	.17 [-.04, .36]	.21 [.01, .40]	.06 [-.14, .27]	.16 [-.05, .36]	.28 [.08, .46]		<.0001**** <.0001****	.15 >.99	<.0001**** .0006***	<.0001**** .004**	.0006*** .02*	.0002*** .008**	.002** .06	.01** .21
16. Sound Rating Misophonia	.13 [-.08, .33]	.02 [-.19, .22]	.08 [-.12, .29]	.19 [-.01, .38]	.29 [.08, .46]	.18 [-.03, .37]	.09 [-.12, .29]	.26 [.06, .44]	.10 [-.11, .30]	.02 [-.19, .22]	-.02 [-.23, .19]	-.05 [-.25, .16]	.03 [-.18, .24]	.17 [-.04, .36]	.49 [.32, .64]		.54 >.99	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .002**
17. Sound Rating Pleasant	.06 [-.14, .27]	.09 [-.12, .29]	-.05 [-.25, .16]	.03 [-.18, .23]	.08 [-.13, .28]	-.07 [-.27, .14]	-.05 [-.26, .16]	.02 [-.19, .22]	-.10 [-.30, .11]	.03 [-.18, .24]	.19 [-.01, .38]	-.08 [-.28, .12]	.03 [-.17, .24]	.01 [-.20, .21]	.15 [-.06, .35]	-.07 [-.27, .14]		.68 >.99	.22 >.99	.04* .69	.66 >.99	.23 >.99	.13 >.99
18. Sound Rating Unpleasant	.15 [-.06, .35]	.09 [-.12, .29]	.18 [-.03, .37]	.06 [-.15, .26]	.22 [.01, .41]	.16 [-.05, .35]	.09 [-.12, .29]	.03 [-.18, .23]	.06 [-.15, .26]	-.00 [-.21, .21]	.01 [-.20, .22]	-.05 [-.25, .16]	.11 [-.10, .31]	-.06 [-.26, .15]	.44 [.26, .60]	.60 [.44, .71]	-.04 [-.25, .16]		<.0001**** .0007***	.0008*** .03*	<.0001**** .0007***	.0008*** .03*	.008** .18
19. CDS-M Total	.09 [-.12, .29]	.02 [-.19, .22]	.06 [-.15, .26]	.13 [-.08, .33]	.07 [-.14, .27]	.05 [-.15, .26]	.19 [-.02, .38]	.31 [.11, .48]	.11 [-.10, .31]	.02 [-.18, .23]	-.02 [-.23, .18]	-.01 [-.21, .20]	.17 [-.04, .36]	.20 [-.01, .39]	.40 [.21, .56]	.81 [.72, .87]	-.13 [-.33, .08]	.44 [.26, .59]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0003***
20. CDS-M Mouth	.04 [-.17, .24]	.03 [-.17, .24]	.03 [-.18, .23]	.06 [-.15, .26]	.10 [-.11, .30]	.18 [-.03, .37]	.21 [.00, .40]	.29 [.09, .47]	.19 [-.01, .39]	-.07 [-.27, .14]	-.02 [-.22, .19]	.17 [-.04, .36]	.09 [-.12, .29]	.36 [.16, .52]	.35 [.16, .52]	.67 [.53, .77]	-.22 [-.41, -.01]	.35 [.15, .52]	.68 [.55, .78]		<.0001**** <.0001****	.0002*** .008**	.0005*** .02*
21. CDS-M Breathing/ Nose	.08 [-.13, .28]	.08 [-.13, .28]	.06 [-.14, .27]	.10 [-.11, .30]	.08 [-.13, .28]	.06 [-.15, .26]	.13 [-.08, .33]	.20 [-.00, .39]	.10 [-.10, .30]	.14 [-.06, .34]	.04 [-.17, .24]	-.07 [-.27, .14]	.11 [-.10, .31]	.09 [-.12, .29]	.38 [.19, .54]	.71 [.60, .80]	-.05 [-.25, .16]	.44 [.26, .59]	.86 [.79, .90]	.53 [.36, .66]		<.0001**** <.0001****	.03* .58
22. CDS-M Throat	.09 [-.12, .29]	.03 [-.18, .23]	.06 [-.15, .26]	.13 [-.08, .33]	.16 [-.05, .36]	.03 [-.18, .23]	.17 [-.04, .36]	.31 [.11, .48]	.17 [-.03, .37]	-.04 [-.24, .17]	.09 [-.11, .29]	.10 [-.11, .30]	.19 [-.02, .38]	.13 [-.08, .33]	.32 [.12, .49]	.67 [.54, .77]	-.13 [-.32, .08]	.34 [.15, .51]	.73 [.62, .81]	.38 [.19, .55]	.55 [.39, .68]		.049* .81
23. CDS-M Repetitive	.21 [.00, .40]	.13 [-.08, .32]	.09 [-.12, .29]	.17 [-.03, .37]	.16 [-.05, .36]	.13 [-.08, .33]	.02 [-.19, .23]	.22 [.01, .41]	-.02 [-.22, .19]	-.06 [-.26, .15]	-.04 [-.24, .17]	.00 [-.20, .21]	.12 [-.09, .32]	.27 [.07, .45]	.27 [.07, .45]	.42 [.23, .57]	.16 [-.05, .35]	.28 [.08, .46]	.46 [.28, .61]	.36 [.17, .53]	.23 [.02, .41]	.21 [.00, .40]	

Measures:

1. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Hyper-Focus (HF), measuring frequency of experiences of hyper-focus; 2. AHQ School Hyper-Focus (HF); 3. AHQ Hobby Hyper-Focus (HF); 4. AHQ Screen Time Hyper-Focus (HF);
5. Adult ADHD Self-Report Scale (ASRS) Inattention scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005); 6. ASRS Hyperactivity/Impulsivity scores, summed using the full scale per "Method 3" as described by Kessler et al. (2005);
7. Ritvo Autism and Asperger Diagnostic Scale-14 (RAADS-14) measure of autistic traits;
8. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 9. MIST-A Hyperacusis Experiences T-scores; 10. MIST-A Fear/Panic Experiences T-scores; 11. MIST-A Pain Experiences T-scores;
12. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Hyperacusis Symptoms; 13. MIST-A Systemic Nonspecific Symptoms;
14. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Impairment;
15. Vanderbilt Auditory Distractibility Questionnaire (VADQ);
16. Median Ratings of Canonical Misophonic Trigger Sounds; 17. Median Ratings of Canonically Pleasant Sounds; 18. Median Ratings of Canonically Unpleasant Sounds;
19. Core Discriminant Sounds-Misophonia (CDS-M) Total Scores; 20. CDS-M Mouth Sound Scores; 21. CDS-M Breathing/Nasal Sound Scores; 22. CDS-M Throat Sound Scores; and 23. CDS-M Repetitive Sound Scores.

Supplementary Table 6. Matrix depicting ordinal Spearman's correlations among sensory questionnaire scores and measures described in Dwyer et al. (2024) in the **ADHD-only group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 276 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. MIST-A Misophonia	2. MIST-A Hyperacusis	3. MIST-A Fear/Panic	4. MIST-A Pain	5. MIST-A Hyperacusis Symptom	6. MIST-A Non-specific	7. MIST-A Impairment	8. VADQ Auditory Distraction	9. EASI-A Intensity	10. EASI-A Others' Interest	11. EASI-Social	12. AHQ Disp. VAS	13. AHQ School VAS	14. AHQ Hobby VAS	15. AHQ Screen VAS	16. AHQ Positive Engage.	17. AHQ Excess Engage.	18. EASI-A Positive VAS	19. EASI-A Negative VAS	20. SIG-QOL	21. OASIS Anxiety	22. ODSIS Depressi-on	23. BHS Hyper-Vigilance	24. PTQ
1. MIST-A Misophonia		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.99 >.99	.09 .90	.003** .052	.75 >.99	.72 >.99	.17 >.99	.02* .25	.07 .80	.06 .70	.12 >.99	.10 >.99	.02* .32	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0005***	.0001*** .003**
2. MIST-A Hyperacusis	.80 [.73, .86]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.48 >.99	.06 .64	.21 >.99	.91 >.99	.52 >.99	.38 >.99	.12 >.99	.02* .27	.09 .90	.02* .27	.08 .88	.02* .24	<.0001**** <.0001****	<.0001**** .0002***	<.0001**** <.0001****	<.0001**** .0009***
3. MIST-A Fear/ Panic	.62 [.50, .72]	.78 [.69, .84]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.93 >.99	.03* .34	.36 >.99	.35 >.99	.97 >.99	.08 .88	.03* .40	.11 >.99	.08 .87	.007** .11	.051 .61	.0004*** .009**	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0002***
4. MIST-A Pain	.66 [.55, .75]	.69 [.58, .77]	.54 [.39, .65]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0001***	.57 >.99	.70 >.99	.21 >.99	.90 >.99	.34 >.99	.57 >.99	.42 >.99	.02* .28	.37 >.99	.03* .37	.24 >.99	.04* .48	<.0001**** <.0001****	<.0001**** .0009***	<.0001**** .0006***	.002** .04*
5. MIST-A Hypera-cusis Symptoms	.65 [.53, .74]	.69 [.59, .78]	.59 [.46, .70]	.68 [.57, .76]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0004***	.19 >.99	.09 .96	.12 >.99	.97 >.99	.56 >.99	.18 >.99	.24 >.99	.004** .07	.06 .64	.008** .13	.32 >.99	.09 .93	<.0001**** .0007***	.001** .02*	<.0001**** .001**	.01* .16
6. MIST-A Non-specific Symptoms	.57 [.44, .68]	.71 [.61, .79]	.67 [.55, .76]	.56 [.42, .67]	.73 [.63, .80]		<.0001**** <.0001****	.001** .03*	.055 .64	.08 .83	.15 >.99	.50 >.99	.92 >.99	.65 >.99	.39 >.99	.006** .10	.29 >.99	.11 >.99	.47 >.99	.04* .51	<.0001**** <.0001****	<.0001**** .0005***	<.0001**** .0001***	.02* .26
7. MIST-A Impairment	.76 [.67, .82]	.83 [.76, .88]	.67 [.56, .76]	.67 [.56, .76]	.72 [.63, .80]	.65 [.54, .75]		<.0001**** <.0001****	.50 >.99	.07 .78	.04* .49	.61 >.99	.92 >.99	.23 >.99	.14 >.99	.07 .78	.09 .96	.006** .10	.050* .59	.02* .23	<.0001**** <.0001****	.0003*** .006**	<.0001**** <.0001****	.0002*** .005**
8. VADQ Auditory Distraction	.46 [.31, .59]	.59 [.46, .70]	.44 [.28, .58]	.41 [.25, .55]	.39 [.22, .53]	.29 [.11, .45]	.56 [.42, .67]		.41 >.99	.03* .36	.53 >.99	.86 >.99	.86 >.99	.32 >.99	.050 .60	.01* .20	.32 >.99	.20 >.99	.11 >.99	.19 >.99	.0004*** .008**	.0009*** .02*	<.0001**** .0005***	.0001*** .002**
9. EASI-A Intensity	-.00 [-.18, .18]	-.07 [-.24, .12]	.01 [-.17, .19]	.05 [-.13, .23]	.12 [-.06, .29]	.18 [-.00, .34]	.06 [-.12, .24]	-.08 [-.25, .11]		.01* .18	.0001*** .002**	.07 .78	.75 >.99	.11 >.99	.001** .02*	.02* .26	.10 >.99	.03* .35	.16 >.99	.75 >.99	.64 >.99	.57 >.99	.51 >.99	.44 >.99
10. EASI-A Others' Interest	-.16 [-.33, .02]	-.18 [-.34, .00]	-.20 [-.37, -.02]	-.04 [-.21, .14]	-.15 [-.32, .03]	-.16 [-.33, .02]	-.17 [-.34, .01]	-.20 [-.37, -.02]	.23 [.05, .39]		.08 .90	.44 >.99	.39 >.99	.61 >.99	.61 >.99	.72 >.99	.10 >.99	.92 >.99	.22 >.99	.95 >.99	.34 >.99	.56 >.99	.15 >.99	.85 >.99
11. EASI-Social	.27 [.10, .43]	.12 [-.06, .29]	.08 [-.10, .26]	.11 [-.07, .29]	.14 [-.04, .31]	.13 [-.05, .31]	.19 [.01, .35]	.06 [-.12, .24]	.35 [.18, .50]	.16 [-.02, .33]		.51 >.99	.04* .49	.97 >.99	.11 >.99	.67 >.99	.74 >.99	.46 >.99	.0004*** .008**	.01* .16	.006** .10	.04* .47	.10 >.99	.02* .24
12. AHQ Dispositional VAS	-.03 [-.21, .15]	-.01 [-.19, .17]	-.09 [-.26, .09]	-.01 [-.19, .17]	-.00 [-.18, .18]	.06 [-.12, .24]	-.05 [-.22, .13]	-.02 [-.20, .16]	.17 [-.01, .34]	-.07 [-.25, .11]	-.06 [-.24, .12]		<.0001**** .0001***	<.0001**** <.0001****	.001** .03*	<.0001**** .0002***	<.0001**** <.0001****	<.0001**** .0010***	<.0001**** .002**	.23 >.99	.80 >.99	.78 >.99	.59 >.99	.57 >.99
13. AHQ School VAS	-.03 [-.21, .15]	.06 [-.12, .24]	.00 [-.18, .18]	-.09 [-.26, .09]	.05 [-.13, .23]	.01 [-.17, .19]	-.01 [-.19, .17]	-.02 [-.20, .16]	.03 [-.15, .21]	-.08 [-.26, .10]	-.19 [-.35, -.01]	.40 [.24, .54]		.0004*** .008**	.002** .03*	.0007*** .01*	<.0001**** .0004***	<.0001**** .0010***	<.0001**** .0008***	.27 >.99	.74 >.99	.29 >.99	.79 >.99	.39 >.99
14. AHQ Hobby VAS	-.13 [-.30, .05]	-.08 [-.26, .10]	-.16 [-.33, .02]	-.05 [-.23, .13]	-.12 [-.30, .06]	-.04 [-.22, .14]	-.11 [-.28, .07]	-.09 [-.27, .09]	.15 [-.03, .32]	.05 [-.13, .22]	.00 [-.18, .18]	.44 [.28, .57]	.32 [.15, .47]		<.0001**** <.0001****	.004** .07	<.0001**** .0004***	<.0001**** .0004***	.002** .03*	.20 >.99	.62 >.99	.10 >.99	.43 >.99	.01* .20
15. AHQ Screen Time VAS	-.22 [-.38, -.04]	-.14 [-.31, .04]	-.20 [-.36, -.02]	-.07 [-.25, .11]	-.11 [-.28, .07]	-.08 [-.26, .10]	-.14 [-.31, .04]	-.18 [-.35, -.00]	.29 [.12, .45]	.05 [-.13, .22]	-.15 [-.32, .03]	.29 [.12, .44]	.29 [.11, .44]	.54 [.40, .65]		.66 >.99	.03* .36	<.0001**** .0007***	.03* .34	.007** .11	.008** .13	.02* .28	.01* .22	<.0001**** .0008***
16. AHQ Positive Engage.	.16 [-.01, .33]	.21 [.04, .38]	.15 [-.03, .32]	.21 [.03, .38]	.26 [.09, .42]	.25 [.07, .41]	.17 [-.01, .34]	.23 [.05, .39]	.22 [.04, .38]	-.03 [-.21, .15]	.04 [-.14, .22]	.40 [.24, .54]	.30 [.13, .46]	.26 [.09, .42]	.04 [-.14, .22]		.02* .29	.010** .15	.25 >.99	.52 >.99	.21 >.99	.30 >.99	.005** .09	.17 >.99
17. AHQ Excessive Eng.	.17 [-.01, .34]	.16 [-.02, .33]	.16 [-.02, .33]	.08 [-.10, .26]	.18 [-.00, .34]	.10 [-.08, .27]	.15 [-.03, .32]	.09 [-.09, .27]	-.15 [-.32, .03]	-.15 [-.32, .03]	-.03 [-.21, .15]	-.48 [-.60, -.33]	-.38 [-.53, -.22]	-.39 [-.53, -.22]	-.20 [-.36, -.02]	-.21 [-.37, -.03]		.0002*** .005**	<.0001**** .002**	.84 >.99	.80 >.99	.38 >.99	.11 >.99	.29 >.99
18. EASI-A Positive VAS	-.14 [-.31, .04]	-.21 [-.38, -.04]	-.25 [-.41, -.07]	-.20 [-.37, -.02]	-.24 [-.40, -.06]	-.15 [-.32, .03]	-.25 [-.41, -.07]	-.12 [-.29, .06]	.20 [.02, .37]	-.01 [-.19, .17]	-.07 [-.24, .11]	.37 [.20, .51]	.37 [.20, .51]	.38 [.22, .53]	.37 [.21, .52]	.24 [.06, .40]	-.33 [-.48, -.16]		<.0001**** .0005***	.004** .07	.43 >.99	.052 .61	.02* .30	.02* .28
19. EASI-A Negative VAS	.15 [-.03, .32]	.16 [-.02, .33]	.18 [-.00, .35]	.11 [-.07, .28]	.09 [-.09, .27]	.07 [-.11, .24]	.18 [.00, .35]	.15 [-.03, .32]	.13 [-.05, .30]	.11 [-.07, .29]	.32 [.15, .47]	-.35 [-.50, -.19]	-.37 [-.52, -.21]	-.29 [-.44, -.11]	-.20 [-.37, -.03]	-.11 [-.28, .08]	.35 [.19, .50]	-.38 [-.52, -.22]		.07 .81	.08 .88	.02* .28	.02* .24	.04* .44
20. SIG-QOL	-.21 [-.37, -.03]	-.22 [-.38, -.04]	-.32 [-.47, -.15]	-.19 [-.36, -.01]	-.16 [-.33, .02]	-.19 [-.35, -.01]	-.22 [-.39, -.04]	-.12 [-.29, .06]	.03 [-.15, .21]	-.01 [-.19, .17]	-.23 [-.40, -.06]	.11 [-.07, .28]	.10 [-.08, .28]	.12 [-.06, .29]	.25 [.07, .41]	.06 [-.12, .24]	.02 [-.16, .20]	.26 [.09, .42]	-.16 [-.33, .02]		<.0001**** <.0001****	<.0001**** <.0001****	.004** .06	<.0001**** <.0001****
21. OASIS Anxiety	.45 [.29, .58]	.49 [.34, .62]	.56 [.43, .67]	.42 [.26, .56]	.37 [.21, .52]	.47 [.32, .60]	.43 [.27, .56]	.32 [.15, .47]	.04 [-.14, .22]	-.09 [-.26, .09]	.25 [.08, .41]	-.02 [-.20, .16]	-.03 [-.21, .15]	-.05 [-.22, .14]	-.24 [-.40, -.06]	.12 [-.07, .29]	.02 [-.16, .20]	-.07 [-.25, .11]	.16 [-.02, .33]	-.48 [-.61, -.33]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
22. ODSIS Depression	.42 [.26, .56]	.41 [.24, .55]	.45 [.29, .58]	.37 [.20, .52]	.29 [.12, .45]	.38 [.22, .52]	.33 [.16, .48]	.30 [.13, .46]	.05 [-.13, .23]	.05 [-.13, .23]	.19 [.01, .36]	-.03 [-.21, .15]	-.10 [-.27, .08]	-.15 [-.32, .03]	-.21 [-.38, -.03]	.10 [-.09, .27]	.08 [-.10, .26]	-.18 [-.35, .00]	.21 [.03, .38]	-.47 [-.60, -.32]	.71 [.61, .79]		.0003*** .006**	<.0001**** <.0001****
23. BHS Hyper-Vigilance	.38 [.22, .53]	.50 [.35, .62]	.54 [.40, .66]	.38 [.21, .52]	.36 [.20, .51]	.41 [.25, .55]	.45 [.29, .58]	.38 [.22, .53]	.06 [-.12, .24]	-.13 [-.30, .05]	.15 [-.03, .32]	-.05 [-.23, .13]	-.02 [-.20, .16]	-.07 [-.25, .11]	-.22 [-.39, -.05]	.25 [.08, .41]	.15 [-.03, .32]	-.21 [-.37, -.03]	.22 [.04, .38]	-.26 [-.42, -.09]	.52 [.38, .64]	.33 [.16, .48]		<.0001**** <.0001****
24. Perseverative Thinking Q.	.35 [.18, .49]	.37 [.20, .52]	.40 [.24, .55]	.28 [.11, .44]	.24 [.06, .40]	.22 [.04, .38]	.33 [.16, .48]	.35 [.18, .50]	-.07 [-.25, .11]	-.02 [-.20, .16]	.22 [.04, .38]	-.05 [-.23, .13]	-.08 [-.26, .10]	-.23 [-.39, -.05]	-.37 [-.52, -.21]	.13 [-.06, .30]	.10 [-.08, .27]	-.21 [-.38, -.03]	.19 [.01, .36]	-.45 [-.58, -.29]	.66 [.54, .75]	.57 [.44, .68]	.56 [.42, .67]	

Measures from present study:

1. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 2. MIST-A Hyperacusis Experiences T-scores; 3. MIST-A Fear/Panic Experiences T-scores; 4. MIST-A Pain Experiences T-scores; 5. MIST-A Hyperacusis Symptoms; 6. MIST-A Systemic Nonspecific Symptoms; 7. MIST-A Overall Impairment
8. Vanderbilt Auditory Distractibility Questionnaire (VADQ);

Measures from Dwyer et al. (2024):

9. Evaluation of Autistic Special Interests-Adult (EASI-A) Interest Intensity; 10. EASI-A Others' Interest, measuring ease of finding others with similar interests; 11. EASI Social Addendum (EASI-Social), measuring dependence on others with similar interests for social interaction;
12. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Visual Analogue Scale (VAS) measuring positive/negative valence of hyper-focus experiences; 13. AHQ School VAS; 14. AHQ Hobby VAS; 15. AHQ Screen Time VAS;
16. Adult Hyperfocus Questionnaire (AHQ) Positive Engagement, quantifying the degree to which hyper-focus is experienced as enjoyable and productive; 17. AHQ Excessive Engagement, quantifying the degree to which hyper-focus is experienced as excessive;
18. Evaluation of Autistic Special Interests-Adult (EASI-A) Visual Analogue Scale (VAS) of positive effects of an intense interest; 19. EASI-A VAS of negative effects of an intense interest;
20. Single Item Global Quality of Life Scale (SIG-QOL);
21. Overall Anxiety Severity and Impairment Scale (OASIS); 22. Overall Depression Severity and Impairment Scale (ODSIS);
23. Brief Hypervigilance Scale (BHS); and
24. Perseverative Thinking Questionnaire (PTQ) measuring negative repetitive thinking/rumination.

Supplementary Table 7. Matrix depicting ordinal Spearman's correlations among sensory questionnaire scores and measures described in Dwyer et al. (2024) in the **autistic+ADHD group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 276 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. MIST-A Misophonia	2. MIST-A Hyperacusis	3. MIST-A Fear/Panic	4. MIST-A Pain	5. MIST-A Hyperacusis Symptom	6. MIST-A Non-specific	7. MIST-A Impairment	8. VADQ Auditory Distraction	9. EASI-A Intensity	10. EASI-A Others' Interest	11. EASI-Social	12. AHQ Disp. VAS	13. AHQ School VAS	14. AHQ Hobby VAS	15. AHQ Screen VAS	16. AHQ Positive Engage.	17. AHQ Excess Engage.	18. EASI-A Positive VAS	19. EASI-A Negative VAS	20. SIG-QOL	21. OASIS Anxiety	22. ODSIS Depressi-on	23. BHS Hyper-Vigilance	24. PTQ
1. MIST-A Misophonia		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0003*** .008**	.86 >.99	.68 >.99	.01* .25	.92 >.99	.95 >.99	.18 >.99	.21 >.99	.49 >.99	.08 >.99	.36 >.99	>.99 >.99	.12 >.99	.002** .049*	.04* .66	.01* .27	.007** .15
2. MIST-A Hyperacusis	.66 [.56, .75]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.61 >.99	.92 >.99	.0009*** .02*	.62 >.99	.71 >.99	.91 >.99	.67 >.99	.59 >.99	.93 >.99	.03* .48	.82 >.99	.08 >.99	<.0001**** .0003***	.19 >.99	<.0001**** <.0001****	.01* .25
3. MIST-A Fear/ Panic	.60 [.48, .70]	.83 [.77, .88]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.88 >.99	.68 >.99	.004** .09	.51 >.99	.67 >.99	.69 >.99	.81 >.99	.23 >.99	.89 >.99	.27 >.99	.51 >.99	.11 >.99	<.0001**** .0004***	.23 >.99	<.0001**** <.0001****	.02* .32
4. MIST-A Pain	.58 [.46, .68]	.67 [.57, .75]	.63 [.51, .72]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.002** .04*	.64 >.99	.36 >.99	.04* .62	.39 >.99	.87 >.99	.56 >.99	.68 >.99	.50 >.99	.052 .81	.007** .15	.40 >.99	.21 >.99	.01* .22	.97 >.99	.0008*** .02*	.44 >.99
5. MIST-A Hyperacusis Symptoms	.53 [.39, .64]	.69 [.59, .77]	.65 [.54, .73]	.80 [.73, .85]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .002**	.71 >.99	.51 >.99	.006** .13	.16 >.99	.74 >.99	.48 >.99	.87 >.99	.92 >.99	.15 >.99	.17 >.99	.61 >.99	.16 >.99	.0009*** .03*	.49 >.99	<.0001**** <.0001****	.02* .34
6. MIST-A Non-specific Symptoms	.47 [.32, .59]	.69 [.59, .77]	.64 [.52, .73]	.63 [.51, .72]	.69 [.59, .77]		<.0001**** <.0001****	.0004*** .01*	.55 >.99	.87 >.99	.12 >.99	.47 >.99	.33 >.99	.95 >.99	.91 >.99	.44 >.99	.89 >.99	.46 >.99	.42 >.99	.004** .10	<.0001**** .003**	.08 >.99	<.0001**** .001**	.03* .60
7. MIST-A Impairment	.61 [.50, .71]	.78 [.70, .84]	.66 [.55, .74]	.61 [.50, .71]	.63 [.52, .72]	.67 [.56, .75]		<.0001**** <.0001****	.24 >.99	.62 >.99	.002** .04*	.50 >.99	.63 >.99	.88 >.99	.85 >.99	.84 >.99	.35 >.99	.12 >.99	.55 >.99	.04* .68	<.0001**** <.0001****	.37 >.99	<.0001**** <.0001****	.02* .34
8. VADQ Auditory Distraction	.31 [.15, .46]	.55 [.42, .66]	.49 [.35, .61]	.27 [.11, .43]	.34 [.18, .48]	.30 [.14, .45]	.41 [.25, .54]		.63 >.99	.41 >.99	.003** .07	.20 >.99	.62 >.99	.34 >.99	.56 >.99	.04* .62	.80 >.99	.07 >.99	.98 >.99	.64 >.99	.0001*** .004**	.23 >.99	<.0001**** <.0001****	.0007*** .02*
9. EASI-A Intensity	-.01 [-.18, .15]	.04 [-.13, .21]	-.01 [-.18, .16]	.04 [-.13, .21]	.03 [-.14, .20]	.05 [-.12, .22]	.10 [-.07, .27]	.04 [-.13, .21]		.82 >.99	<.0001**** .0008***	.08 >.99	.21 >.99	.90 >.99	.25 >.99	.07 >.99	.25 >.99	.07 >.99	.07 >.99	.97 >.99	.35 >.99	.48 >.99	.50 >.99	.37 >.99
10. EASI-A Others' Interest	.04 [-.13, .20]	-.01 [-.18, .16]	-.04 [-.20, .13]	.08 [-.09, .24]	.06 [-.11, .22]	.01 [-.16, .18]	-.04 [-.21, .13]	-.07 [-.24, .10]	-.02 [-.19, .15]		.02* .30	.13 >.99	.06 .91	.054 .83	.32 >.99	.98 >.99	.73 >.99	.99 >.99	.26 >.99	.81 >.99	.27 >.99	.06 .90	.15 >.99	.51 >.99
11. EASI-Social	.21 [.05, .37]	.28 [.12, .43]	.25 [.08, .40]	.18 [.01, .34]	.24 [.07, .39]	.13 [-.04, .30]	.27 [.11, .42]	.26 [.09, .41]	.36 [.20, .49]	.21 [.04, .36]		.08 >.99	.76 >.99	.35 >.99	.14 >.99	.41 >.99	.93 >.99	.009** .18	.65 >.99	.86 >.99	.052 .81	.32 >.99	.009** .18	.14 >.99
12. AHQ Dispositional VAS	-.01 [-.18, .16]	-.04 [-.21, .13]	-.06 [-.22, .11]	-.07 [-.24, .09]	-.12 [-.28, .05]	-.06 [-.23, .11]	-.06 [-.22, .11]	.11 [-.06, .28]	.15 [-.02, .31]	-.13 [-.29, .04]	.15 [-.02, .31]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .001**	<.0001**** <.0001****	<.0001**** .0001***	.002** .04*	.03* .59	.22 >.99	.11 >.99	.14 >.99	.76 >.99	.23 >.99
13. AHQ School VAS	-.01 [-.17, .16]	.03 [-.14, .20]	-.04 [-.20, .13]	-.01 [-.18, .15]	-.03 [-.20, .14]	.08 [-.09, .25]	.04 [-.13, .21]	.04 [-.13, .21]	-.11 [-.27, .06]	-.16 [-.32, .01]	.03 [-.14, .20]	.45 [.30, .57]		<.0001**** <.0001****	.08 >.99	.001** .03*	.006** .13	.08 >.99	.08 >.99	.91 >.99	.007** .15	.12 >.99	.46 >.99	.10 >.99
14. AHQ Hobby VAS	.12 [-.05, .28]	.01 [-.16, .18]	-.03 [-.20, .13]	-.05 [-.22, .12]	-.06 [-.23, .11]	-.01 [-.17, .16]	-.01 [-.18, .16]	.08 [-.09, .25]	.01 [-.16, .18]	-.17 [-.33, .00]	.08 [-.09, .25]	.46 [.32, .58]	.40 [.25, .53]		<.0001**** <.0001****	.01* .21	<.0001**** <.0001****	<.0001**** .0003***	.0002*** .005**	.93 >.99	.03* .53	.20 >.99	.27 >.99	.03* .45
15. AHQ Screen Time VAS	.11 [-.06, .27]	-.04 [-.20, .13]	-.02 [-.19, .15]	.04 [-.13, .20]	.01 [-.15, .18]	-.01 [-.18, .16]	-.02 [-.18, .15]	-.05 [-.22, .12]	.10 [-.07, .26]	.09 [-.08, .25]	.13 [-.04, .29]	.35 [.19, .48]	.15 [-.02, .31]	.41 [.26, .54]		.050* .79	.006** .13	.13 >.99	.04* .67	.71 >.99	.58 >.99	.82 >.99	.84 >.99	.67 >.99
16. AHQ Positive Engage.	-.06 [-.23, .11]	.05 [-.12, .21]	.10 [-.07, .27]	.06 [-.11, .22]	-.01 [-.18, .16]	.07 [-.10, .23]	-.02 [-.19, .15]	.18 [.01, .34]	.16 [-.01, .32]	-.00 [-.17, .17]	.07 [-.10, .24]	.40 [.25, .53]	.27 [.11, .42]	.22 [.05, .37]	.17 [.00, .32]		.40 >.99	.009** .18	.27 >.99	.62 >.99	.93 >.99	.89 >.99	.37 >.99	.22 >.99
17. AHQ Excessive Eng.	.15 [-.02, .31]	-.01 [-.18, .16]	.01 [-.16, .18]	.17 [-.00, .33]	.12 [-.04, .29]	.01 [-.16, .18]	.08 [-.09, .25]	.02 [-.15, .19]	.10 [-.07, .26]	-.03 [-.20, .14]	-.01 [-.18, .16]	-.38 [-.51, -.23]	-.23 [-.38, -.07]	-.39 [-.52, -.24]	-.23 [-.38, -.07]	-.07 [-.24, .09]		.02* .30	.0004*** .01*	.90 >.99	.42 >.99	.93 >.99	.18 >.99	.01* .21
18. EASI-A Positive VAS	.08 [-.09, .25]	.19 [.02, .35]	.10 [-.07, .26]	.23 [.06, .38]	.12 [-.05, .28]	.06 [-.11, .23]	.13 [-.04, .30]	.16 [-.01, .32]	.16 [-.01, .32]	-.00 [-.17, .17]	.22 [.06, .38]	.27 [.11, .42]	.15 [-.02, .31]	.38 [.22, .51]	.13 [-.04, .29]	.23 [.06, .38]	-.21 [-.36, -.04]		<.0001**** <.0001****	.89 >.99	.26 >.99	.001** .04*	.95 >.99	.04* .62
19. EASI-A Negative VAS	.00 [-.17, .17]	-.02 [-.19, .15]	.06 [-.11, .22]	-.07 [-.24, .10]	.04 [-.13, .21]	.07 [-.10, .24]	.05 [-.12, .22]	.00 [-.17, .17]	.16 [-.01, .32]	-.10 [-.26, .07]	-.04 [-.21, .13]	-.18 [-.34, -.01]	-.15 [-.31, .02]	-.32 [-.46, -.16]	-.18 [-.33, -.01]	-.10 [-.26, .07]	.30 [.14, .45]	-.59 [-.69, -.46]		.06 .91	.004** .09	.04* .67	.08 >.99	.26 >.99
20. SIG-QOL	-.14 [-.30, .04]	-.15 [-.32, .02]	-.14 [-.30, .03]	-.11 [-.28, .06]	-.12 [-.29, .05]	-.25 [-.40, -.08]	-.18 [-.34, -.01]	-.04 [-.21, .13]	-.00 [-.17, .17]	-.02 [-.19, .15]	-.02 [-.19, .16]	.11 [-.06, .27]	.01 [-.16, .18]	-.01 [-.18, .16]	-.03 [-.20, .14]	.04 [-.13, .21]	-.01 [-.18, .16]	.01 [-.16, .18]	-.16 [-.33, .01]		<.0001**** <.0001****	<.0001**** <.0001****	.002** .054	.04* .62
21. OASIS Anxiety	.27 [.10, .42]	.38 [.22, .52]	.37 [.22, .51]	.22 [.05, .38]	.29 [.12, .44]	.34 [.17, .48]	.42 [.26, .55]	.33 [.16, .47]	.08 [-.09, .25]	.10 [-.08, .26]	.17 [-.00, .33]	-.14 [-.30, .03]	-.23 [-.39, -.06]	-.19 [-.35, -.02]	.05 [-.12, .22]	.01 [-.16, .18]	.07 [-.10, .24]	-.10 [-.27, .07]	.25 [.08, .40]	-.43 [-.56, -.28]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
22. ODSIS Depression	.18 [.01, .34]	.11 [-.06, .28]	.11 [-.07, .27]	-.00 [-.17, .17]	.06 [-.11, .23]	.15 [-.02, .31]	.08 [-.09, .25]	.10 [-.07, .27]	-.06 [-.23, .11]	.17 [-.01, .33]	.09 [-.09, .25]	-.13 [-.30, .04]	-.14 [-.30, .03]	-.11 [-.28, .06]	-.02 [-.19, .15]	-.01 [-.18, .16]	-.01 [-.18, .16]	-.28 [-.43, -.11]	.18 [.01, .34]	-.58 [-.68, -.45]	.51 [.38, .63]		.0003*** .008**	<.0001**** <.0001****
23. BHS Hyper-Vigilance	.21 [.04, .37]	.44 [.29, .56]	.40 [.25, .54]	.29 [.12, .44]	.42 [.27, .55]	.35 [.19, .49]	.40 [.24, .53]	.43 [.28, .56]	.06 [-.11, .23]	.13 [-.05, .29]	.23 [.06, .38]	-.03 [-.20, .15]	-.07 [-.23, .11]	-.10 [-.26, .08]	.02 [-.15, .19]	.08 [-.09, .25]	.12 [-.06, .28]	.01 [-.17, .18]	.15 [-.02, .32]	-.27 [-.42, -.10]	.50 [.36, .62]	.31 [.15, .46]		<.0001**** <.0001****
24. Perseverative Thinking Q.	.23 [.07, .39]	.22 [.05, .37]	.21 [.04, .37]	.07 [-.10, .24]	.20 [.03, .36]	.18 [.01, .35]	.21 [.03, .36]	.29 [.13, .44]	.08 [-.09, .25]	.06 [-.12, .23]	.13 [-.04, .29]	-.11 [-.27, .07]	-.14 [-.31, .03]	-.20 [-.36, -.02]	-.04 [-.21, .13]	.11 [-.07, .27]	.22 [.05, .38]	-.18 [-.34, -.01]	.10 [-.07, .27]	-.18 [-.34, -.01]	.44 [.29, .57]	.41 [.26, .54]	.49 [.34, .61]	

Measures from present study:

1. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 2. MIST-A Hyperacusis Experiences T-scores; 3. MIST-A Fear/Panic Experiences T-scores; 4. MIST-A Pain Experiences T-scores; 5. MIST-A Hyperacusis Symptoms; 6. MIST-A Systemic Nonspecific Symptoms; 7. MIST-A Overall Impairment

8. Vanderbilt Auditory Distractibility Questionnaire (VADQ);

Measures from Dwyer et al. (2024):

9. Evaluation of Autistic Special Interests-Adult (EASI-A) Interest Intensity; 10. EASI-A Others' Interest, measuring ease of finding others with similar interests; 11. EASI Social Addendum (EASI-Social), measuring dependence on others with similar interests for social interaction;

12. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Visual Analogue Scale (VAS) measuring positive/negative valence of hyper-focus experiences; 13. AHQ School VAS; 14. AHQ Hobby VAS; 15. AHQ Screen Time VAS;

16. Adult Hyperfocus Questionnaire (AHQ) Positive Engagement, quantifying the degree to which hyper-focus is experienced as enjoyable and productive; 17. AHQ Excessive Engagement, quantifying the degree to which hyper-focus is experienced as excessive;

18. Evaluation of Autistic Special Interests-Adult (EASI-A) Visual Analogue Scale (VAS) of positive effects of an intense interest; 19. EASI-A VAS of negative effects of an intense interest;

20. Single Item Global Quality of Life Scale (SIG-QOL);

21. Overall Anxiety Severity and Impairment Scale (OASIS); 22. Overall Depression Severity and Impairment Scale (ODSIS);

23. Brief Hypervigilance Scale (BHS); and

24. Perseverative Thinking Questionnaire (PTQ) measuring negative repetitive thinking/rumination.

Supplementary Table 8. Matrix depicting ordinal Spearman's correlations among sensory questionnaire scores and measures described in Dwyer et al. (2024) in the **autistic-only group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 276 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. MIST-A Misophonia	2. MIST-A Hyperacusis	3. MIST-A Fear/Panic	4. MIST-A Pain	5. MIST-A Hyperacusis Symptom	6. MIST-A Non-specific	7. MIST-A Impairment	8. VADQ Auditory Distraction	9. EASI-A Intensity	10. EASI-A Others' Interest	11. EASI-Social	12. AHQ Disp. VAS	13. AHQ School VAS	14. AHQ Hobby VAS	15. AHQ Screen VAS	16. AHQ Positive Engage.	17. AHQ Excess Engage.	18. EASI-A Positive VAS	19. EASI-A Negative VAS	20. SIG-QOL	21. OASIS Anxiety	22. ODSIS Depressi-on	23. BHS Hyper-Vigilance	24. PTQ
1. MIST-A Misophonia		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .0003***	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0002*** .004**	.60 >.99	.22 >.99	.009** .16	.32 >.99	.26 >.99	.053 .68	.25 >.99	.10 >.99	.61 >.99	.35 >.99	.74 >.99	.01* .20	<.0001**** .0006***	.0002*** .006**	<.0001**** .0004***	.0003*** .006**
2. MIST-A Hyperacusis	.61 [.49, .71]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.03* .44	.52 >.99	.02* .35	.28 >.99	.64 >.99	.56 >.99	.52 >.99	.008** .14	.88 >.99	.45 >.99	.46 >.99	.006** .11	<.0001**** <.0001****	.010** .16	<.0001**** <.0001****	.005** .09
3. MIST-A Fear/ Panic	.49 [.35, .61]	.68 [.57, .76]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.51 >.99	.84 >.99	.36 >.99	.86 >.99	.29 >.99	.34 >.99	.61 >.99	.25 >.99	.93 >.99	.36 >.99	.91 >.99	.04* .48	<.0001**** <.0001****	.002** .046*	<.0001**** <.0001****	.01* .19
4. MIST-A Pain	.38 [.22, .52]	.51 [.37, .63]	.57 [.44, .68]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0003*** .009**	.0007*** .02*	.55 >.99	.09 >.99	.80 >.99	.40 >.99	.20 >.99	.95 >.99	.48 >.99	.98 >.99	.81 >.99	.98 >.99	.13 >.99	.0001*** .004**	.002** .051	.005** .09	.43 >.99
5. MIST-A Hypera-cusis Symptoms	.44 [.29, .57]	.56 [.43, .67]	.53 [.40, .65]	.69 [.59, .77]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .002**	.09 >.99	.46 >.99	.12 >.99	.33 >.99	.02* .29	.32 >.99	.99 >.99	.36 >.99	.30 >.99	.55 >.99	.41 >.99	.003** .07	<.0001**** .0001***	<.0001**** .0004***	<.0001**** .0002***	.04* .51
6. MIST-A Non-specific Symptoms	.49 [.35, .61]	.64 [.52, .73]	.59 [.47, .70]	.58 [.45, .68]	.70 [.60, .78]		<.0001**** <.0001****	.009** .16	.42 >.99	.28 >.99	.33 >.99	.92 >.99	.02* .30	.16 >.99	>.99 >.99	.15 >.99	.79 >.99	.50 >.99	.92 >.99	.004** .08	<.0001**** <.0001****	.0001*** .004**	<.0001**** <.0001****	.03* .36
7. MIST-A Impairment	.50 [.36, .62]	.78 [.71, .84]	.58 [.46, .69]	.49 [.35, .61]	.53 [.39, .64]	.60 [.47, .70]		<.0001**** <.0001****	.003** .052	.26 >.99	.15 >.99	.23 >.99	.41 >.99	.61 >.99	.07 .88	.06 .70	.80 >.99	.14 >.99	.75 >.99	<.0001**** .0004***	<.0001**** <.0001****	.0003*** .006**	<.0001**** <.0001****	.02* .30
8. VADQ Auditory Distraction	.33 [.16, .47]	.53 [.39, .64]	.44 [.28, .57]	.31 [.15, .46]	.34 [.18, .49]	.23 [.06, .39]	.52 [.38, .63]		.42 >.99	.51 >.99	.13 >.99	.04* .47	.95 >.99	.35 >.99	.54 >.99	.02* .28	.56 >.99	.07 .88	.50 >.99	.09 >.99	<.0001**** .0002***	.23 >.99	.0006*** .02*	.007** .12
9. EASI-A Intensity	-.05 [-.22, .13]	.19 [.02, .35]	.06 [-.12, .23]	.29 [.13, .44]	.15 [-.02, .31]	.07 [-.10, .24]	.26 [.09, .42]	.07 [-.10, .24]		.70 >.99	.0001*** .004**	.08 .93	.34 >.99	.25 >.99	.001** .02*	.006** .11	.80 >.99	.0009*** .02*	.45 >.99	.79 >.99	.11 >.99	.75 >.99	.13 >.99	.85 >.99
10. EASI-A Others' Interest	.11 [-.07, .28]	-.06 [-.23, .12]	-.02 [-.19, .16]	.05 [-.12, .22]	-.07 [-.24, .11]	-.10 [-.26, .08]	-.10 [-.27, .07]	-.06 [-.23, .12]	-.03 [-.21, .14]		.10 >.99	.92 >.99	.53 >.99	.96 >.99	.46 >.99	.64 >.99	.57 >.99	.29 >.99	.42 >.99	.15 >.99	.10 >.99	.56 >.99	.07 .90	.83 >.99
11. EASI-Social	.23 [.06, .39]	.20 [.03, .36]	.08 [-.09, .25]	.15 [-.02, .31]	.14 [-.04, .30]	.09 [-.09, .26]	.13 [-.05, .29]	.13 [-.04, .30]	.33 [.16, .47]	.14 [-.03, .31]		.88 >.99	.65 >.99	.45 >.99	.23 >.99	.01* .17	.37 >.99	.10 >.99	.40 >.99	.96 >.99	.002** .048*	.32 >.99	.001** .02*	.02* .33
12. AHQ Dispositional VAS	-.09 [-.26, .09]	.10 [-.08, .26]	-.02 [-.19, .16]	.02 [-.15, .19]	-.09 [-.26, .09]	.01 [-.16, .18]	.11 [-.07, .27]	.19 [.01, .35]	.16 [-.02, .32]	.01 [-.16, .18]	-.01 [-.19, .16]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****	.0007*** .02*	.04* .51	.03* .35	.45 >.99	.002** .04*	.60 >.99	.11 >.99
13. AHQ School VAS	-.10 [-.27, .07]	-.04 [-.21, .13]	-.09 [-.26, .08]	-.08 [-.25, .10]	-.20 [-.36, -.03]	-.20 [-.36, -.03]	-.07 [-.24, .10]	.01 [-.17, .18]	.08 [-.09, .25]	.06 [-.12, .23]	.04 [-.13, .21]	.42 [.27, .55]		.001** .03*	.18 >.99	.02* .30	.009** .15	.06 .71	.26 >.99	.45 >.99	.51 >.99	.02* .29	.20 >.99	.50 >.99
14. AHQ Hobby VAS	-.17 [-.33, .00]	.05 [-.12, .22]	-.09 [-.25, .09]	-.11 [-.28, .06]	-.09 [-.26, .09]	-.13 [-.29, .05]	.04 [-.13, .22]	.08 [-.09, .25]	.10 [-.07, .27]	-.00 [-.18, .17]	.07 [-.11, .24]	.52 [.38, .64]	.28 [.11, .43]		<.0001**** .0001***	.0006*** .02*	<.0001**** .001**	.0001*** .004**	.02* .33	.02* .28	.57 >.99	.03* .46	.55 >.99	.42 >.99
15. AHQ Screen Time VAS	-.10 [-.27, .07]	.06 [-.12, .23]	-.05 [-.22, .13]	.01 [-.17, .18]	.00 [-.17, .17]	.00 [-.17, .17]	.16 [-.01, .32]	.05 [-.12, .23]	.28 [.12, .44]	.07 [-.11, .24]	.11 [-.07, .27]	.42 [.26, .55]	.12 [-.06, .28]	.40 [.24, .53]		.006** .10	.002** .04*	.004** .08	.40 >.99	.41 >.99	.37 >.99	.006** .11	.42 >.99	.001** .02*
16. AHQ Positive Engage.	.14 [-.03, .31]	.23 [.06, .39]	.10 [-.07, .27]	.06 [-.11, .23]	.08 [-.09, .25]	.13 [-.05, .29]	.17 [-.00, .33]	.21 [.04, .37]	.24 [.07, .40]	.04 [-.13, .21]	.22 [.05, .38]	.58 [.45, .68]	.20 [.03, .36]	.30 [.13, .45]	.24 [.07, .40]		<.0001**** <.0001****	.0007*** .02*	.39 >.99	.03* .38	.94 >.99	.01* .19	.07 .90	.83 >.99
17. AHQ Excessive Eng.	.04 [-.13, .22]	-.01 [-.19, .16]	-.01 [-.18, .17]	-.00 [-.17, .17]	.09 [-.08, .26]	.02 [-.15, .20]	-.02 [-.19, .15]	-.05 [-.22, .12]	-.02 [-.19, .15]	-.05 [-.22, .12]	.08 [-.09, .25]	-.71 [-.79, -.61]	-.23 [-.39, -.06]	-.35 [-.50, -.19]	-.27 [-.42, -.10]	-.44 [-.57, -.28]		.010** .16	.003** .054	.01* .19	.06 .70	.003** .06	.02* .29	.01* .20
18. EASI-A Positive VAS	.08 [-.09, .25]	.07 [-.11, .24]	-.08 [-.25, .09]	.02 [-.15, .19]	.05 [-.12, .22]	-.06 [-.23, .11]	.13 [-.04, .30]	.16 [-.01, .32]	.29 [.12, .44]	.09 [-.08, .26]	.14 [-.03, .31]	.30 [.13, .45]	.17 [-.00, .33]	.33 [.16, .47]	.25 [.08, .41]	.29 [.13, .44]	-.23 [-.38, -.06]		<.0001**** <.0001****	.007** .12	.08 >.99	.0009*** .02*	.68 >.99	.57 >.99
19. EASI-A Negative VAS	-.03 [-.20, .14]	-.06 [-.24, .11]	.01 [-.16, .18]	-.00 [-.18, .17]	-.07 [-.24, .10]	.01 [-.16, .18]	.03 [-.15, .20]	-.06 [-.23, .11]	.07 [-.11, .24]	-.07 [-.24, .10]	-.08 [-.24, .10]	-.18 [-.34, -.01]	-.10 [-.27, .07]	-.20 [-.36, -.03]	-.07 [-.24, .10]	-.08 [-.25, .10]	.26 [.09, .42]	-.46 [-.58, -.31]		.01* .20	.04* .49	.0002*** .004**	.26 >.99	.19 >.99
20. SIG-QOL	-.22 [-.38, -.05]	-.24 [-.40, -.07]	-.19 [-.35, -.01]	-.13 [-.30, .04]	-.26 [-.41, -.09]	-.25 [-.41, -.08]	-.37 [-.51, -.21]	-.15 [-.32, .02]	-.02 [-.20, .15]	.13 [-.05, .29]	.00 [-.17, .18]	.20 [.02, .36]	.07 [-.11, .24]	.21 [.04, .37]	.07 [-.10, .24]	.19 [.02, .36]	-.22 [-.38, -.05]	.24 [.07, .40]	-.22 [-.38, -.05]		<.0001**** <.0001****	<.0001**** <.0001****	.01* .20	.0002*** .005**
21. OASIS Anxiety	.37 [.21, .51]	.47 [.32, .59]	.52 [.38, .64]	.33 [.17, .48]	.39 [.24, .53]	.46 [.31, .58]	.45 [.30, .58]	.39 [.23, .53]	.14 [-.03, .31]	-.14 [-.31, .03]	.27 [.10, .42]	-.07 [-.24, .11]	-.06 [-.23, .12]	-.05 [-.22, .12]	-.08 [-.25, .10]	-.01 [-.18, .17]	.17 [-.00, .33]	-.15 [-.32, .02]	.18 [.01, .35]	-.44 [-.57, -.29]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
22. ODSIS Depression	.32 [.16, .47]	.23 [.06, .39]	.27 [.10, .42]	.27 [.10, .42]	.37 [.21, .51]	.33 [.17, .48]	.32 [.15, .47]	.11 [-.07, .27]	.03 [-.15, .20]	-.05 [-.22, .12]	.09 [-.09, .26]	-.28 [-.43, -.11]	-.21 [-.37, -.03]	-.19 [-.35, -.01]	-.24 [-.40, -.07]	-.22 [-.38, -.05]	.26 [.09, .42]	-.29 [-.44, -.12]	.33 [.16, .47]	-.62 [-.72, -.50]	.61 [.49, .71]		<.0001**** .0002***	<.0001**** <.0001****
23. BHS Hyper-Vigilance	.38 [.22, .52]	.48 [.33, .60]	.46 [.31, .59]	.25 [.08, .40]	.39 [.23, .53]	.47 [.33, .60]	.48 [.33, .60]	.30 [.13, .45]	.13 [-.04, .30]	-.16 [-.32, .02]	.29 [.12, .44]	-.05 [-.22, .13]	-.11 [-.28, .06]	-.05 [-.22, .12]	-.07 [-.24, .10]	.16 [-.02, .32]	.21 [.03, .37]	.04 [-.14, .21]	.10 [-.08, .27]	-.22 [-.38, -.05]	.50 [.36, .62]	.39 [.24, .53]		<.0001**** <.0001****
24. Perseverative Thinking Q.	.32 [.15, .47]	.25 [.08, .40]	.22 [.05, .38]	.07 [-.10, .24]	.18 [.01, .35]	.20 [.02, .36]	.20 [.03, .37]	.24 [.07, .40]	.02 [-.16, .19]	.02 [-.15, .19]	.20 [.03, .36]	-.14 [-.31, .03]	-.06 [-.23, .11]	-.07 [-.24, .10]	-.29 [-.44, -.12]	.02 [-.16, .19]	.22 [.05, .38]	-.05 [-.22, .12]	.12 [-.06, .29]	-.32 [-.47, -.16]	.49 [.35, .62]	.42 [.27, .55]	.45 [.31, .58]	

Measures from present study:

1. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 2. MIST-A Hyperacusis Experiences T-scores; 3. MIST-A Fear/Panic Experiences T-scores; 4. MIST-A Pain Experiences T-scores; 5. MIST-A Hyperacusis Symptoms; 6. MIST-A Systemic Nonspecific Symptoms; 7. MIST-A Overall Impairment
8. Vanderbilt Auditory Distractibility Questionnaire (VADQ);

Measures from Dwyer et al. (2024):

9. Evaluation of Autistic Special Interests-Adult (EASI-A) Interest Intensity; 10. EASI-A Others' Interest, measuring ease of finding others with similar interests; 11. EASI Social Addendum (EASI-Social), measuring dependence on others with similar interests for social interaction;
12. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Visual Analogue Scale (VAS) measuring positive/negative valence of hyper-focus experiences; 13. AHQ School VAS; 14. AHQ Hobby VAS; 15. AHQ Screen Time VAS;
16. Adult Hyperfocus Questionnaire (AHQ) Positive Engagement, quantifying the degree to which hyper-focus is experienced as enjoyable and productive; 17. AHQ Excessive Engagement, quantifying the degree to which hyper-focus is experienced as excessive;
18. Evaluation of Autistic Special Interests-Adult (EASI-A) Visual Analogue Scale (VAS) of positive effects of an intense interest; 19. EASI-A VAS of negative effects of an intense interest;
20. Single Item Global Quality of Life Scale (SIG-QOL);
21. Overall Anxiety Severity and Impairment Scale (OASIS); 22. Overall Depression Severity and Impairment Scale (ODSIS);
23. Brief Hypervigilance Scale (BHS); and
24. Perseverative Thinking Questionnaire (PTQ) measuring negative repetitive thinking/rumination.

Supplementary Table 9. Matrix depicting ordinal Spearman's correlations among sensory questionnaire scores and measures described in Dwyer et al. (2024) in the **comparison group**. In upper-right cells, raw, unadjusted *p*-values and Benjamini-Yekutieli FDR-corrected *p*-values (for 276 comparisons) are displayed. In lower-left cells, Spearman's correlation coefficients and their 95% confidence intervals are reported.

	1. MIST-A Misophonia	2. MIST-A Hyperacusis	3. MIST-A Fear/Panic	4. MIST-A Pain	5. MIST-A Hyperacusis Symptom	6. MIST-A Non-specific	7. MIST-A Impairment	8. VADQ Auditory Distraction	9. EASI-A Intensity	10. EASI-A Others' Interest	11. EASI-Social	12. AHQ Disp. VAS	13. AHQ School VAS	14. AHQ Hobby VAS	15. AHQ Screen VAS	16. AHQ Positive Engage.	17. AHQ Excess Engage.	18. EASI-A Positive VAS	19. EASI-A Negative VAS	20. SIG-QOL	21. OASIS Anxiety	22. ODSIS Depressi-on	23. BHS Hyper-Vigilance	24. PTQ
1. MIST-A Misophonia		.006** .24	.17 >.99	.02* .57	.10 >.99	.008** .26	.001** .07	.003** .14	.54 >.99	.31 >.99	.86 >.99	.06 >.99	.04* .78	.01* .34	.06 >.99	.03* .60	.29 >.99	.003** .14	.03* .64	.08 >.99	.40 >.99	.55 >.99	.26 >.99	.72 >.99
2. MIST-A Hyperacusis	.28 [.08, .46]		.0007*** .04*	.0006*** .04*	<.0001**** .0001***	.0006*** .04*	<.0001**** .003**	.03* .64	.56 >.99	.62 >.99	.03* .62	.98 >.99	.68 >.99	.89 >.99	.75 >.99	.18 >.99	.71 >.99	.19 >.99	.25 >.99	.86 >.99	.33 >.99	.68 >.99	.24 >.99	.26 >.99
3. MIST-A Fear/ Panic	.14 [-.06, .34]	.35 [.15, .51]		<.0001**** .002**	.005** .19	.0001*** .01*	.06 >.99	.11 >.99	.70 >.99	.35 >.99	.43 >.99	.65 >.99	.60 >.99	.62 >.99	.47 >.99	.07 >.99	.85 >.99	.44 >.99	.14 >.99	.46 >.99	.02* .55	.02* .55	.006** .24	.06 >.99
4. MIST-A Pain	.23 [.03, .42]	.35 [.16, .52]	.43 [.25, .59]		<.0001**** .0005***	.0009*** .050	.04* .82	.04* .83	.91 >.99	.57 >.99	.21 >.99	.22 >.99	.42 >.99	.28 >.99	.50 >.99	.34 >.99	.06 >.99	.28 >.99	.26 >.99	.43 >.99	.72 >.99	.31 >.99	.44 >.99	.78 >.99
5. MIST-A Hypera-cusis Symptoms	.17 [-.03, .36]	.49 [.32, .63]	.29 [.09, .47]	.46 [.28, .61]		<.0001**** <.0001****	<.0001**** .0004***	.55 >.99	.27 >.99	.30 >.99	.13 >.99	.43 >.99	.77 >.99	.84 >.99	.62 >.99	.04* .83	.055 .99	.94 >.99	.18 >.99	.25 >.99	.28 >.99	.03* .61	.02* .50	.30 >.99
6. MIST-A Non-specific Symptoms	.27 [.08, .45]	.35 [.16, .52]	.38 [.20, .55]	.34 [.14, .51]	.50 [.34, .64]		.009** .30	.12 >.99	.38 >.99	.92 >.99	.10 >.99	.90 >.99	.40 >.99	.75 >.99	.85 >.99	.06 >.99	.08 >.99	.18 >.99	.17 >.99	.13 >.99	.007** .26	.02* .44	.03* .60	.02* .49
7. MIST-A Impairment	.33 [.13, .50]	.42 [.24, .57]	.20 [-.01, .38]	.21 [.01, .40]	.47 [.29, .61]	.27 [.07, .45]		.007** .25	.83 >.99	.66 >.99	.14 >.99	.12 >.99	.31 >.99	.86 >.99	.17 >.99	.03* .64	.27 >.99	.70 >.99	.97 >.99	.32 >.99	.61 >.99	.51 >.99	.14 >.99	.84 >.99
8. VADQ Auditory Distraction	.31 [.11, .48]	.23 [.02, .41]	.17 [-.04, .36]	.21 [.01, .40]	.06 [-.14, .27]	.16 [-.05, .36]	.28 [.08, .46]		.60 >.99	.66 >.99	.02* .56	.13 >.99	.52 >.99	.12 >.99	.002** .10	.10 >.99	.002** .10	.21 >.99	.20 >.99	.88 >.99	.0005*** .03*	.47 >.99	.009** .29	.0002*** .01*
9. EASI-A Intensity	.07 [-.14, .27]	.06 [-.14, .26]	.04 [-.16, .24]	-.01 [-.22, .19]	.11 [-.09, .31]	.09 [-.11, .29]	-.02 [-.23, .18]	.06 [-.15, .26]		.55 >.99	.002** .10	.20 >.99	.67 >.99	.10 >.99	.15 >.99	.15 >.99	.70 >.99	.34 >.99	.26 >.99	.03* .64	.06 .99	.02* .56	.07 >.99	.23 >.99
10. EASI-A Others' Interest	.11 [-.10, .30]	-.05 [-.25, .15]	-.10 [-.30, .11]	-.06 [-.26, .15]	-.11 [-.30, .10]	.01 [-.19, .21]	.05 [-.16, .25]	.05 [-.16, .25]	.06 [-.14, .26]		.02* .50	.59 >.99	.42 >.99	.23 >.99	.38 >.99	.82 >.99	.85 >.99	.74 >.99	.18 >.99	.55 >.99	.16 >.99	.10 >.99	.89 >.99	.005** .19
11. EASI-Social	.02 [-.19, .22]	.23 [.02, .41]	.08 [-.12, .28]	.13 [-.07, .33]	.16 [-.05, .35]	.17 [-.03, .36]	.16 [-.05, .35]	.24 [.03, .42]	.31 [.12, .49]	.24 [.04, .43]		.57 >.99	.24 >.99	.22 >.99	.94 >.99	.87 >.99	.03* .64	.78 >.99	.14 >.99	.51 >.99	.20 >.99	.22 >.99	.20 >.99	.41 >.99
12. AHQ Dispositional VAS	-.20 [-.39, .01]	-.00 [-.21, .20]	.05 [-.16, .25]	-.13 [-.32, .08]	-.08 [-.28, .12]	-.01 [-.22, .19]	-.16 [-.36, .04]	-.16 [-.35, .05]	.13 [-.07, .33]	.06 [-.15, .26]	-.06 [-.26, .15]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** .001**	.0002*** .02*	.0002*** .01*	.010** .31	.26 >.99	.10 >.99	.63 >.99	.13 >.99	.32 >.99	.90 >.99
13. AHQ School VAS	-.21 [-.40, -.01]	.04 [-.16, .25]	.05 [-.15, .26]	-.09 [-.28, .12]	-.03 [-.23, .17]	-.09 [-.29, .12]	-.11 [-.30, .10]	-.07 [-.27, .14]	-.04 [-.25, .16]	-.09 [-.28, .12]	-.12 [-.32, .08]	.64 [.50, .74]		<.0001**** .0004***	.0009*** .047*	.007** .25	<.0001**** .004**	.01* .32	.02* .57	.22 >.99	.42 >.99	.03* .64	.41 >.99	.51 >.99
14. AHQ Hobby VAS	-.26 [-.44, -.06]	-.01 [-.22, .19]	-.05 [-.25, .15]	-.11 [-.31, .09]	-.02 [-.22, .18]	-.03 [-.24, .17]	-.02 [-.22, .19]	-.16 [-.36, .04]	-.17 [-.36, .03]	-.12 [-.32, .08]	-.13 [-.32, .08]	.53 [.37, .66]	.46 [.28, .60]		<.0001**** <.0001****	.03* .61	.006** .24	<.0001**** .005**	.0004*** .03*	.46 >.99	.27 >.99	.16 >.99	.09 >.99	.74 >.99
15. AHQ Screen Time VAS	-.19 [-.38, .01]	-.03 [-.24, .17]	-.08 [-.27, .13]	-.07 [-.27, .13]	.05 [-.15, .25]	.02 [-.18, .22]	-.14 [-.34, .06]	-.32 [-.49, -.12]	.15 [-.05, .34]	-.09 [-.29, .11]	.01 [-.20, .21]	.43 [.25, .58]	.33 [.14, .50]	.55 [.39, .68]		.37 >.99	<.0001**** .005**	.002** .10	.004** .19	.36 >.99	.17 >.99	.55 >.99	.04* .83	.27 >.99
16. AHQ Positive Engage.	.23 [.03, .42]	.14 [-.07, .33]	.19 [-.01, .38]	.10 [-.11, .30]	.21 [.01, .40]	.19 [-.01, .38]	.22 [.02, .41]	.18 [-.03, .37]	.15 [-.05, .34]	.02 [-.18, .23]	.02 [-.19, .22]	.37 [.18, .53]	.27 [.08, .45]	.23 [.03, .41]	.09 [-.11, .29]		.64 >.99	.38 >.99	.97 >.99	.63 >.99	.34 >.99	.27 >.99	.03* .64	.07 >.99
17. AHQ Excessive Eng.	.11 [-.09, .31]	.04 [-.17, .24]	-.02 [-.22, .18]	.20 [-.01, .39]	.20 [-.00, .39]	.18 [-.02, .37]	.12 [-.09, .31]	.32 [.12, .49]	-.04 [-.24, .16]	.02 [-.18, .22]	.22 [.02, .41]	-.37 [-.53, -.18]	-.41 [-.56, -.23]	-.28 [-.45, -.08]	-.40 [-.56, -.22]	-.05 [-.25, .15]		.03* .64	.01* .42	.61 >.99	.06 >.99	.046* .84	.01* .33	.0006*** .04*
18. EASI-A Positive VAS	-.30 [-.48, -.10]	-.14 [-.33, .07]	-.08 [-.28, .12]	-.11 [-.31, .09]	-.01 [-.21, .20]	-.14 [-.33, .07]	-.04 [-.24, .16]	-.13 [-.33, .08]	.10 [-.11, .30]	-.03 [-.24, .17]	-.03 [-.23, .17]	.27 [.07, .45]	.27 [.07, .45]	.40 [.22, .56]	.32 [.12, .49]	.09 [-.11, .29]	-.22 [-.41, -.02]		<.0001**** <.0001****	.03* .64	.41 >.99	.20 >.99	.76 >.99	.59 >.99
19. EASI-A Negative VAS	.22 [.02, .41]	.12 [-.09, .32]	.16 [-.05, .35]	.12 [-.09, .31]	.14 [-.06, .34]	.14 [-.06, .34]	.00 [-.20, .21]	.13 [-.07, .33]	.12 [-.09, .31]	.14 [-.06, .34]	.15 [-.05, .35]	-.12 [-.31, .09]	-.23 [-.42, -.03]	-.36 [-.52, -.17]	-.29 [-.47, -.09]	.00 [-.20, .21]	.25 [.05, .44]	-.60 [-.72, -.45]		.02* .53	.02* .49	.02* .53	.03* .64	.01* .43
20. SIG-QOL	-.18 [-.38, .02]	.02 [-.19, .22]	-.08 [-.28, .13]	-.08 [-.29, .12]	-.12 [-.32, .09]	-.16 [-.36, .05]	-.11 [-.30, .10]	-.02 [-.22, .19]	-.23 [-.41, -.02]	.06 [-.15, .27]	-.07 [-.27, .14]	.17 [-.03, .37]	.13 [-.08, .33]	.08 [-.13, .28]	-.10 [-.30, .11]	.05 [-.16, .25]	.05 [-.15, .26]	.22 [.02, .41]	-.24 [-.43, -.04]		.02* .49	.02* .50	.20 >.99	.65 >.99
21. OASIS Anxiety	.09 [-.12, .29]	.10 [-.10, .30]	.24 [.04, .43]	.04 [-.17, .24]	.11 [-.09, .31]	.28 [.08, .46]	.05 [-.15, .26]	.36 [.16, .52]	.20 [-.00, .39]	-.15 [-.34, .06]	.14 [-.07, .33]	-.05 [-.26, .16]	-.09 [-.29, .12]	-.12 [-.32, .09]	-.14 [-.34, .06]	.10 [-.11, .30]	.20 [-.01, .39]	-.09 [-.29, .12]	.25 [.04, .43]	-.25 [-.43, -.04]		<.0001**** <.0001****	<.0001**** <.0001****	<.0001**** <.0001****
22. ODSIS Depression	.06 [-.14, .27]	.04 [-.16, .25]	.24 [.04, .42]	.11 [-.10, .31]	.23 [.03, .42]	.25 [.05, .44]	.07 [-.14, .27]	.08 [-.13, .28]	.24 [.03, .42]	-.17 [-.37, .03]	.13 [-.08, .33]	-.16 [-.35, .05]	-.22 [-.41, -.02]	-.15 [-.34, .06]	-.06 [-.27, .14]	.12 [-.09, .31]	.21 [.00, .40]	-.13 [-.33, .07]	.24 [.04, .43]	-.25 [-.43, -.04]	.57 [.41, .69]		.003** .14	<.0001**** <.0001****
23. BHS Hyper-Vigilance	.12 [-.09, .32]	.12 [-.08, .32]	.29 [.08, .46]	.08 [-.13, .28]	.25 [.04, .43]	.23 [.03, .42]	.16 [-.05, .35]	.27 [.07, .45]	.19 [-.02, .38]	-.01 [-.22, .19]	.14 [-.07, .33]	-.10 [-.30, .10]	-.09 [-.29, .12]	-.18 [-.37, .03]	-.21 [-.40, -.01]	.23 [.02, .41]	.27 [.06, .45]	.03 [-.17, .24]	.22 [.02, .41]	-.14 [-.33, .07]	.50 [.33, .64]	.31 [.11, .48]		.0001*** .010**
24. Perseverative Thinking Q.	.04 [-.17, .24]	.12 [-.09, .32]	.20 [-.01, .39]	.03 [-.18, .23]	.11 [-.10, .31]	.25 [.05, .43]	.02 [-.19, .23]	.39 [.20, .55]	.13 [-.08, .33]	-.29 [-.47, -.09]	.09 [-.12, .29]	.01 [-.19, .22]	-.07 [-.27, .14]	-.04 [-.24, .17]	-.12 [-.31, .09]	.19 [-.01, .38]	.35 [.16, .52]	-.06 [-.26, .15]	.26 [.05, .44]	-.05 [-.25, .16]	.68 [.56, .78]	.52 [.35, .65]	.39 [.20, .55]	

Measures from present study:

1. Multidimensional Inventory of Sound Tolerance-Adult (MIST-A) Misophonia T-scores; 2. MIST-A Hyperacusis Experiences T-scores; 3. MIST-A Fear/Panic Experiences T-scores; 4. MIST-A Pain Experiences T-scores; 5. MIST-A Hyperacusis Symptoms; 6. MIST-A Systemic Nonspecific Symptoms; 7. MIST-A Overall Impairment
8. Vanderbilt Auditory Distractibility Questionnaire (VADQ);

Measures from Dwyer et al. (2024):

9. Evaluation of Autistic Special Interests-Adult (EASI-A) Interest Intensity; 10. EASI-A Others' Interest, measuring ease of finding others with similar interests; 11. EASI Social Addendum (EASI-Social), measuring dependence on others with similar interests for social interaction;
12. Adult Hyperfocus Questionnaire (AHQ) Dispositional (Disp.) Visual Analogue Scale (VAS) measuring positive/negative valence of hyper-focus experiences; 13. AHQ School VAS; 14. AHQ Hobby VAS; 15. AHQ Screen Time VAS;
16. Adult Hyperfocus Questionnaire (AHQ) Positive Engagement, quantifying the degree to which hyper-focus is experienced as enjoyable and productive; 17. AHQ Excessive Engagement, quantifying the degree to which hyper-focus is experienced as excessive;
18. Evaluation of Autistic Special Interests-Adult (EASI-A) Visual Analogue Scale (VAS) of positive effects of an intense interest; 19. EASI-A VAS of negative effects of an intense interest;
20. Single Item Global Quality of Life Scale (SIG-QOL);
21. Overall Anxiety Severity and Impairment Scale (OASIS); 22. Overall Depression Severity and Impairment Scale (ODSIS);
23. Brief Hypervigilance Scale (BHS); and
24. Perseverative Thinking Questionnaire (PTQ) measuring negative repetitive thinking/rumination.

Supplementary Table 10. Results of ordinal probit regression analyses, as well as Benjamini-Yekutieli FDR-corrected Wilcoxon post-hoc tests, comparing groups on raw scores from the MIST-A symptom and impairment subscales. Coefficients and their 95% confidence intervals are reported. For post-hoc tests, Cliff's δ and its 95% confidence interval are reported as effect sizes. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants.

	Main Effects (*p*, coefficient, 95% CI)		Interaction (*p*, coefficient, 95% CI)	Wilcoxon post-hocs (corrected *p*, Cliff's δ, 95% CI)					
				ADHD-only			Autistic+ADHD		Autistic-only
	Autism	ADHD		Autistic+ ADHD	Autistic-only	Comparison	Autistic-only	Comparison	Comparison
MIST-A Symptoms: Hyperacusis	<.0001**** 1.40 [1.09, 1.72]	<.0001**** 1.26 [0.95, 1.58]	.0003*** –0.81 [–1.21, –0.42]	<.0001**** –.31 [–.44, –.17]	.42 –.10 [–.24, .04]	<.0001**** .58 [.45, .68]	.002** .24 [.10, .37]	<.0001**** .74 [.64, .82]	<.0001**** .66 [.54, .75]
MIST-A Symptoms: Nonspecific	<.0001**** 1.45 [1.11, 1.79]	<.0001**** 1.35 [1.01, 1.70]	.0004*** –0.85 [–1.28, –0.43]	<.0001**** –.31 [–.43, –.17]	.92 –.06 [–.20, .08]	<.0001**** .52 [.40, .63]	.0004*** .27 [.13, .40]	<.0001**** .75 [.66, .83]	<.0001**** .60 [.49, .70]
MIST-A Impairment	<.0001**** 2.08 [1.74, 2.42]	<.0001**** 1.52 [1.18, 1.86]	<.0001**** –1.40 [–1.81, –0.98]	<.0001**** –.36 [–.48, –.22]	.0001*** –.30 [–.43, –.16]	<.0001**** .61 [.49, .71]	.32 .11 [–.03, .24]	<.0001**** .83 [.74, .89]	<.0001**** .86 [.78, .91]

Supplementary Table 11. Spearman's correlations between MIST-A symptom and impairment scores, as well as median sound ratings from the CDS task, and (1) AHQ Dispositional Hyper-Focus (AHQ-DHF) scores and (2) ASRS-18 Inattention (ASRS-I) scores, separately in each group (ADHD-only, autistic+ADHD, autistic-only, and comparison). Includes raw correlations and partial correlations, controlling for the other attention measure (i.e., for correlations between sensory measures and AHQ-DHF, controlling for ASRS-I, and vice versa). *P*-values for both raw and partial correlations are Benjamini-Yekutieli FDR-corrected for eight comparisons (4 groups x 2 attention measures). 95% confidence intervals were based on 1000 bootstrap iterations.

		Correlations (corrected *p*, Spearman's ρ, 95% CI)							
		ADHD-only		Autistic+ADHD		Autistic-only		Comparison	
		AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I
MIST-A Symptoms of Hyperacusis	Raw	.001** +.34 [+.14, +.52]	.22 +.18 [−.02, +.37]	.001** +.32 [+.16, +.46]	.26 +.16 [−.00, +.33]	.0001*** +.39 [+.24, +.53]	.009** +.27 [+.10, +.44]	.89 +.11 [−.09, +.33]	.89 +.10 [−.11, +.29]
	Partial	.01* +.28 [+.10, +.47]	>.99 +.08 [−.10, +.28]	.005** +.30 [+.13, +.45]	>.99 +.04 [−.12, +.23]	.005** +.32 [+.16, +.48]	.68 +.14 [−.05, +.31]	>.99 +.09 [−.12, +.31]	>.99 +.07 [−.15, +.25]
MIST-A Systemic-Nonspecific Symptoms	Raw	.03* +.25 [+.05, +.43]	.04* +.24 [+.04, +.40]	.003** +.31 [+.13, +.47]	.69 +.11 [−.08, +.27]	.003** +.32 [+.15, +.47]	.004** +.30 [+.13, +.47]	.19 +.20 [−.03, +.41]	>.99 +.07 [−.13, +.26]
	Partial	.24 +.17 [−.04, +.36]	.24 +.17 [−.03, +.35]	.009** +.31 [+.14, +.47]	>.99 −.01 [−.18, +.13]	.11 +.23 [+.05, +.41]	.17 +.20 [+.02, +.37]	.21 +.22 [−.02, +.44]	>.99 −.01 [−.23, +.18]
MIST-A Impairment	Raw	.007** +.28 [+.08, +.45]	.001** +.36 [+.18, +.52]	.001** +.33 [+.17, +.46]	.51 +.12 [−.08, +.29]	.005** +.29 [+.13, +.44]	.005** +.29 [+.12, +.44]	>.99 +.07 [−.14, +.30]	.24 +.19 [−.01, +.36]
	Partial	.29 +.17 [−.04, +.36]	.01* +.30 [+.11, +.47]	.002** +.33 [+.17, +.47]	>.99 −.01 [−.20, +.17]	.14 +.20 [+.01, +.38]	.14 +.20 [+.02, +.35]	>.99 +.02 [−.21, +.26]	.35 +.18 [−.03, +.35]
Misophonia Trigger Sound Median Ratings	Raw	>.99 +.05 [−.14, +.24]	.85 +.16 [−.03, +.36]	>.99 +.05 [−.13, +.22]	>.99 +.03 [−.15, +.21]	>.99 +.11 [−.07, +.31]	>.99 +.02 [−.15, +.20]	>.99 +.13 [−.07, +.31]	.13 +.29 [+.08, +.48]
	Partial	>.99 −.00 [−.19, +.16]	>.99 +.15 [−.03, +.35]	>.99 +.04 [−.13, +.21]	>.99 +.02 [−.15, +.19]	>.99 +.11 [−.07, +.29]	>.99 −.03 [−.20, +.16]	>.99 +.04 [−.16, +.23]	.31 +.26 [+.06, +.46]

Supplementary Table 11 (cont'd). Spearman's correlations between MIST-A symptom and impairment scores, as well as median sound ratings from the CDS task, and (1) AHQ Dispositional Hyper-Focus (AHQ-DHF) scores and (2) ASRS-18 Inattention (ASRS-I) scores, separately in each group (ADHD-only, autistic+ADHD, autistic-only, and comparison). Includes raw correlations and partial correlations, controlling for the other attention measure (i.e., for correlations between sensory measures and AHQ-DHF, controlling for ASRS-I, and vice versa). *P*-values for both raw and partial correlations are Benjamini-Yekutieli FDR-corrected for eight comparisons (4 groups x 2 attention measures). 95% confidence intervals were based on 1000 bootstrap iterations.

		Correlations (corrected *p*, Spearman's ρ, 95% CI)							
		ADHD-only		Autistic+ADHD		Autistic-only		Comparison	
		AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I	AHQ-DHF	ASRS-I
Pleasant Sound Median Ratings	Raw	>.99 +.04 [−.14, +.21]	>.99 +.10 [−.10, +.28]	.42 −.20 [−.37, −.04]	>.99 −.11 [−.29, +.05]	>.99 +.14 [−.05, +.31]	>.99 −.04 [−.21, +.13]	>.99 +.06 [−.16, +.24]	>.99 +.08 [−.16, +.26]
	Partial	>.99 +.01 [−.16, +.17]	>.99 +.09 [−.11, +.27]	.54 −.18 [−.34, −.02]	>.99 −.04 [−.23, +.11]	.54 +.17 [−.02, +.34]	>.99 −.11 [−.28, +.07]	>.99 +.04 [−.17, +.23]	>.99 +.06 [−.16, +.25]
Unpleasant Sound Median Ratings	Raw	>.99 +.06 [−.12, +.24]	>.99 +.09 [−.11, +.27]	>.99 +.06 [−.13, +.23]	>.99 +.03 [−.16, +.19]	>.99 +.10 [−.08, +.29]	>.99 +.09 [−.09, +.26]	>.99 +.15 [−.06, +.35]	.83 +.22 [+.02, +.42]
	Partial	>.99 +.03 [−.16, +.22]	>.99 +.07 [−.11, +.26]	>.99 +.05 [−.14, +.22]	>.99 +.01 [−.18, +.17]	>.99 +.07 [−.10, +.26]	>.99 +.06 [−.13, +.23]	>.99 +.08 [−.15, +.28]	>.99 +.18 [−.03, +.39]

Supplementary Analysis: Participants Excluded Due to ASRS-18 Scores

As a further check on the validity of the results of group comparisons, considering the extent of diagnostic overshadowing of autism and ADHD in the community, we reran group comparisons when restricting the sample to only exclude participants whose ASRS-18 data who scored in the appropriate range on the ASRS-18, as well as the ASRS-6. We used ASRS-18 scores as calculated using “Method 4” as described by Kessler et al. (2005), in which item responses are collapsed into binary scores reflecting the presence or absence of the given behaviour; ADHD-only and autistic+ADHD participants were required to receive an ASRS-18 “Method 4” score at least or exceeding the cut-off of 9, while autistic-only and comparison participants were required to score below 9. This yielded a reduced sample of 95 ADHD-only (7 CloudResearch, 88 Prolific), 110 autistic+ADHD (28 Prolific, 82 SPARK), 89 autistic-only (27 Prolific, 62 SPARK), and 88 comparison (8 CloudResearch, 80 Prolific) participants.

In the revised sample autistic+ADHD participants had slightly higher RAADS-14 scores than autistic-only participants, which was not the case in the original sample (Supplementary Table 12, cf. Table 1 in main text).

The pattern of significant group differences on sound tolerance measures – particularly the MIST-A and the VADQ – appeared to change. As shown in Supplementary Table 13 (cf. Table 2 in main text, Supplementary Table 10), restricting the sample based on ASRS-18 scores appeared to relatively increase sound tolerance problems in autistic+ADHD and ADHD-only participants compared to autistic-only participants, thereby altering the pattern of statistical differences among the neurodivergent groups. All statistical differences between ADHD-only and autistic-only participants disappeared, while autistic+ADHD participants began to score significantly higher than autistic-only participants on several further scales. These changes are not necessarily surprising, as restricting the ADHD samples based on ASRS scores would have eliminated participants with less obvious ADHD features, while eliminating participants with high ASRS scores in the autistic-only group might have eliminated participants with some of the most obvious neurodivergence. Perhaps similarly, an effect of ADHD on CDS mouth sound scores achieved significance in the revised sample (Supplementary Table 14), but not in the main text (Table 3).

Supplementary Table 12. Characteristics of participants when restricting the sample based on ASRS-18 scores. Effects that changed in significance compared to the analyses in the main text are highlighted.

	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons		
	M (SD)	Range	M (SD)	Range	M (SD)	Range	M (SD)	Range	Kruskal *p*	η^2 [95% CI]	Post-hoc Wilcoxon (Benjamini-Hochberg FDR-corrected)
Age (years)	37.10 (11.58)	19.00 – 67.00	33.81 (8.78)	20.00 – 57.00	38.24 (14.52)	19.00 – 70.00	36.19 (12.74)	18.00 – 75.00	.39	.00 [–.01, .03]	
Education[1]	5.51 (1.97)	1.00 – 10.00	5.19 (1.96)	2.00 – 9.00	5.76 (2.26)	1.00 – 10.00	4.87 (2.14)	1.00 – 10.00	.01	.02 [.00, .07]	Autistic+ADHD < Autistic-only, comparison
ASRS-6	5.45 (3.10)	0.00 – 12.00	17.73 (2.48)	13.00 – 23.00	10.20 (3.44)	2.00 – 17.00	17.92 (2.85)	11.00 – 24.00	<.0001	.74 [.70, .77]	Autistic+ADHD, ADHD-only > Autistic-only, comparison Autistic-only > comparison
ASRS-18 "Method 3" Inattention	9.39 (4.27)	0.00 – 21.00	26.51 (5.26)	16.00 – 36.00	14.48 (4.75)	1.00 – 25.00	26.26 (4.08)	17.00 – 36.00	< .0001	.73 [.69, .76]	
ASRS-18 "Method 3" Hyperacti-vity-Impulsivity	6.45 (4.00)	0.00 – 17.00	21.94 (5.26)	10.00 – 35.00	11.94 (5.16)	0.00 – 25.00	23.58 (5.39)	13.00 – 36.00	< .0001	.69 [.64, .73]	Autistic+ADHD > ADHD-only, Autistic-only, comparison ADHD-only > Autistic-only, comparison Autistic-only > comparison
AHQ Dispo-sitional Hyper-Focus	8.75 (6.28)	0.00 – 28.00	21.77 (5.82)	5.00 – 30.00	16.97 (7.45)	0.00 – 30.00	23.44 (5.74)	3.00 – 30.00	<.0001	.41 [.33, .49]	
RAADS-14	5.26 (4.04)	0.00 – 13.00	20.33 (9.57)	1.00 – 42.00	30.37 (7.83)	14.00 – 42.00	32.72 (6.70)	15.00 – 42.00	<.0001	.63 [.57, .69]	Autistic+ADHD > Autistic-only, ADHD-only, comparison Autistic-only > ADHD-only, comparison ADHD-only > comparison

Supplementary Table 12. Characteristics of participants when restricting the sample based on ASRS-18 scores. Effects that changed in significance compared to the analyses in the main text are highlighted.

	Comparison	ADHD-Only	Autistic-Only	Autistic+ADHD	Categorical Statistical Comparisons		
	Count (%)	Count (%)	Count (%)	Count (%)	Fisher p	Cramér V [95% CI]	Post-hoc Fisher (Benjamini-Hochberg FDR-corrected)
Gender	37 F (42.05%) 41 M (46.59%) 10 nonbinary (11.36%)	45 F (47.37%) 36 M (37.89%) 14 nonbinary (14.74%)	35 F (39.33%) 45 M (50.56%) 9 nonbinary (10.11%)	49 female (44.55%) 40 male (36.36%) 21 nonbinary (19.09%)	.31	.10 [.07, .20]	
Sex	48 M (54.55%) 40 F (45.45%)	37 M (38.95%) 58 F (61.05%)	38 M (42.70%) 51 F (57.30%)	42 M (38.18%) 68 F (61.82%)	.09	.13 [.06, .25]	
Race/ Ethnicity	64 Non-Hispanic White (72.73%)	70 non-Hispanic White (73.68%)	71 non-Hispanic White (79.78%)	81 non-Hispanic White (73.64%)	.68	.06 [.03, .18]	
Self-reported misophonia status	16 misophonia (18.18%)	39 misophonia (41.05%)	54 misophonia (60.67%)	77 misophonia (70.00%)	< .0001	.40 [.32, .49]	Autistic+ADHD, Autistic-only > ADHD-only, comparison ADHD-only > comparison
ADHD dx status		72 diagnosed (75.79%)		92 diagnosed (83.64%)	.17	.10 [.01, .23]	
Autism dx status			74 diagnosed (83.15%)	87 diagnosed (79.09%)	.59	.05 [.00, .18]	

	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons (Two Groups Only)		
	M (SD)	Range	M (SD)	Range	M (SD)	Range	M (SD)	Range	Whitney-Mann p	Cliff δ [95% CI]	
Age at ADHD dx			22.15 (11.82)	5.00 – 49.00			21.38 (15.05)	2.00 – 70.00	.29	.10 [–.07, .26]	
Age at autism dx					28.10 (17.28)	0.50 – 68.00	25.60 (15.73)	2.00 – 70.00	.44	.07 [–.11, .24]	

1. Education was operationalized as an ordinal scale ranging from 1 ("Some high school or less") to 10 ("Doctorate degree (for example: PhD, EdD)"). Average responses were around 5 ("Associate degree (for example: AA, AS)") to 6 ("Bachelor's degree (for example: BA, BS)").

Supplementary Table 13. Results of ordinal probit regression analyses, as well as Benjamini-Yekutieli FDR-corrected Wilcoxon post-hoc tests, comparing groups on MIST-A subscales, VADQ total scores, and CDS ratings, when restricting the sample based on ASRS-18 scores. Coefficients and their 95% confidence intervals are reported. For post-hoc tests, Cliff's δ and its 95% confidence interval are reported as effect sizes. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. Effects that changed in significance compared to the analyses in the main text are highlighted; to compare with previous results, see Table 2 (main text) and Supplementary Table 10.

	Main Effects (*p*, coefficient, 95% CI)		Interaction (*p*, coefficient, 95% CI)	Wilcoxon post-hocs (corrected *p*, Cliff's δ, 95% CI)					
				ADHD-only			Autistic+ADHD		Autistic-only
	Autism	ADHD		Autistic+ ADHD	Autistic-only	Comparison	Autistic-only	Comparison	Comparison
MIST-A Misophonia T-score	<.0001**** 1.12 [0.80, 1.43]	<.0001**** 1.29 [0.98, 1.60]	.0003*** –0.77 [–1.19, –0.36]	.08 –.18 [–.33, –.02]	.70 .09 [–.08, .25]	<.0001**** .63 [.49, .74]	.003** .28 [.12, .42]	<.0001**** .76 [.64, .84]	<.0001**** .61 [.46, .72]
MIST-A Hyperacusis T-score	<.0001**** 1.74 [1.40, 2.07]	<.0001**** 1.74 [1.41, 2.07]	<.0001**** –1.14 [–1.57, –0.72]	.0002*** –.32 [–.46, –.16]	>.99 –.00 [–.16, .17]	<.0001**** .78 [.67, .86]	.0001*** .34 [.18, .49]	<.0001**** .92 [.85, .96]	<.0001**** .81 [.70, .88]
MIST-A Fear/ Panic T-score	<.0001**** 1.16 [0.85, 1.48]	<.0001**** 1.39 [1.08, 1.71]	.001** –0.68 [–1.10, –0.27]	.002** –.27 [–.42, –.11]	.39 .12 [–.05, .28]	<.0001**** .70 [.57, .79]	<.0001**** .41 [.25, .55]	<.0001**** .84 [.74, .90]	<.0001**** .61 [.46, .73]
MIST-A Pain T-score	<.0001**** 1.13 [0.82, 1.45]	<.0001**** 0.93 [0.62, 1.24]	.07 –0.38 [–0.80, 0.03]	<.0001**** –.39 [–.52, –.24]	.66 –.09 [–.25, .07]	<.0001**** .53 [.37, .65]	.001** .29 [.13, .43]	<.0001**** .76 [.64, .85]	<.0001**** .59 [.44, .71]
MIST-A Symptoms: Hyperacusis	<.0001**** 1.24 [0.90, 1.59]	<.0001**** 1.42 [1.08, 1.77]	.01* –0.58 [–1.02, –0.13]	<.0001**** –.35 [–.49, –.20]	.68 .09 [–.07, .25]	<.0001**** .65 [.52, .75]	<.0001**** .44 [.29, .56]	<.0001**** .79 [.69, .86]	<.0001**** .58 [.44, .70]
MIST-A Symptoms: Nonspecific	<.0001**** 1.26 [0.89, 1.64]	<.0001**** 1.54 [1.18, 1.92]	.006** –0.66 [–1.13, –0.20]	.0002*** –.32 [–.46, –.16]	.20 .15 [–.02, .30]	<.0001**** .60 [.47, .70]	<.0001**** .46 [.31, .59]	<.0001**** .80 [.71, .87]	<.0001**** .51 [.38, .63]
MIST-A Impairment	<.0001**** 2.03 [1.66, 2.41]	<.0001**** 1.74 [1.38, 2.11]	<.0001**** –1.34 [–1.80, –0.89]	<.0001**** –.37 [–.50, –.21]	.20 –.15 [–.31, .02]	<.0001**** .68 [.55, .77]	.006** .25 [.09, .40]	<.0001**** .90 [.82, .94]	<.0001**** .81 [.70, .88]
VADQ Auditory Distractibility	<.0001**** 1.78 [1.45, 2.11]	<.0001**** 1.72 [1.40, 2.05]	<.0001**** –1.27 [–1.69, –0.84]	.001** –.29 [–.44, –.14]	>.99 –.03 [–.19, .14]	<.0001**** .81 [.70, .88]	.009** .24 [.08, .39]	<.0001**** .89 [.82, .94]	<.0001**** .78 [.67, .86]
Sound Ratings Misophonia	.004** 0.44 [0.14, 0.74]	<.0001**** 0.68 [0.38, 0.98]	.04* –0.43 [–0.84, –0.03]	>.99 –.02 [–.18, .14]	.40 .13 [–.04, .29]	<.0001**** .39 [.23, .53]	.29 .14 [–.02, .30]	<.0001**** .38 [.23, .52]	.01* .27 [.10, .42]

Supplementary Table 13. Results of ordinal probit regression analyses, as well as Benjamini-Yekutieli FDR-corrected Wilcoxon post-hoc tests, comparing groups on MIST-A subscales, VADQ total scores, and CDS ratings, when restricting the sample based on ASRS-18 scores. Coefficients and their 95% confidence intervals are reported. For post-hoc tests, Cliff's δ and its 95% confidence interval are reported as effect sizes. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. Effects that changed in significance compared to the analyses in the main text are highlighted; to compare with previous results, see Table 2 (main text) and Supplementary Table 10.

	Main Effects (*p*, coefficient, 95% CI)		Interaction (*p*, coefficient, 95% CI)	Wilcoxon post-hocs (corrected *p*, Cliff's δ, 95% CI)					
	Autism	ADHD		ADHD-only			Autistic+ADHD		Autistic-only
				Autistic+ ADHD	Autistic-only	Comparison	Autistic-only	Comparison	Comparison
Sound Ratings Pleasant	.0006*** 0.52 [0.22, 0.82]	.12 0.23 [–0.06, 0.52]	.13 –0.31 [–0.72, 0.09]						
Sound Ratings Unpleasant	.85 0.03 [–0.26, 0.33]	.09 0.26 [–0.04, 0.56]	.77 –0.06 [–0.47, 0.35]						

Supplementary Table 14. Results of ordinal probit regression analyses when restricting the sample based on ASRS-18 scores comparing groups on CDS scores. Coefficients and their 95% confidence intervals are reported. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. For effects of misophonia, the reference group is non-misophonic participants. Participants self-reporting historical but not current misophonia are excluded. Effects that changed in significance compared to the analyses in the main text are highlighted.

	Main Effects (*p*, coefficient, 95% CI)			Interactions (*p*, coefficient, 95% CI)			
	Autism	ADHD	Misophonia	Autism x ADHD	Autism x Misophonia	ADHD x Misophonia	Autism x ADHD x Misophonia
CDS Total	.22 0.28 [–0.16, 0.72]	.005* 0.56 [0.17, 0.95]	.04* 0.57 [0.01, 1.13]	.19 –0.45 [–1.13, 0.22]	.97 0.01 [–0.71, 0.74]	.89 0.05 [–0.66, 0.76]	.97 0.02 [–0.95, 0.98]
CDS Mouth	.54 0.17 [–0.37, 0.70]	.03* 0.49 [0.04, 0.96]	.03* 0.68 [0.06, 1.30]	.37 –0.37 [–1.17, 0.43]	.96 0.02 [–0.79, 0.84]	.55 –0.24 [–1.03, 0.55]	.85 0.11 [–0.99, 1.20]
CDS Breathing/ Nose	.12 0.36 [–0.09, 0.82]	.001** 0.65 [0.25, 1.05]	.21 0.37 [–0.21, 0.94]	.09 –0.59 [–1.29, 0.10]	.60 –0.20 [–0.94, 0.55]	.90 –0.05 [–0.77, 0.68]	.48 0.36 [–0.64, 1.34]
CDS Throat	.87 –0.04 [–0.55, 0.46]	.15 0.34 [–0.11, 0.74]	.09 0.53 [–0.09, 1.09]	.91 –0.08 [–0.80, 0.71]	.93 –0.00 [–0.74, 0.82]	.97 –0.07 [–0.73, 0.76]	.95 0.08 [–1.07, 1.01]
CDS Repetitive	.03* 0.55 [0.06, 1.03]	.13 0.34 [–0.10, 0.79]	.01* 0.78 [0.18, 1.38]	.52 –0.24 [–0.97, 0.49]	.43 –0.31 [–1.07, 0.46]	.88 –0.06 [–0.82, 0.71]	.75 –0.16 [–1.19, 0.86]

Supplementary Analysis: Further Participants Excluded Due to RAADS-14 Scores

As noted in the main text, the median RAADS-14 score of ADHD people exceeded the autism cut-off score even in the validation sample (Eriksson et al., 2013), as well as in the present study. Thus, eliminating ADHD-only participants scoring above the autism cut-off would remove the majority of ADHD-only participants, and would be unlikely to yield a representative sample of ADHD people. Nevertheless, for exploratory and descriptive purposes, we took the previously-described reduced sample (as restricted based on ASRS-18 scores) and eliminated ADHD participants scoring above the autism screening cut-off on the RAADS-14. This reduced the ADHD-only sample to just 22 participants (3 CloudResearch, 19 Prolific), from the 95 in the previously-described reduced sample.

This further-reduced ADHD-only sample had significantly more educated participants than in the autistic+ADHD group (Supplementary Table 15), which was not the case of the original sample in the main text nor of the previously-described reduced sample (Table 1, Supplementary Table 12). They had significantly lower ASRS-18 inattention scores than autistic+ADHD participants, but their hyperactivity/impulsivity scores no longer significantly differed from those of autistic+ADHD participants. The proportion of ADHD-only participants self-reporting misophonia appeared lower than in prior analyses (Supplementary Table 15, cf. Table 1, Supplementary Table 12), and the proportion no longer significantly differed from that in comparison participants.

Eliminating ADHD participants with high RAADS-14 scores affected results of comparisons of sound tolerance measures across groups (Supplementary Table 16, cf. Table 2, Supplementary Tables 10, 13). Interactions of ADHD and autism on many MIST-A subscores disappeared; this appeared to reflect declines in ADHD-only participants' MIST-A scores relative to autistic+ADHD and autistic-only participants, as well as loss of sample size and statistical power. However, the use of ASRS-18 scores to restrict the sample had previously caused ADHD-only participants' sensory questionnaire scores to increase relative to autistic-only participants (compare Table 2 and Supplementary Table 10 with Supplementary Table 13), so these declines to some extent acted to offset the previous increase. For example, statistical differences between ADHD-only and autistic-only participants' MIST-A impairment scores that had appeared in Supplementary Table 10, then disappeared when ASRS-18 scores were used to restrict the sample (Supplementary Table 3), reappeared when ADHD-only participants with high RAADS scores were excluded (Supplementary Table 16).

Effects of ADHD on total and breathing/nasal sound CDS scores dropped below the threshold for statistical significance, but this change appeared in large part to reflect sample size and power rather than changes in the underlying effect (Supplementary Table 17, cf. Table 3, Supplementary Table 14).

Supplementary Table 15. Characteristics of participants when further restricting the sample based on RAADS-14 scores, even in the ADHD-only group, as well as ASRS-18 scores. Effects that changed in significance compared to the previous analysis restricting only on the basis of ASRS-18 scores are highlighted in yellow.

	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons		
	M (SD)	Range	M (SD)	Range	M (SD)	Range	M (SD)	Range	Kruskal *p*	η^2 [95% CI]	Post-hoc Wilcoxon (Benjamini-Hochberg FDR-corrected)
Age (years)	37.10 (11.58)	19.00 – 67.00	34.59 (5.82)	24.00 – 46.00	38.24 (14.52)	19.00 – 70.00	36.19 (12.74)	18.00 – 75.00	.84	–.01 [–.01, .03]	
Education[1]	5.51 (1.97)	1.00 – 10.00	6.09 (2.07)	2.00 – 9.00	5.76 (2.26)	1.00 – 10.00	4.87 (2.14)	1.00 – 10.00	.006	.03 [.00, .09]	Autistic+ADHD < ADHD-only, Autistic-only, comparison
ASRS-6	5.45 (3.10)	0.00 – 12.00	17.09 (2.24)	14.00 – 22.00	10.20 (3.44)	2.00 – 17.00	17.92 (2.85)	11.00 – 24.00	< .0001	.76 [.72, .78]	Autistic+ADHD, ADHD-only > Autistic-only, comparison Autistic-only > comparison
ASRS-18 "Method 3" Inattention	9.39 (4.27)	0.00 – 21.00	23.59 (4.11)	16.00 – 31.00	14.48 (4.75)	1.00 – 25.00	26.26 (4.08)	17.00 – 36.00	< .0001	.75 [.71 .78]	Autistic+ADHD > ADHD-only, Autistic-only, comparison ADHD-only > Autistic-only, comparison Autistic-only > comparison
ASRS-18 "Method 3" Hyperacti-vity-Impulsivity	6.45 (4.00)	0.00 – 17.00	21.95 (4.61)	16.00 – 30.00	11.94 (5.16)	0.00 – 25.00	23.58 (5.39)	13.00 – 36.00	< .0001	.72 [.67, .76]	Autistic+ADHD, ADHD-only > Autistic-only, comparison Autistic-only > comparison
AHQ Dispo-sitional Hyper-Focus	8.75 (6.28)	0.00 – 28.00	20.45 (6.72)	5.00 – 29.00	16.97 (7.45)	0.00 – 30.00	23.44 (5.74)	3.00 – 30.00	< .0001	.44 [.35, .53]	Autistic+ADHD > ADHD-only, Autistic-only, comparison ADHD-only > Autistic-only, comparison Autistic-only > comparison

Supplementary Table 15. Characteristics of participants when further restricting the sample based on RAADS-14 scores, even in the ADHD-only group, as well as ASRS-18 scores. Effects that changed in significance compared to the previous analysis restricting only on the basis of ASRS-18 scores are highlighted in yellow.

	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons		
	M (SD)	Range	M (SD)	Range	M (SD)	Range	M (SD)	Range	Kruskal *p*	η^2 [95% CI]	Post-hoc Wilcoxon (Benjamini-Hochberg FDR-corrected)
RAADS-14	5.26 (4.04)	0.00 – 13.00	8.05 (3.67)	1.00 – 13.00	30.37 (7.83)	14.00 – 42.00	32.72 (6.70)	15.00 – 42.00	<.0001	.70 [.64, .74]	Autistic+ADHD > Autistic-only, ADHD-only, comparison Autistic-only > ADHD-only, comparison ADHD-only > comparison
	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Categorical Statistical Comparisons		
	Count (%)		Count (%)		Count (%)		Count (%)		Fisher p	Cramér V [95% CI]	Post-hoc Fisher (Benjamini-Hochberg FDR-corrected)
Gender	37 F (42.05%) 41 M (46.59%) 10 nonbinary (11.36%)		11 F (50.00%) 9 M (40.91%) 2 nonbinary (9.09%)		35 F (39.33%) 45 M (50.56%) 9 nonbinary (10.11%)		49 female (44.55%) 40 male (36.36%) 21 nonbinary (19.09%)		.36	.11 [.07, .21]	
Sex	48 M (54.55%) 40 F (45.45%)		10 M (45.45%) 12 F (54.55%)		38 M (42.70%) 51 F (57.30%)		42 M (38.18%) 68 F (61.82%)		.14	.13 [.06, .26]	
Race/ Ethnicity	64 Non-Hispanic White (72.73%)		17 non-Hispanic White (77.27%)		71 non-Hispanic White (79.78%)		81 non-Hispanic White (73.64%)		.69	.07 [.04, .20]	
Self-reported misophonia status	16 misophonia (18.18%)		5 misophonia (22.73%)		54 misophonia (60.67%)		77 misophonia (70.00%)		< .0001	.45 [.37, .55]	Autistic+ADHD, Autistic-only > ADHD-only, comparison
ADHD dx status			16 diagnosed (72.73%)				92 diagnosed (83.64%)		.23	.11 [.01, .29]	

Supplementary Table 15. Characteristics of participants when further restricting the sample based on RAADS-14 scores, even in the ADHD-only group, as well as ASRS-18 scores. Effects that changed in significance compared to the previous analysis restricting only on the basis of ASRS-18 scores are highlighted in yellow.

Autism dx status					74 diagnosed (83.15%)		87 diagnosed (79.09%)		.59	.05 [.00, .18]	
	Comparison		ADHD-Only		Autistic-Only		Autistic+ADHD		Ordinal Statistical Comparisons (Two Groups Only)		
	M (SD)	Range	M (SD)	Range	M (SD)	Range	M (SD)	Range	Whitney-Mann p	Cliff δ [95% CI]	
Age at ADHD dx			23.62 (11.68)	5.00 – 39.00			21.38 (15.05)	2.00 – 70.00	.31	.16 [–.12, .42]	
Age at autism dx					28.10 (17.28)	0.50 – 68.00	25.60 (15.73)	2.00 – 70.00	.44	.07 [–.11, .24]	

1. Education was operationalized as an ordinal scale ranging from 1 (“Some high school or less”) to 10 (“Doctorate degree (for example: PhD, EdD)”). Average responses were around 5 (“Associate degree (for example: AA, AS)”) to 6 (“Bachelor's degree (for example: BA, BS)”).

Supplementary Table 16. Results of ordinal probit regression analyses comparing groups on MIST-A subscales, VADQ total scores, and CDS ratings when further restricting the sample based on RAADS-14 scores, even in the ADHD-only group, as well as ASRS-18 scores. Results of Benjamini-Yekutieli FDR-corrected Wilcoxon post-hoc tests are also included. Coefficients and their 95% confidence intervals are reported. For post-hoc tests, Cliff's δ and its 95% confidence interval are reported as effect sizes. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. Effects that changed in significance compared to the previous analysis restricting only on the basis of ASRS-18 scores are highlighted in yellow, except where they resulted in the restoration of statistical significance patterns form the main text, where they are highlighted in blue. Results can be compared with Table 2 (main text), Supplementary Table 10, and Supplementary Table 13.

	Main Effects (*p*, coefficient, 95% CI)		Interaction (*p*, coefficient, 95% CI)	Wilcoxon post-hocs (corrected *p*, Cliff's δ, 95% CI)					
				ADHD-only			Autistic+ADHD		Autistic-only
	Autism	ADHD		Autistic+ ADHD	Autistic-only	Comparison	Autistic-only	Comparison	Comparison
MIST-A Misophonia T-score	<.0001**** 1.16 [0.85, 1.49]	.002** 0.75 [0.27, 1.24]	.44 –0.22 [–0.78, 0.34]	.002** –.49 [–.66, –.27]	.19 –.24 [–.47, .01]	.002** .45 [.17, .67]	.002** .28 [.12, .42]	<.0001**** .76 [.64, .84]	<.0001**** .61 [.46, .72]
MIST-A Hyperacusis T-score	<.0001**** 1.81 [1.47, 2.15]	<.0001**** 1.24 [0.75, 1.73]	.03* –0.62 [–1.18, –0.06]	<.0001**** –.60 [–.76, .36]	.59 –.31 [–.54, –.04]	<.0001**** .63 [.34, .82]	<.0001**** .34 [.18, .49]	<.0001**** .92 [.85, .96]	<.0001**** .81 [.70, .88]
MIST-A Fear/ Panic T-score	<.0001**** 1.17 [0.85, 1.49]	<.0001**** 1.02 [0.54, 1.50]	.29 –0.30 [–0.86, 0.25]	.004** –.43 [–.65, –.15]	>.99 –.10 [–.37, .18]	.0006*** .52 [.22, .72]	<.0001**** .41 [.25, .55]	<.0001**** .84 [.74, .90]	<.0001**** .61 [.46, .73]
MIST-A Pain T-score	<.0001**** 1.12 [0.80, 1.45]	.03* 0.56 [0.06, 1.06]	.91 –0.03 [–0.60, 0.54]	.0008*** –.51 [–.68, .28]	.15 –.26 [–.49, .01]	.08 .29 [–.05, .57]	.002** .29 [.13, .43]	<.0001**** .76 [.64, .85]	<.0001**** .59 [.44, .71]
MIST-A Symptoms: Hyperacusis	<.0001**** 1.24 [0.90, 1.59]	<.0001**** 1.05 [0.54, 1.56]	.50 –0.20 [–0.79, 0.38]	.0002*** –.55 [–.70, –.34]	.87 –.13 [–.36, .12]	<.0001**** .55 [.29, .74]	<.0001**** .44 [.29, .56]	<.0001**** .79 [.69, .86]	<.0001**** .58 [.44, .70]
MIST-A Symptoms: Nonspecific	<.0001**** 1.27 [0.90, 1.64]	.0002*** 1.03 [0.48, 1.58]	.65 –0.15 [–0.76, 0.48]	.0003*** –.53 [–.71, –.28]	.77 –.13 [–.38, .13]	.002** .36 [.10, .58]	<.0001**** .46 [.31, .59]	<.0001**** .80 [.71, .87]	<.0001**** .51 [.38, .63]
MIST-A Impairment	<.0001**** 2.15 [1.78, 2.54]	<.0001**** 1.24 [0.72, 1.76]	.007** –0.82 [–1.42, –0.23]	<.0001**** –.68 [–.82, –.47]	.0006*** –.51 [–.69, –.27]	<.0001**** .60 [.35, .77]	.005** .25 [.09, .40]	<.0001**** .90 [.82, .94]	<.0001**** .81 [.70, .88]
VADQ Auditory Distractibility	<.0001**** 1.79 [1.45, 2.13]	<.0001**** 1.43 [0.94, 1.92]	.0007*** –0.97 [–1.54, –0.41]	.0007*** –.50 [–.66, –.30]	.29 –.22 [–.42, .01]	<.0001*** .78 [.56, .89]	.009** .24 [.08, .39]	<.0001*** .89 [.82, .94]	<.0001*** .78 [.67, .86]

Supplementary Table 16. Results of ordinal probit regression analyses comparing groups on MIST-A subscales, VADQ total scores, and CDS ratings when further restricting the sample based on RAADS-14 scores, even in the ADHD-only group, as well as ASRS-18 scores. Results of Benjamini-Yekutieli FDR-corrected Wilcoxon post-hoc tests are also included. Coefficients and their 95% confidence intervals are reported. For post-hoc tests, Cliff's δ and its 95% confidence interval are reported as effect sizes. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. Effects that changed in significance compared to the previous analysis restricting only on the basis of ASRS-18 scores are highlighted in yellow, except where they resulted in the restoration of statistical significance patterns form the main text, where they are highlighted in blue. Results can be compared with Table 2 (main text), Supplementary Table 10, and Supplementary Table 13.

	Main Effects (*p*, coefficient, 95% CI)		Interaction (*p*, coefficient, 95% CI)	Wilcoxon post-hocs (corrected *p*, Cliff's δ, 95% CI)					
	Autism	ADHD		ADHD-only			Autistic+ADHD		Autistic-only
				Autistic+ ADHD	Autistic-only	Comparison	Autistic-only	Comparison	Comparison
Sound Ratings Misophonia	.005** 0.43 [0.13, 0.73]	.003** 0.73 [0.26, 1.21]	.08 –0.49 [–1.04, 0.06]	>.99 .01 [–.26, .28]	.86 .15 [–.14, .41]	.02* .40 [.12, .62]	.29 .14 [–.02, .30]	<.0001**** .38 [.23, .52]	.02* .27 [.10, .42]
Sound Ratings Pleasant	.0005*** 0.53 [0.23, 0.83]	.46 0.18 [–0.29, 0.65]	.34 –0.27 [–0.82, 0.28]						
Sound Ratings Unpleasant	.87 0.03 [–0.27, 0.32]	.25 0.28 [–0.20, 0.76]	.78 –0.08 [–0.64, 0.48]						

Supplementary Table 17. Results of ordinal probit regression analyses comparing groups on CDS scores when further restricting the sample based on RAADS-14 scores, even in the ADHD-only group, as well as ASRS-18 scores. Coefficients and their 95% confidence intervals are reported. For effects of autism, the reference group is non-autistic participants. For effects of ADHD, the reference group is non-ADHD participants. For effects of misophonia, the reference group is non-misophonic participants. Participants self-reporting historical but not current misophonia are excluded. Effects that changed in significance compared to the previous analysis restricting only on the basis of ASRS-18 scores are highlighted in yellow, except where they resulted in the restoration of statistical significance patterns form the main text, where they are highlighted in blue.

	Main Effects (*p*, coefficient, 95% CI)			Interactions (*p*, coefficient, 95% CI)			
	Autism	ADHD	Misophonia	Autism x ADHD	Autism x Misophonia	ADHD x Misophonia	Autism x ADHD x Misophonia
CDS Total	.22 0.28 [–0.17, 0.72]	.12 0.47 [–0.11, 1.05]	.053 0.55 [–0.01, 1.11]	.36 –0.37 [–1.17, 0.43]	.97 0.02 [–0.71, 0.74]	.66 0.26 [–0.91, 1.42]	.79 –0.18 [–1.52, 1.16]
CDS Mouth	.53 0.17 [–0.37, 0.70]	.08 0.58 [–0.09, 1.24]	.03* 0.69 [0.07, 1.30]	.34 –0.45 [–1.38, 0.48]	.96 0.02 [–0.79, 0.83]	.35 –0.64 [–1.99, 0.68]	.52 0.51 [–1.02, 2.06]
CDS Breathing/ Nose	.13 0.36 [–0.10, 0.81]	.10 0.50 [–0.09, 1.10]	.23 0.35 [–0.23, 0.93]	.29 –0.45 [–1.27, 0.38]	.61 –0.19 [–0.94, 0.55]	.61 0.31 [–0.89, 1.50]	>.99 –0.00 [–1.37, 1.37]
CDS Throat	.87 –0.04 [–0.55, 0.46]	.70 0.13 [–0.54, 0.77]	.09 0.51 [–0.08, 1.09]	.76 0.14 [–0.76, 1.05]	.94 0.03 [–0.75, 0.81]	.22 0.76 [–0.45, 1.98]	.29 –0.77 [–2.19, 0.64]
CDS Repetitive	.03* 0.55 [0.07, 1.03]	.31 0.34 [–0.33, 0.99]	.01* 0.78 [0.18, 1.38]	.59 –0.24 [–1.12, 0.64]	.42 –0.32 [–1.08, 0.46]	.53 –0.41 [–1.72, 0.87]	.79 0.20 [–1.26, 1.67]