




2023 STAR
Sensory Symposium


Screening Tools and Standardized Report Measures

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The views expressed in the following presentation are those of the presenter(s) and do not necessarily reflect those of STAR Institute.

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The main question(s)

- Does an issue exist at a level that warrants a full evaluation?
- Is there evidence that the child is at risk for (falling behind) in this area?
- Is there evidence that the child is experiencing differences in sensory integration and processing that is affecting their ability to be successful in the experiences they encounter in daily life?



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Screening tools are NOT designed to

- Evaluate
- Determine a child's strengths
- Identify areas needing intervention
- Guide intervention planning

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A Typical Screening Tool

- Assesses several developmental domains
- Has few items in each domain
- Is quick to administer
- Can be used by a range of test administrators

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Standardized Report Measures

- Structured interviews, parent report tools, or questionnaires
- Standard approaches to information gathering and scoring
- Do not require direct observation of the child
- Do not require direct administration of test items to the child

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Considering Screening Tools

- Appraise
 - Purpose of the tool
 - Domains included
 - Recency of content
- Determine alignment of the tool with
 - Your agency's mission, vision, goals
 - The clientele served by your agency
 - The time and resources required
 - How it fits with the rest of the evaluation process

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Diane Parham
PhD, OTR/L, FAOTA
University of New Mexico

Sensory Processing Measure-2

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Sensory Processing Measure - 2


Early Infancy through Adulthood

STAR Symposium

L. Diane Parham, PhD, OTR/L, FAOTA
Professor Emerita, University of New Mexico

October 2023

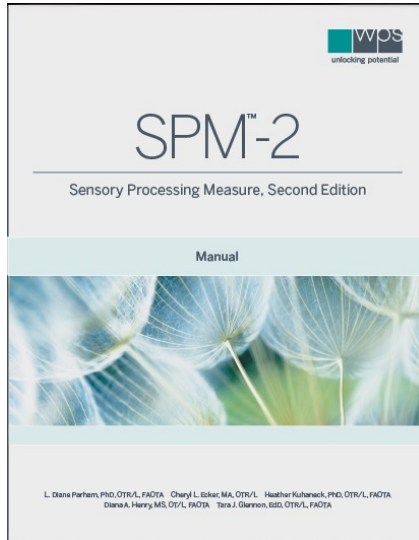
Co-authors: Cheryl Ecker, Tara Glennon, Diana Henry, & Heather Kuhaneck



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Sensory Processing Measure - 2



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Quick Overview of SPM-2

- Across the Lifespan
 - Infant (4 mo) through Adult (89 yr)
- Easy transition from age group to the next
 - same format, structure, and scoring
- Paper and OES (Online Evaluation System)
- Language:
 - Spanish & English language versions of each form
 - Matched sample study showed normative data did not differ
 - Spanish and English forms can be used interchangeably

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SPM-2: Expanded Age Ranges

- **Infant and Toddler**
 - Infant or Toddler Form
 - Infant: 4-9 months
 - Toddler: 10-30 months
 - Caregiver Form
 - Self-report: to support co-occupations
- **Adult**
 - Self-Report ages 21+
 - Other Rater Report
 - Driving for adults, too
- **Adolescent**
 - Self-Report for ages 12-19 or 21
 - Teacher
 - Caregiver
 - Driving Environment (if has driver license):
 - Self-report and Other rater report

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SPM-2

- **Standard Scores: 9 scaled scores (T scores)**
 - **6 sensory systems**
 - VIS, HEA, TOU, BOD, BAL, T&S (new)
 - **ST: Sensory Total**
 - Previously called TOT
 - **PLN: Planning** (ideation & motor planning)
 - **SOC: Social Participation**
- **Vulnerabilities:** reactivity, percep, postur bilat, idea, motor plan
- **Manual:** Comprehensive review of sensory integrative theory

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SPM-2: Scoring Worksheet

Scoring Worksheet
Preschool Home Form
Ages 2-5 years

Name of child being evaluated: _____ Gender: _____

Today's date: _____ Date of birth: _____ Age: _____

Rater's name: _____

VIS Items				
Item	1	2	3	4
1	2	3	4	1
1	2	3	4	2
1	2	3	4	3
1	2	3	4	4
1	2	3	4	5
1	2	3	4	6
1	2	3	4	7
1	2	3	4	8
1	2	3	4	9
1	2	3	4	10

HEA Items				
Item	1	2	3	4
11	2	3	4	1
12	2	3	4	2
13	2	3	4	3
14	2	3	4	4
15	2	3	4	5
16	2	3	4	6
17	2	3	4	7
18	2	3	4	8
19	2	3	4	9
20	2	3	4	10

TOU Items				
Item	1	2	3	4
21	2	3	4	1
22	2	3	4	2
23	2	3	4	3
24	2	3	4	4
25	2	3	4	5
26	2	3	4	6
27	2	3	4	7
28	2	3	4	8
29	2	3	4	9
30	2	3	4	10

T&S Items				
Item	1	2	3	4
31	4	3	2	1
32	4	3	2	1
33	4	3	2	1
34	4	3	2	1
35	4	3	2	1
36	4	3	2	1
37	4	3	2	1
38	4	3	2	1
39	4	3	2	1
40	4	3	2	1

BOD Items				
Item	1	2	3	4
41	4	3	2	1
42	4	3	2	1
43	4	3	2	1
44	4	3	2	1
45	4	3	2	1
46	4	3	2	1
47	4	3	2	1
48	4	3	2	1
49	4	3	2	1
50	4	3	2	1

BAL Items				
Item	1	2	3	4
51	4	3	2	1
52	4	3	2	1
53	4	3	2	1
54	4	3	2	1
55	4	3	2	1
56	4	3	2	1
57	4	3	2	1
58	4	3	2	1
59	4	3	2	1
60	4	3	2	1

PLN Items				
Item	1	2	3	4
61	4	3	2	1
62	4	3	2	1
63	4	3	2	1
64	4	3	2	1
65	4	3	2	1
66	4	3	2	1
67	4	3	2	1
68	4	3	2	1
69	4	3	2	1
70	4	3	2	1

SOC Items				
Item	1	2	3	4
71	1	2	3	4
72	1	2	3	4
73	1	2	3	4
74	1	2	3	4
75	1	2	3	4
76	1	2	3	4
77	1	2	3	4
78	1	2	3	4
79	1	2	3	4
80	1	2	3	4

VIS raw score	+	HEA raw score
	+	TOU raw score
	+	T&S raw score
	+	BOD raw score
	+	BAL raw score
	+	PLN raw score
	+	SOC raw score
	=	ST Sensory Total raw score

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SPM-2: Scoring Worksheet

Scoring Worksheet
Preschool Home Form
Ages 2-5 years

Name of child being evaluated: _____ Gender: _____

Today's date: _____ Date of birth: _____ Age: _____

Rater's name: _____

VIS Items				
Item	1	2	3	4
1	2	3	4	1
1	2	3	4	2
1	2	3	4	3
1	2	3	4	4
1	2	3	4	5
1	2	3	4	6
1	2	3	4	7
1	2	3	4	8
1	2	3	4	9
1	2	3	4	10

HEA Items				
Item	1	2	3	4
11	2	3	4	1
12	2	3	4	2
13	2	3	4	3
14	2	3	4	4
15	2	3	4	5
16	2	3	4	6
17	2	3	4	7
18	2	3	4	8
19	2	3	4	9
20	2	3	4	10

TOU Items				
Item	1	2	3	4
21	2	3	4	1
22	2	3	4	2
23	2	3	4	3
24	2	3	4	4
25	2	3	4	5
26	2	3	4	6
27	2	3	4	7
28	2	3	4	8
29	2	3	4	9
30	2	3	4	10

T&S Items				
Item	1	2	3	4
31	4	3	2	1
32	4	3	2	1
33	4	3	2	1
34	4	3	2	1
35	4	3	2	1
36	4	3	2	1
37	4	3	2	1
38	4	3	2	1
39	4	3	2	1
40	4	3	2	1

BOD Items				
Item	1	2	3	4
41	4	3	2	1
42	4	3	2	1
43	4	3	2	1
44	4	3	2	1
45	4	3	2	1
46	4	3	2	1
47	4	3	2	1
48	4	3	2	1
49	4	3	2	1
50	4	3	2	1

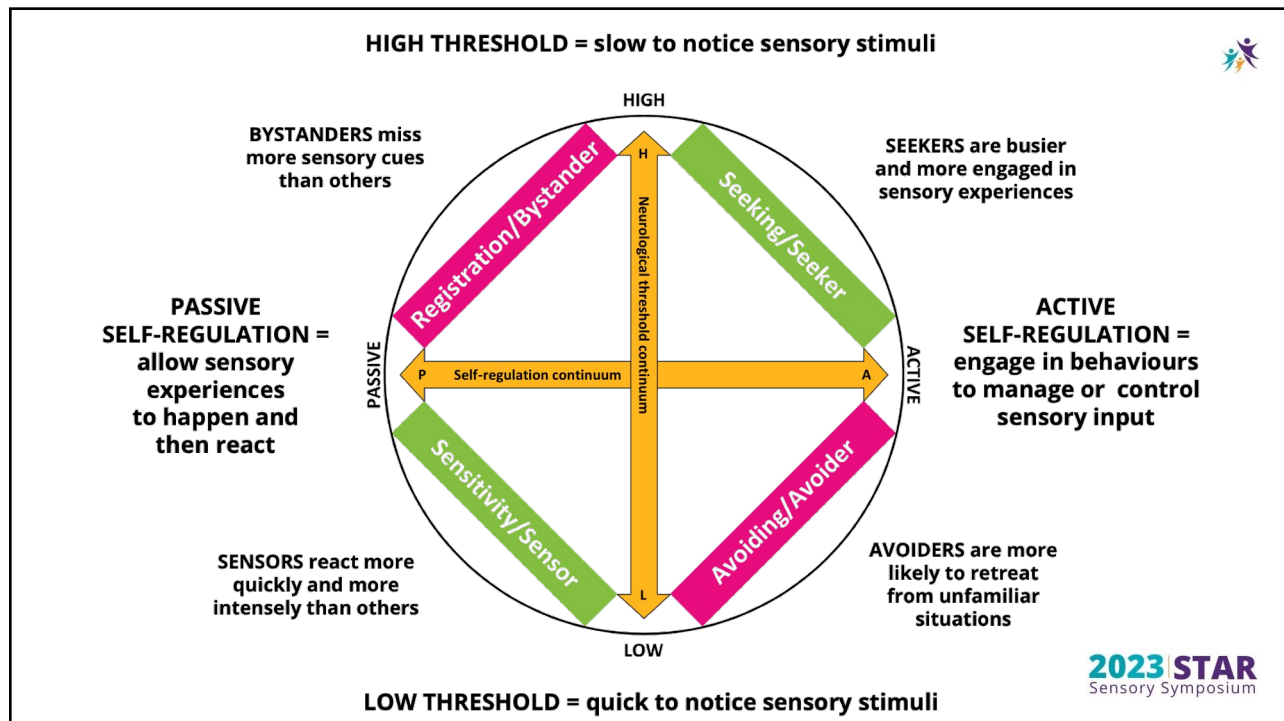
BAL Items				
Item	1	2	3	4
51	4	3	2	1
52	4	3	2	1
53	4	3	2	1
54	4	3	2	1
55	4	3	2	1
56	4	3	2	1
57	4	3	2	1
58	4	3	2	1
59	4	3	2	1
60	4	3	2	1

PLN Items				
Item	1	2	3	4
61	4	3	2	1
62	4	3	2	1
63	4	3	2	1
64	4	3	2	1
65	4	3	2	1
66	4	3	2	1
67	4	3	2	1
68	4	3	2	1
69	4	3	2	1
70	4	3	2	1

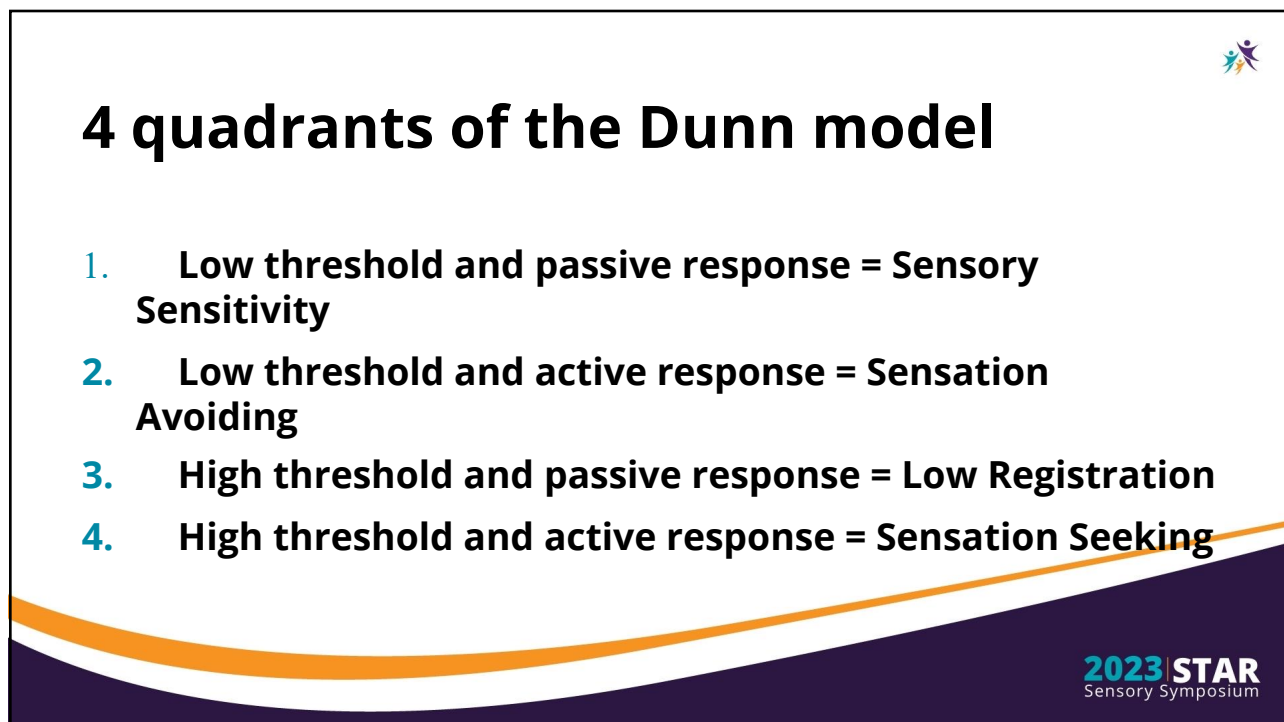
SOC Items				
Item	1	2	3	4
71	1	2	3	4
72	1	2	3	4
73	1	2	3	4
74	1	2	3	4
75	1	2	3	4
76	1	2	3	4
77	1	2	3	4
78	1	2	3	4
79	1	2	3	4
80	1	2	3	4

VIS raw score	+	HEA raw score
	+	TOU raw score
	+	T&S raw score
	+	BOD raw score
	+	BAL raw score
	+	PLN raw score
	+	SOC raw score
	=	ST Sensory Total raw score

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Assessments



- Sensory Profile – 2 (Dunn, 2014)
 - Infant Caregiver Questionnaire: Birth to 6 months
 - Toddler Caregiver Questionnaire: 7 to 35 months
 - Child Caregiver Questionnaire: 3 to 15 years
 - School Companion Teacher Questionnaire: 3 to 15 years
 - Short Form Caregiver Questionnaire: 3 to 15 years
- Adolescent / Adult Sensory Profile: 11 to older adult (Dunn, 2002)
- Sensory Profile Interoception: 11 to older adult (Dunn et al., 2022)

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Differences in assessments



Infant Caregiver Questionnaire


- Birth to 6 months
- 25 items
- General Processing
- Auditory Processing
- Visual Processing
- Touch Processing
- Movement Processing
- Oral Sensory Processing

Toddler Caregiver Questionnaire

- 7 to 35 months
- 54 items
- General Processing
- Auditory Processing
- Visual Processing
- Touch Processing
- Movement Processing
- Oral Sensory Processing
- Behavioral Responses Associated with Sensory Processing

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Differences in assessments

<p><u>Child Caregiver Questionnaire</u></p> <ul style="list-style-type: none"> • 3 to 15 years • 86 items • Auditory processing • Visual processing • Touch processing • Movement processing • Oral sensory processing • Body position • Conduct associated with sensory processing • Social emotional responses associated with sensory processing • Attentional responses associated with sensory processing 	<p><u>Short Form Caregiver Questionnaire</u></p> <ul style="list-style-type: none"> • 3 to 15 years • 34 items • Sensory processing • Behavioral responses associated with sensory processing
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Differences in assessments

<p><u>Child Caregiver Questionnaire</u></p> <ul style="list-style-type: none"> • 3 to 15 years • 86 items • Auditory processing • Visual processing • Touch processing • Movement processing • Oral sensory processing • Body position • Conduct associated with sensory processing • Social emotional responses associated with sensory processing • Attentional responses associated with sensory processing 	<p><u>School Companion Teacher Questionnaire</u></p> <ul style="list-style-type: none"> • 3 to 15 years • 44 items • Auditory processing • Visual processing • Touch processing • Movement processing • Behavioral responses associated with sensory processing • Includes 4 School Factors <ol style="list-style-type: none"> 1. Need for external supports to participate in learning 2. Awareness and attention within learning environment 3. Tolerance within learning environment 4. Availability for learning within learning environment
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		TOUCH Processing						Does Not Apply
Quadrant	Item	My child...	Almost Always	Frequently	Half the Time	Occasionally	Almost Never	0
			5	4	3	2	1	
SN	16	shows distress during grooming (for example, fights or cries during haircutting, face washing, fingernail cutting).						
	17	becomes irritated by wearing shoes or socks.						
AV	18	shows an emotional or aggressive response to being touched.						
SN	19	becomes anxious when standing close to others (for example, in a line).						
SN	20	rubs or scratches a part of the body that has been touched.						
SK	21	touches people or objects to the point of annoying others.						
SK	22	displays need to touch toys, surfaces, or textures (for example, wants to get the feeling of everything).						
RG	23	seems unaware of pain.						
RG	24	seems unaware of temperature changes.						
SK	25	touches people and objects more than same-aged children.						
RG	26	seems oblivious to messy hands or face.						
			TOUCH Raw Score					
TOUCH Processing Comments: _____								



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		CONDUCT Associated With Sensory Processing						Does Not Apply
Quadrant	Item	My child...	Almost Always	Frequently	Half the Time	Occasionally	Almost Never	0
			5	4	3	2	1	
RG	53	seems accident-prone.						
RG	54	rushes through coloring, writing, or drawing.						
SK	55	takes excessive risks (for example, climbs high into a tree, jumps off tall furniture) that compromise own safety.						
SK	56	seems more active than same-aged children.						
RG	57	does things in a harder way than is needed (for example, wastes time, moves slowly).						
AV	58	can be stubborn and uncooperative.						
AV	59	has temper tantrums.						
SK	60	appears to enjoy falling.						
AV	61	resists eye contact from me or others.						
			CONDUCT Raw Score					
CONDUCT Comments: _____								



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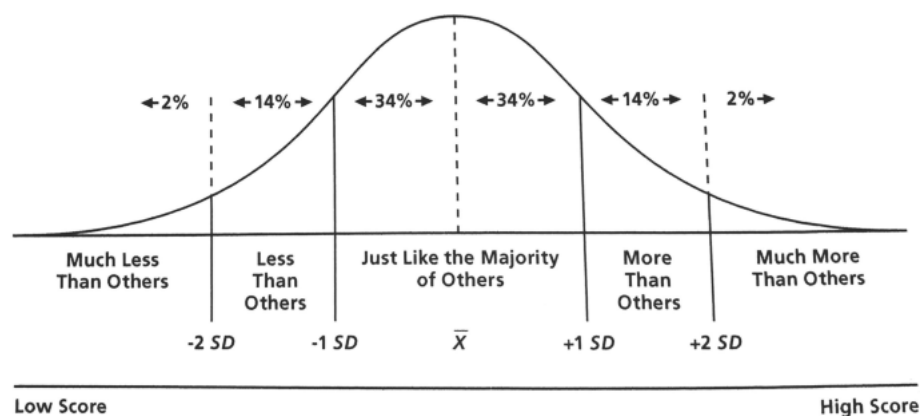
Scoring system



- **Almost always** (5 points): When presented with the opportunity, the child/student responds in this manner (90% or more of the time)
- **Frequently** (4 points): When presented with the opportunity, the child/student responds in this manner (about 75% of the time)
- **Half the Time** (3 points): When presented with the opportunity, the child/student responds in this manner (about 50% of the time)
- **Occasionally** (2 points): When presented with the opportunity, the child/student responds in this manner (about 25% of the time)
- **Almost Never** (1 point): When presented with the opportunity, the child/student responds in this manner (less than 10% of the time)

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Scoring system



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	Much less than others	Less than others	Just like the majority of others	More than others	Much more than others	
Sensory Section						
AUDITORY Processing	0-----2	3-----9	10-----24 ◆	25-----31	32-----40	█ responds to sounds just like the majority of others
VISUAL Processing	0-----4	5-----8	9-----17 ◆	18-----21	22-----30	█ responds to sights just like the majority of others
TOUCH Processing	0	1-----7	8-----21 ◆	22-----28	29-----55	█ responds to touch just like the majority of others
MOVEMENT Processing	0-----1	2-----6	7-----18	19-----24 ◆	25-----40	█ responds to movement more than others
BODY POSITION Processing	0	1-----4	5-----15 ◆	16-----19	20-----40	█ responds to body position just like the majority of others
ORAL SENSORY Processing	**	0-----7	8-----24 ◆	25-----32	33-----50	█ responds just like the majority of others to items in or around the mouth
Behavioral Section						
CONDUCT associated with sensory processing	0-----1	2-----8	9-----22 ◆	23-----29	30-----45	█ exhibits this aspect of conduct just like the majority of others
SOCIAL EMOTIONAL responses associated with sensory processing	0-----2	3-----12	13-----31	32-----41 ◆	42-----70	█ exhibits social emotional responses more than others
ATTENTIONAL responses associated with sensory processing	0	1-----8	9-----24	25-----31 ◆	32-----50	█ pays more attention to cues around them compared to others



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Interpretation of quadrant scores (Dunn, 2014, p. 54)

	Less Than Others/ Much Less Than Others	Just Like the Majority of Others	More Than Others/ Much More than Others
Seeking	May not seek enough sensory input to sustain successful participation	Uses sensory input to gather information necessary for participation	May seek sensory input in ways so excessive or disruptive that it interferes with participation
Avoiding	May fail to notice the sensory input needed for participation	Manages sensory input to get just the amount needed for participation	May become so overwhelmed by sensory input that it interferes with participation
Sensitivity	May fail to detect the particular sensory input needed to sustain participation	Detects the sensory input that enables participation	May be so distracted by sensory input that it interferes with participation
Registration	May notice sensory input that is not helpful for participation	Notices enough sensory input to support participation	May miss sensory input needed for participation



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Key Concepts in Intervention Planning (Dunn, 2014, p. 64)



	Less Than Others (lower numerical score)		More Than Others (higher numerical score)	
	Key characteristic	Intervention focus (within participation routines)	Key characteristic	Intervention focus (within participation routines)
Seeking	Does not seek input	Provide variety	Seeks and enjoys input	Provide more opportunities
Avoiding	Less likely to withdraw	Provide organized input	Bothered by input	Make less input available
Sensitivity	Less detection	Increase awareness	More detection	Provide more structured input
Registration	Notice more	Provide more familiarity	Mises more	Provide more intensity

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References



Dunn, W. (2014). *Sensory Profile-2 user's manual*. San Antonio (TX): Pearson.

Licciardi, L. & Brown, T. (2023). An overview and critical review of the Sensory Profile – second edition. *Scandinavian Journal of Occupational Therapy*, 30(6), 758-770.

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DCD-Q & Little DCD-Q

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DEVELOPMENTAL COORDINATION DISORDER/DYSPRAXIA SCREENING TOOLS

2023 STAR SENSORY SYMPOSIUM
OCTOBER 5-7, 2023
DENVER, COLORADO

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POLARIS
Finding True North

October 5, 2023

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OBJECTIVES

- Distinguish between screening and assessment
- Identify gold standard tools for assessing for dyspraxia from a sensory integration perspective
- Identify gold standard tools for assessing DCD
- Become familiar with screening tools to identify children at risk for DCD
 - DCDQ and Little DCDQ

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Terminology: Dyspraxia



- Dyspraxia: Impairment in the ability to conceive of, plan, sequence, and execute skilled or nonhabitual motor tasks particularly new and novel motor skills (Ayres, 1965, 1972).
- In SI, a disorder of sensory integration- Somatosensory (tactile-kinesthetic) base associated with impaired body scheme
 - Factor and cluster analysis

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Terminology: Developmental Coordination Disorder (DCD)(DSM-5)

1. Acquisition and execution of motor skills substantially below CA and opportunity (*standardized assessment*)
2. Significantly interferes with ADL; impacts academic/school productivity, prevocational and vocational activities, leisure and play (*parent, teacher, therapist report/questionnaire*)
3. Onset in early developmental period
4. Not explained by Intellectual deficit (ID), visual impairment or neurological or neuromuscular condition (CP, MD).
 - ADHD, ASD may be present



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ASSESSMENT VS. SCREENING

- Screening is a process for evaluating the possible presence of a particular problem
 - They do not diagnose the disorder but identify those who need further testing
 - Need to be benchmarked against an agreed Gold standard
- What are examples of screening tests that you are familiar with?

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ASSESSMENT

- Assessment is a process for defining the nature of that problem, determining a diagnosis, and developing specific treatment recommendations for addressing the problem or diagnosis.
- Occupational therapists use assessments to predict, identify, or measure occupational performance and underlying performance skills.

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GOLD-STANDARD ASSESSMENTS FOR DYSPRAXIA AND DCD

- Dyspraxia- sensory integration
 - Sensory Integration and Praxis Tests (SIPT)
 - Evaluation of Ayres Sensory Integration (EASI)
 - Sensory Processing in 3-Dimensions (SP3D)
- Developmental Coordination Disorder (DCD)
 - Bruininks-Oseretsky Test of Motor Proficiency (BOT-2)
 - Movement Assessment Battery for Children-3 (MABC-3)
 - Peabody Developmental Motor Scales (PDMS-2)
 - McCarron Assessment of Neuromuscular Development (MAND)



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SCREENING TOOLS: DYSPRAXIA/DCD (QUESTIONNAIRES)

- Developmental Coordination Disorder Questionnaire (DCDQ-Country)
- Little Developmental Coordination Disorder Questionnaire (Little DCDQ-Country)
- Parental questionnaire (PQ)
- Ages and Stages Questionnaire-3 (ASQ-3)
- Motor Observation Questionnaire for Teachers (MOQ-T)
- Movement Assessment Battery for Children-3 Checklist (MABC-3 Checklist)
- Children's Activity Scale for Teachers (ChAS-/PT)
- Handwriting Proficiency Screening Questionnaire for Children (HPSQ-C)
- Adult Developmental Coordination Disorder /Dyspraxia Checklist (ADC)

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WHY IS EARLY IDENTIFICATION OF DCD/DYSPRAXIA IMPORTANT?

- Motor delays may be the first sign of a developmental disorder
- Earlier identification -allows for timely referral for developmental interventions as well as diagnostic evaluations and treatment planning.
- Reduce social, psychological and behavioral sequela that accompany DCD/dyspraxia



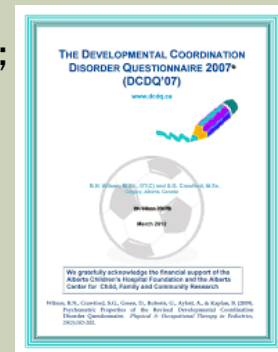
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SCREENING TOOLS

DEVELOPMENTAL COORDINATION DISORDER QUESTIONNAIRE (DCDQ)

- Purpose: Identify children at risk for motor concerns
- Parent questionnaire: gross and fine motor items
- Two versions: DCDQ '00 (17 items); DCDQ '07 (15 items; better ADHD differentiation)
- Can download instructions and forms without charge.
<https://www.dcdq.ca/>
- Available in multiple languages



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DCDQ

- Provides information about child's participation in daily life, academics, and sport
- 5-15 yrs
- 15 questions, 6 questions about control during movement, 4 questions about fine motor activities and writing, 5 questions about general coordination
- Items score Likert Scale 1 (not like my child) to 5 (extremely like my child). Higher scores indicate better motor skill
- 5 min, self-administered
- Total score with indication for DCD, or suspect, or probably no DCD

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DCDQ

COORDINATION QUESTIONNAIRE (REVISED 2007)

Name of Child: _____ Today's Date: _____
 Person completing Questionnaire: _____ Child's Birth: _____
 Relationship to child: _____ Child's Age: _____

Most of the motor skills that this questionnaire asks about are things that your child does with his or her hands, or when moving. A child's coordination may improve each year as they grow and develop. For this reason, it will be easier for you to answer the questions if you think about other children that you know who are the same age as your child.

Please compare the degree of coordination your child has with other children of the same age when answering the questions. Circle the age number that best describes your child. If you change your answer and want to circle another number, please circle the correct response twice.

If you are unclear about the meaning of a question, or about how you would answer a question to best describe your child, please call _____ at _____ for assistance.

	Not at all like your child 1	A bit like your child 2	Moderately like your child 3	Quite a bit like your child 4	Extremely like your child 5
1. Your child throws a ball in a controlled and accurate fashion.	1	2	3	4	5
2. Your child catches a small ball (e.g., tennis ball size) thrown from a distance of 6 to 8 feet (1.8 to 2.4 meters).	1	2	3	4	5
3. Your child hits an approaching ball or boulder with a bat or racquet accurately.	1	2	3	4	5
4. Your child jumps easily over obstacles found in garden or play environment.	1	2	3	4	5
5. Your child runs as fast and in a similar way to other children of the same gender and age.	1	2	3	4	5
6. If your child has a plan to do a motor activity, he/she can separate his/her body to follow the plan and collectively complete the task (e.g., holding a cardboard or cardboard "tee" using on playground equipment, building a house or a structure with blocks, or using craft materials).	1	2	3	4	5 (OVER)

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Item scores 1-5; 15 items
Scores range from 15 to 75
Higher scores indicate better motor skill

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STUDIES USING DCDQ: STANDARDIZATION AND PSYCHOMETRIC PROPERTIES

Canada

India

Israel

Netherlands

Japan

Taiwan

China

Germany

European Spanish

Turkey

United States

Italy

Brazil

Lebanon

Korea

Australia

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IS THIS A GOOD SCREENING TOOL? SENSITIVITY AND SPECIFICITY IDENTIFYING CHILDREN CORRECTLY

Sensitivity	Ability to detect people who have the disorder (e.g. dyspraxia, ASD) True positive
Specificity	Ability to detect people who do not have the disorder (dyspraxia, ASD) True negative

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SENSITIVITY AND SPECIFICITY

		Reality	
		Disease/Disorder Present	Disease/Disorder Absent
Screening Test Results	Test Positive	True Positive	False Positive
	Test Negative	False Negative	True Negative

Sensitivity= **True Positive**
 True Positive + False Negative

Specificity= **True Negative**
 True Negative + False Positive

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I CAN PREDICT WHETHER YOU HAVE DIABETES WITH 100% ACCURACY

Is it better to over-identify or under-identify?

- **Over-identify** (False positive): screening tool says child has problem but further testing indicates child is fine
- **Under-identify** (False negative): screening tool says child is not at risk (and no further testing is warranted) but in reality child does have problem

Sensitivity better for screening tools

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PSYCHOMETRIC PROPERTIES: SENSITIVITY AND SPECIFICITY OF DCDQ

Desirable sensitivity and specificity values are 80% and 90% respectively (APA, 2013)

Author	Country	Reference Test	Cut score on DCDQ	Sensitivity	Specificity
Crawford et al., 2001	Canada	BOT-2	(17 items)	38%	90%
Tseng et al., 2010	Taiwan	MABC + BOTMP	<10 th %	73%	54%
Civette & Hillier, 2008	Australia	MABC	<63 (17 item version)	72%	62%
Ferreira, 2020	Brazil	BOT-2	17 th on BOT-2	70%	81%
Yoon et al., 2022	Korea	BOT-2	<u>Age related</u> 5-7 yrs ≤46 8-9 yrs ≤57 10-15 yrs <60	72-85%	64-70%

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CONCURRENT VALIDITY: DOES THE DCDQ CORRELATE WITH A GOLD STANDARD MOTOR ASSESSMENT

Interpretation: Correlation coefficients of

- $r < 0.25$ small;
- $r=0.25-0.50$ moderate;
- $r=0.50-0.75$ good;
- $r > 0.75$ excellent

Examples

- DCDQ & MABC $r=0.396$ (Civetta & Hillier, 2008)
- DCDQ & BOT-2, $r=0.47$ (Yoon et al., 2023)

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CONSTRUCT VALIDITY- CONTRAST GROUPS

- Civetta & Hillier (2008) administered MABC and divided participants into No DCD or Suspect/DCD. DCDQ scores were significantly lower for DCD groups
- Wilson et al. (2015)-Significant differences on LDCDQ between those who had motor impairment based on MABC-2 and Berry VMI
 - All 15 items discriminated between groups

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LITTLE DCDQ AGES 3-5



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LITTLE DCDQ

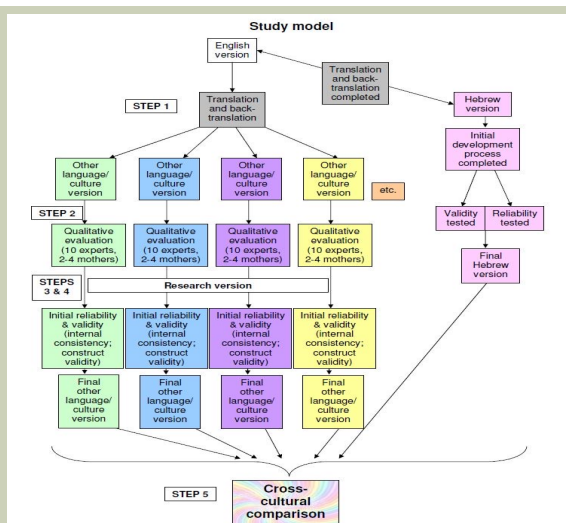
- **Purpose:** To identify young children at risk for motor impairments.
- **Based on a similar screening instrument for older children, ages 5 to 15**
- **Content:** 15 items which evaluate control during movement, fine motor, and general coordination



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LITTLE DCDQ STUDY MODEL



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DOES LDCDQ-US DIFFERENTIATE BETWEEN CHILDREN WITH AND WITHOUT MOTOR CONCERNS

- Parents completed LDCDQ- Think about your child compared to other children you know who are same age and sex. For each item, which box best describes your child's motor coordination?

Not like your child (1)	A bit like your child	Moderately like your child	Quite a bit like your child	Extremely like your child (5)
-------------------------	-----------------------	----------------------------	-----------------------------	-------------------------------

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	Not like your child (1)	A bit like your child	Moderately like your child	Quite a bit like your child	Extremely like your child (5)	
1	Throw a large (soccer size) ball					
2	Catches a large ball					
3	Kicks ball rolled towards him					
4	Runs fast- manner similar to others					
5	Moves, climbs					
6	Drinks from open cup without spilling					
7	Uses silverware independently to feed self					
8	Holds pencil, crayon- scribbles, draws, copies					
9	Thread beads onto string					
10	Peel stickers from sheet and re-stick in defined space					
11	Building puzzles, Legos, tower; copies block design					
12	Imitates body positions during games					
13	Uses playground equipment					
14	Coordinated; few falls					
15	Sits upright; no slouch					

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SCORES

- Item scores Likert scale 1 (not like my child) – 5 (extremely like my child)
- Total score 15-75. Higher scores indicate better motor performance

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STANDARDIZED IN

- Belgium
- Brazil
- Canada
- China
- Israel
- Japan
- Netherlands
- South Africa
- Taiwan
- UK
- United States



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PSYCHOMETRIC PROPERTIES: SENSITIVITY AND SPECIFICITY OF L- DCDQ

Desirable sensitivity and specificity values are 80% and 90% respectively (APA, 2013)

Author	Country	Reference Test	Cut score on DCDQ	Sensitivity	Specificity
Wilson et al., 2011	Canada	MABC-2 Beery VMI	M- ≤ 67 F ≤ 68	M-86% F-80%	M-63% F-49%
Venter et al., 2015	S. Africa	MABC-2	Non-DCD ≥ 51 DCD-risk 41-50 DCD ≤ 40	57%	81%
Cantell et al., 2018	Netherlands	MABC-2	70	80%	Increased with age
Fu et al., 2022	Taiwan	MABC-2	$< 15^{\text{th}}$ %	96%	68%
Moraes et al., 2022	Brazil	MABC-2	64	68%	67%
Jover et al., 2023	French European	MABC-2	67	81%	77%

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CONCURRENT VALIDITY: CORRELATION OF L-DCDQ WITH MABC-2

Low to moderate correlations (range $r = 0.29$ to 0.52)

- Canada ($r=0.30$) (Wilson et al., 2015)
- South Africa ($r=0.29$) (Venter et al., 2015)
- Netherlands ($r=0.36$) (Cantell et al., 2019)
- Belgium ($r=0.42$) (De Roubaix & Van Waelvelde, 2022)
- Taiwan ($r=0.52$) (Fu et al., 2022)
- Brazil ($r = 0.30$) (Moraes et al., 2022)
-

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VALIDITY-CONTRAST GROUPS- US STUDY

Purpose: To examine ability of L-DCDQ to discriminate among children with and without motor concerns

Methods

- **Participants:** Parents of 239 children, ages 3 and 4 years
 - 144 (72 M, 72 F) were typically developing
 - 95 (56 M, 38 F, 3 unknown) were identified by parents as having poor motor skills and/or had received OT, PT, or early intervention services for these motor impairment
- **Procedures:** Parents completed the LDCDQ-US questionnaire.

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VALIDITY- CONTRAST GROUPS: RESULTS OF U.S. STUDY

Results: Significant between group differences (TD:MI) in Total DCDQ score, each component score and individual items (all $p < .01$). TD show less impairment. (Cermak et al., in process)

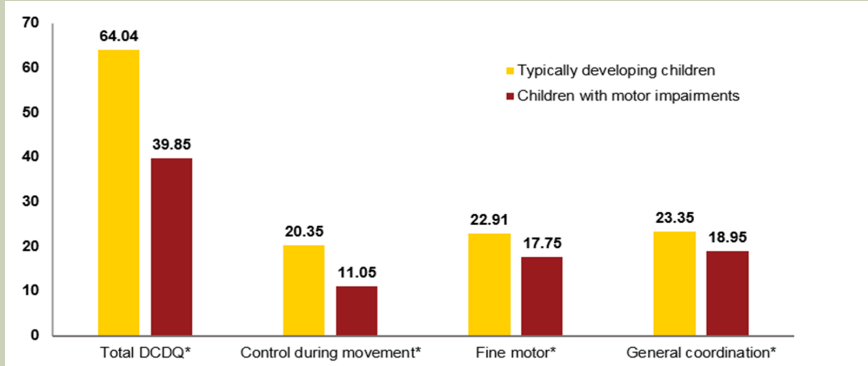


Figure 1. Mean LDCDQ-US Scores for Typically Developing Children and Children with Motor Impairments

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L-DCDQ VALIDITY- CONTRAST GROUPS- PRETERM:FULL TERM AT AGE 4-5

Spittle et al. 2022



- Children born < 30 weeks GA
- Classified at at risk for DCD at age 4-5 based on MABC-s (<16th %)
- Assessed on LDCDQ and other tests
- LDCDQ significantly lower in at risk DCD group

FitzGerald et al. 2022

- Children born < 30 weeks GA scored lower on LDCDQ at 4-years than full-term children at 4-5 years adjusted age.

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Listening for DCD Interview Guide

Child's name: _____ Date: _____
 Interview with (child, mother, father, etc): _____

Questionnaire for parents of children with motor coordination problems



Please read each of the questions below and indicate (x) whether you have any concerns.

Question	Concern	Parent Comments
Do you have any concerns about your child's development, learning or behaviour? (Think about: difficulty learning new things, particularly motor-based tasks, increased effort, frustration)	<input type="checkbox"/> Low <input type="checkbox"/> Some <input type="checkbox"/> High	
What types of activities does your child enjoy? (Think about whether these are mostly nonphysical activities [e.g., computer, TV, video games])	<input type="checkbox"/> Low <input type="checkbox"/> Some <input type="checkbox"/> High	
Are there activities that your child tends to avoid? (Think about: drawing, cutting, printing, ball games, sports, playground activities, running)	<input type="checkbox"/> Low <input type="checkbox"/> Some <input type="checkbox"/> High	
How is your child managing self-care routines (e.g., dressing independently; doing up buttons, zippers; tying shoes; cutting meat; spreading food with a knife)? (Are you helping a lot? Is your child frustrated?)	<input type="checkbox"/> Low <input type="checkbox"/> Some <input type="checkbox"/> High	

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PARENT INTERVIEW: GUIDE

Listening for DCD Interview Guide

Child's name: _____ Date: _____
 Interview with (child, mother, father, etc): _____

Questionnaire for parents of children with motor coordination problems

Please read each of the questions below and indicate (x) whether you have any concerns.

Question	Concern	Parent Comments
Do you have any concerns about your child's development, learning or behaviour? (Think about: difficulty learning new things, particularly motor-based tasks, increased effort, frustration)	<input type="checkbox"/> Low <input type="checkbox"/> Some <input type="checkbox"/> High	
What types of activities does your child enjoy? (Think about whether these are mostly nonphysical activities [e.g., computer, TV, video games])	<input type="checkbox"/> Low <input type="checkbox"/> Some <input type="checkbox"/> High	

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Summary: Two tools for screening for DCD

Strengths

- Easy to administer; minimal time
- Both tests adapted/standardized in multiple countries
- Generally strong reliability, internal consistency for both tests
- Validity: L-DCDQ generally lower in risk groups based on MABC-2
- ??Studies show higher values for specificity than sensitivity**

Limitations/Weaknesses

- Sensitivity and specificity based primarily on MABC-2 (Brazil used BOT-2)
- Screens for DCD, not dyspraxia
- MABC-2 is most frequently used test but not agreed on as “gold standard”
- Most studies did not meet standard of 80% sensitivity (APA, 2013) for sensitivity
- Cross sectional designs (longitudinal is better)

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Grace Baranek

*PhD, OTR/L, FAOTA
University of Southern California*

Sensory Experience Questionnaire (SEQ)

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Sensory Experiences Questionnaire (SEQ)



Grace T. Baranek, PhD, OTR/L, FAOTA

Associate Dean and Chair, and

Mrs. T. H. Chan Professor of Occupational Science and Occupational Therapy
and Director, insp!re lab, University of Southern California

Presented at the STAR Institute Symposium – October 6, 2023

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Overview of the Sensory Experiences Questionnaire (SEQ)

- Theoretical Framework
- SEQ & SPA: Complementary Assessments
- About the SEQ version 3.0
 - Intended populations
 - Design
 - Scoring & Interpretation
 - Reliability and Validity
 - Research and Clinical Use

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About the Sensory Experiences Questionnaire (SEQ) Version 3.0 (Baranek, 2009)

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About the SEQ v. 3.0, continued

- Caregiver-report measure of the child’s behavioral responses to sensory experiences in the context of daily life activities and routines
- 105 items: 97 quantitative items on a 5-point Likert scale & 8 open-ended items
- Approximately 15-20 minutes to complete
- Freely available
- Valid for use with children ages 2-12 years, especially autism & DD
- Questions are grouped by modalities across social and nonsocial contexts
- Available in English and Spanish (and Mandarin coming soon); other language translations available from collaborators internationally
- Items written at a 7th grade reading level

I. The following questions relate to your child's experiences with sound .					
How often does your child...					
	Never/ Almost Never	Once in a While	Sometimes	Frequently	Almost Always/ Always
1. ... react sensitively (startle easily or cover ears) to unexpected or loud sounds (such as a vacuum cleaner, door closing, or siren)?					
2. ... hum or make noises to tune out or avoid other sounds?					
VII. Additional questions. Please check one and comment below where applicable.					
98. Thinking about your child's behaviors since birth, how often has your child experienced sensations (sound, sight, touch, taste, smell, or movement) differently from other children?					
	Never/ Almost Never	Once in a While	Sometimes	Frequently	Almost Always/ Always
DESCRIBE (if applicable): _____					

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Intended Population: Autism, DD & Other Neurodevelopmental Conditions

- Research has demonstrated the validity and reliability of the SEQ in community samples, children with autism, and other neurodevelopmental disorders (Ausderau et al., 2014; Lee et al., 2022; Little et al., 2011; Baranek et al., 2006).

<p>Original Paper Published: 06 October 2013</p> <p>National Survey of Sensory Features in Children with ASD: Factor Structure of the Sensory Experience Questionnaire (3.0)</p> <p>Karla Ausderau , John Sideris, Melissa Furlong, Lauren M. Little, John Bulluck & Grace T. Baranek</p> <p><i>Journal of Autism and Developmental Disorders</i> 44, 915–925 (2014) Cite this article</p>	<p>Research Article</p> <p style="text-align: right;">AJOT</p> <p>Sensory Features of Young Children From a Large Community Sample: Latent Factor Structures of the Sensory Experiences Questionnaire (Version 2.1, Short Form)</p> <p><small>Helen Lee, Yun-Ju Chen, John Sideris, Linda R. Watson, Elizabeth R. Crais, Grace T. Baranek</small></p>
<p>BRIEF REPORT ONLINE MARCH 01 2011</p> <p>Psychometric Validation of the Sensory Experiences Questionnaire</p> <p></p> <p><small>Lauren M. Little, Ashley C. Freuler, Marisa B. Houser, Lisa Guckian, Kristin Carbine, Fabian J. David, Grace T. Baranek</small></p> <p><small>+ Author & Article Information</small></p> <p><small>The American Journal of Occupational Therapy, 2011, Vol. 65(2), 207–210</small></p> <p><small>https://doi.org/10.5014/ajot.2011.000844</small></p>	

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Design of the SEQ v.3.0

Each item is assigned to:

- One of four Sensory Response Pattern subscales (HYPO, HYPER, SIRS, or EP),
- One of two Context subscales (Social or Non-Social),
- And one of six Modality category subscales (Visual, Auditory, Tactile, Taste/Smell, Vestibular/Proprioceptive or Multi-Modal)
- Items are coded within the questionnaire as well as listed in the scoring manual and scoring algorithm.

65.	... seem fascinated with particular tastes?	G-SS-N
66.	... notice smells before other people do (such as perfume, smoke, or food)?	G-EP-N
67.	... seem fascinated with particular smells?	G-SS-N
68.	... mouth, suck, or chew his/her hands or fingers?	G-SS-N
69.	... seem to be unaware of strong or unpleasant smells that most other people notice (such as rotting food, ammonia, or perfume)?	G-HO-N

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Scoring & Interpretation of the SEQv3.0

- Quantitative items use Likert-type scoring with a range of 1 to 5
 - (Almost never =1 ; Almost Always =5)
 - Five “control” items are omitted from score
- Scores can be calculated for
 - Sensory Response Patterns
 - Modality Categories
 - Context (Social/Nonsocial)
- Qualitative items may inform clinical reasoning or treatment planning
- NOTE: The SEQv2.1 also has a section to identify caregiver strategies used in response to the child’s sensory behaviors

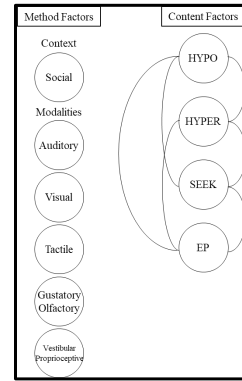


Figure 1. Intercorrelations among factors on the SEQv3.0 - reproduced from Ausderau et al., 2014.

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Reliability & Validity of the SEQ

- The SEQ showed good inter-rater reliability (Little et al., 2011), stability over time (Baranek et al., 2019) and construct validity (Ausderau et al., 2014; Lee et al., 2022).
- The SEQ showed strong ability to discriminate between children with autism, other diagnoses, or typically developing children (Baranek et al., 2006).
- The SEQ Sensory Response Patterns predicted outcomes in children’s activity participation, activities of daily living, social-communication, restricted/repetitive behaviors and family functioning (Boyd et al., 2010; Watson et al., 2010; Kirby et al. 2019, Little et al., 2015; Chen et al., 2022; Chen et al., 2022)
- The SEQ sensory subtypes were shown to be differentially predictive of adaptive & maladaptive behavior, and parent stress (Ausderau et al., 2016)

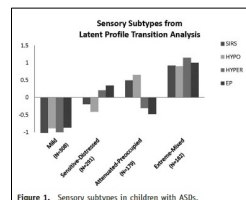


Figure 1. Sensory subtypes in children with ASDs.

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Research & Clinical Utility of the SEQ

- The SEQ has been used extensively in research, particularly with children with autism, DD and typical development. (Ausderau et al., 2014; Ausderau et al., 2016; Baranek et al., 2008; Baranek et al., 2006; Lee et al., 2022; Walz & Baranek, 2006)
 - Subtyping studies capture the heterogeneity of sensory features in people with autism.
 - The SEQ sensory response patterns are predictive of child developmental and functional outcomes.
- We are looking for more collaborators who would like to use it in their clinical settings.
 - If interested, please contact Dr. Julia Lisle, manager at the insp!re lab at inspirelab@chan.usc.edu

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SEQ Norming Study: Help us recruit caregivers of typically-developing children 4-12 years old.

- Caregivers complete the online questionnaire to support understanding of sensory patterns of typically developing children 4-12 years old; entered into a raffle for gift cards.
- Scan the QR code for more information:



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IRB # UP-22-009900
Approved: 12/23/2022

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Acknowledgements

Thank you to the insp!re lab team, especially those who helped to assemble this presentation: Julia Lisle, Tony Tang, Savannah Gluck, and Elizabeth Nye



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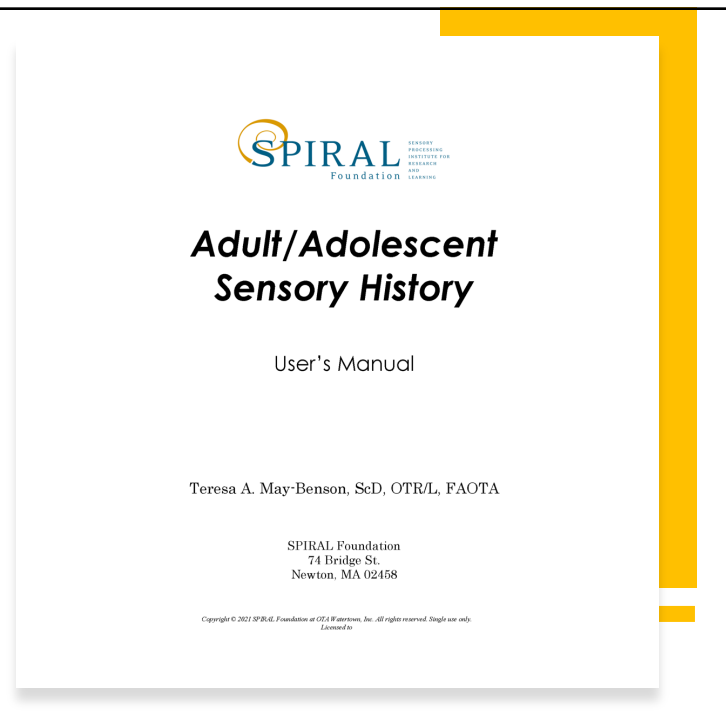
Adult/Adolescent Sensory History

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An Introduction to the Adult/Adolescent Sensory History (ASH)

Sarah Sawyer
SPIRAL Foundation
OTA The Koomar Center



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Introduction

- Self-report assessment of sensory and motor behaviors
- Primary purpose to assist in identification of adults and adolescents who experience sensory and motor difficulties
- Secondary purpose assist therapists in clinical reasoning when creating interventions
- Designed for individuals 13-95 years
- Appropriate for use with a range of developmental, educational and mental health differences.

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Rationale

- ASH began as a clinical sensory history in 1994 developed by Jane Koomar and therapists at OTA The Koomar Center.
- No other measure of adult sensory processing existed at that time.
- Growing population of adolescents and adults with sensory processing challenges.
- ASH specifically identifies patterns of sensory processing identified as part of Ayres Sensory Integration® theory – sensory modulation and sensory discrimination.
- Also examines functional skills in postural control, praxis and social-emotional skills.

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The *Adult/Adolescent Sensory History* consists of the following components:

-
- *User's Manual*
 - *Self-Report Questionnaire*
 - *Caregiver Questionnaire*
 - *Abridged Self-Report Supplement to the Caregiver Questionnaire*
 - *Medical History Supplement*
 - *Adult/Adolescent Sensory History Scoring Program®*

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Administration Time

- Adult/Adolescent Sensory History
 - Self-report or caregiver: 15-20 mins
- Supplemental form: Up to 30 mins
 - If needed
- Medical History: 20 mins
- Scoring program: 10-15 mins

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Self-Report Questionnaire

- 163 questions.
- Responses on a 5-point Likert scale of Never to Always.
- (1=Never, 5=Always)
- High scores indicate greater challenges in each area



Adult/Adolescent Sensory History Self-Report Questionnaire

Jane Koome, PhD, OTR/L, FAOTA & Teresa May-Hemmen, ScD, OTR/L, FAOTA
(Contributed by Maah Harewitz, Rebecca Kubler-Rain, Stacy Saklar)

GENERAL INFORMATION		Date:
Name: <small>(First) <small>(Last)</small></small>		Age: <small>Years</small>
Gender identity:		Pronoun:
Reason for referral:		
What do you hope to gain from this evaluation and/or treatment?		

Scoring Key:
 5 = You **almost Always** respond this way (e.g., more than 95% of the time)
 4 = You **Often** respond this way (e.g., about 70 - 95% of the time)
 3 = You **Sometimes** respond this way (e.g., about 30 - 69% of the time)
 2 = You **Rarely** respond this way (e.g., about 5 - 29% of the time)
 1 = You **Never** respond this way (e.g., less than 5% of the time)

INSTRUCTIONS: Please select the response, from the scoring key, that best describes how frequently you routinely have a response. Refer to the scale when answering. If you are unsure about a response, answer to the best of your ability and clarify in the comments section. If you have not experienced a response, score as Never and indicate this in the comments section. **You must provide a response to all questions.**
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Caregiver Questionnaire

- 163 Questions
- Responses on a 5-point Likert scale of never to always
- (1=Never, 5=Always)
- High scores indicate greater challenge in each area.



**Adult/Adolescent Sensory History
Caregiver Questionnaire**
Jane Koomar, PhD, OTR/L, FAOTA & Teresa May-Ransom, SCD, OTR/L, FAOTA
(Contributors: Mary Mandy, Therapist, Rebecca Kuller-Ross, SLP, SLP)

GENERAL INFORMATION Date: _____

Name: (First) _____ (Last) _____ (Nickname) _____ Age: _____ Years

Gender identity: _____ Pronoun: _____

Reason for referral: _____

What do you and/or the individual hope to gain from this evaluation and/or treatment? _____

Scoring Key:
 5 = You **almost Always** respond this way (e.g., more than 95% of the time)
 4 = You **Often** respond this way (e.g., about 70 - 95% of the time)
 3 = You **Sometimes** respond this way (e.g., about 50 - 69% of the time)
 2 = You **Rarely** respond this way (e.g., about 5 - 29% of the time)
 1 = You **Never** respond this way (e.g., less than 5% of the time)

INSTRUCTIONS: Please check the box that best describes how frequently the individual routinely has a response. Refer to the scale when answering. If you are unsure about a response, answer to the best of your ability and clarify in the comments section. If they have not experienced a response, score as Never and indicate this in the comment section. **You must provide a response to all questions.**

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Abridged Self-Report Supplement

- Complements the Caregiver Questionnaire
- 63 items from the self-report questionnaire
- Clear and simple language to support engagement
- May be read to the individual
- 3 responses (no, a little, a lot)



**Adult/Adolescent Sensory History
Abridged Self-Report Supplement**
Aileen Wheeland, OTD, OTR/L & Teresa A. May-Ransom, SCD, OTR/L, FAOTA

Name: _____ Date: _____

Age: _____ Gender: _____ Preferred Pronouns: _____

Person assisting with survey: Patient (specify) _____ Other (specify) _____

Please indicate for each question whether the item in question bothers you not at all, a little or a lot.


Touch/Tactile			
Modulation			
1. Does it bother you to have your hair cut?	No	A little	A lot
2. Do a lot of clothes feel itchy to you?	No	A little	A lot
3. Do small cuts on your skin really bother you?	No	A little	A lot
4. Do little bumps on your skin bother you?	No	A little	A lot
5. Does it bother you to wear winter clothes, like hats or gloves?	No	A little	A lot
6. Do you like it when people hug you a lot?	No	A little	A lot
7. Does it bother you if someone touches you unexpectedly?	No	A little	A lot
8. Does it bother you to get water on your face?	No	A little	A lot
9. Does it bother you to be barefoot?	No	A little	A lot
Discrimination			
10. Do you like to chew on your clothes?	No	A little	A lot
11. Do you like to touch things a lot?	No	A little	A lot
12. Is it hard to tell if you have food on your face?	No	A little	A lot
Movement			
Modulation			
13. Does it bother you if someone wrestles with you?	No	A little	A lot
14. Do you like to rock in your chair?	No	A little	A lot
15. Are you afraid of heights?	No	A little	A lot

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Medical History

- Structured format to obtain birth and developmental history
- Current Medical Status
- Background Information
- Supplementary
- This information is not required or scored
- Important considerations in comprehensive evaluation

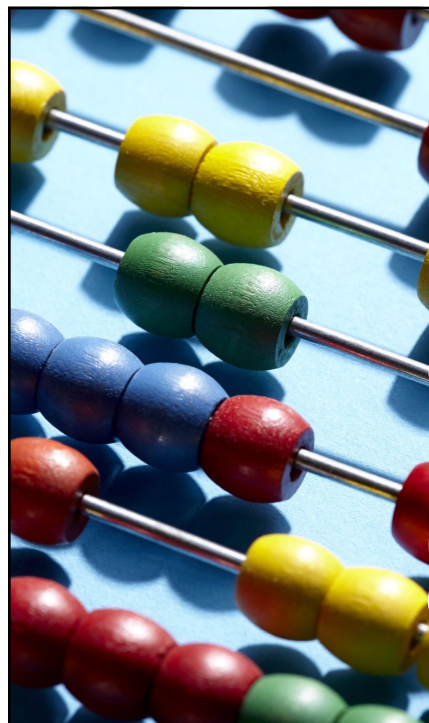


**Adult/Adolescent Sensory History
Medical History Supplement**
Jane Koomar, PhD, OTR/L, FAOTA & Teresa May-Benson, S.D., OTR/L, FAOTA
(Contributions by Mandy Harwitz, Rebecca Kahler-Rohr, Stacy Sallio)

GENERAL INFORMATION		Date:
Person Completing History:	<input type="checkbox"/> Self <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Other (specify)	
Name:	(first name) (last name)	Birth Date:
Do you have a name you prefer that is different from the one above? If yes, specify:		
Person to contact in case of emergency:		
(relationship)	(name)	(phone number)
Physician:	(name)	(phone number)
Referred by:	(name)	(address) (profession)
MEDICAL INFORMATION		
Do you have any of the following? Check all that apply:		
<input type="checkbox"/> ADD/ADHD	<input type="checkbox"/> Anxiety Disorder (specify)	
<input type="checkbox"/> Autism Spectrum Disorder	<input type="checkbox"/> Cognitive Delay	
<input type="checkbox"/> Down Syndrome	<input type="checkbox"/> Mood Disorder (specify)	
<input type="checkbox"/> Fragile X Syndrome	<input type="checkbox"/> Learning Disability (specify)	
<input type="checkbox"/> Tourette's Syndrome	<input type="checkbox"/> Non-Verbal Learning Disability	
<input type="checkbox"/> Other (specify)		
Are you color blind?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have you had a vision test recently?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, when?	
Have you had a hearing test recently?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, when?	
What were the results of any recent hearing and vision tests?		
List any medications you are currently taking:		
Are there any medical precautions the therapist should be aware of when working with you?		
Are you concerned you may have medical/psychological problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe:	

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Results

- Standardized scores
- Total score
- Sensory areas
- Functional areas
- Motor coordination
- Social Skills

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Scoring the ASH

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Adult/Adolescent Sensory History Data Entry Form
Teresa May-Benson, SLD, OTR/L, FACTA & Alison Teasdale

Scale: 5 - Always 4 - Often 3 - Sometimes 2 - Rarely 1 - Never

	Visual	Auditory	Movement	Taste & Smell	Touch	Proprioception	Postural Control	Motor Learning	Social Emotional
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									

- Download Excel Program
- Input raw scores
- Missing data (up to 10%)
- Replaced mean of section
- Some responses (driving/shaving/flying) can be marked as not applicable and do not impact score

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Date Entry

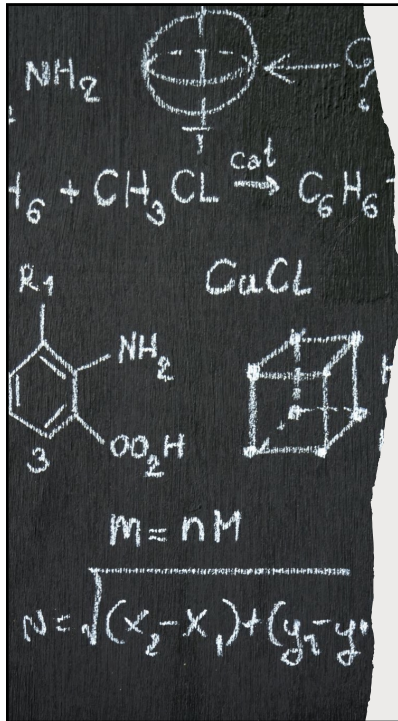
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Adult/Adolescent Sensory History Data Entry Form
Teresa May-Benson, SLD, OTR/L, FACTA & Alison Teasdale

Scale: 5 - Always 4 - Often 3 - Sometimes 2 - Rarely 1 - Never

	Visual	Auditory	Movement	Taste & Smell	Touch	Proprioception	Postural Control	Motor Learning	Social Emotional
1	3	2	1	2	2	2	5	1	
2	2	2	2	1	2	3	5	2	
3	1	2	Never flown	2	2	4	5	3	
4	4	2	4	3	1	1	5	1	
5	5	2	5	2	1	2	5	1	
6	2	1	1	1	1	3	5	5	
7	2	2	2	1	1	1	5	4	
8	2	1	2	2	2	2	5	3	
9	2	2	1	1	1	1	5	3	
10	1	3	1	3	1	2	5	3	
11	1	2	2	3	2		5	3	
12	2	2	2	2	2				
13	5		3		3				
14	2		2		2				
15	1		2		2				
16	4		1		1				
17	1		3		1				
18	5		4		1				
19	1		3		2				
20	1		1		3				
21	1		4		1				
22	1		3		2				
23	1		5		1				
24	1		1		2				
25	1		1		1				
26	4		2		1				
27	3		1		1				
28	3		1		2				
29	3				1				
30					2				
31					1				
32					1				
33					1				

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Interpretation of ASH Scores

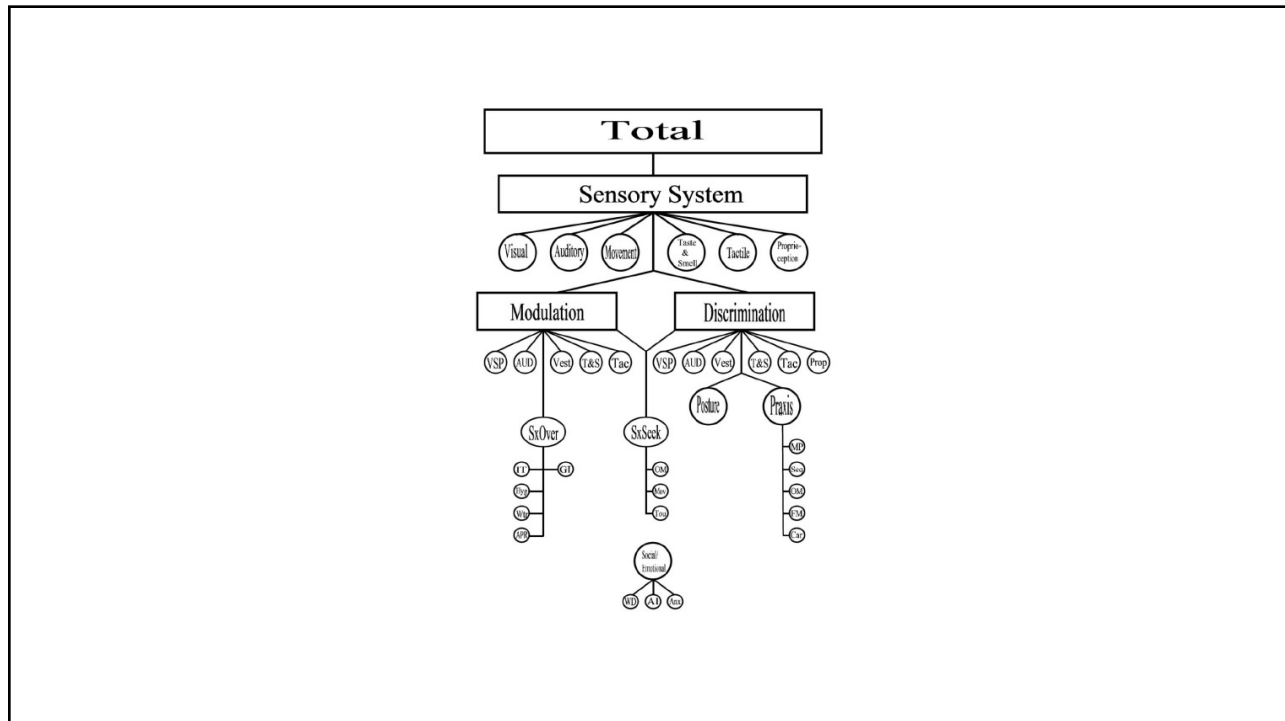
Scoring options:

- z-scores: mean = 0.0, SD = 1.0
- Scaled scores: mean = 100, SD = 15
- Typical Performance: -1.0 and greater
- Mild Difficulties: -1.0 to -2.0
- Definite Difficulties: less than -2.0

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Adult/Adolescent Sensory History Report Form Tessa May-Bazam, S.D., OTR/L, FAOTA						
Name: AT			Date of completion: December 5, 2022			
Gender: Female			Age: 37			
Person(s): She/Her			Person completing form: Self			
<small>Score may be displayed as positive (n = 0.0, sd = 1), or standard score (n = 100, sd = 15). Select preferred score in drop down box to right.</small>						
Raw Score			Scaled Score			Interpretation
Total Score			444			-2.60
Sensory Section Subscores			Functional Problem Subscores			z-scores
Visual-Spatial Processing	67	-1.65	Mild	Visual Seeking: Oral-Move	10	-0.62
Auditory & Language Processing	44	-2.29	Definite	Swak Movement	7	1.12
Movement (Vestibular Processing)	77	-2.33	Definite	Swak Touch	8	-0.34
Taste & Smell	13	1.28	Typical	Sensory Over-Responsivity		
Touch (Tactile Processing)	72	-1.26	Mild	Discomfort with Injured Touch	16	-0.98
Proprioception	24	-1.19	Mild	Tactile-Rated Hypaia	9	-1.75
Sensory Modulation & Discrimination Subscores			Motor/Social Section Subscores			
Modulation	138	-1.24	Mild	Discomfort with Time	11	-1.34
Visual	20	-0.63	Typical	Atypical Pain Response	5	0.02
Auditory	24	-1.60	Mild	Generational Insecurity	34	-2.62
Vestibular	26	-1.92	Mild	Postural Control	20	-0.99
Taste & Smell	6	1.37	Typical	Motor Coordination	55	-1.50
Tactile	53	-1.00	Mild	Motor Planning	30	-1.50
Discrimination	159	-2.00	Definite	Sequencing	25	-1.50
Visual	36	-2.25	Definite	Oral Motor Planning	17	-2.34
Auditory	20	-2.68	Definite	Fine Motor	23	-1.50
Vestibular	51	-1.98	Mild	Difficulties Driving a Car	11	-2.50
Taste & Smell	7	0.89	Typical	Social/Emotional	65	-1.50
Tactile	19	-1.57	Definite	Withdrawn/Depressed	26	-2.66
Proprioceptive	26	-0.66	Typical	Aggressive/Impulsive	23	-2.52
				Anxious	16	-1.50

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User Qualification

- The *Adult/Adolescent Sensory History* may be administered by many professional individuals with diverse backgrounds.
- Occupational therapists, physical therapists, and speech-language pathologists are most likely
- Additional providers may include medical or mental health professionals such as social workers, psychologists, psychiatrists; or educational professionals such as teachers or guidance counselors.
- Any professional using this measure should be thoroughly familiar with Ayres Sensory Integration® theory.
- Any individual administering the *Adult/Adolescent Sensory History* must familiarize themselves with the test manual and test forms.
- They should be familiar with the questions, rating scale and scoring profiles.

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Test Considerations

- Self report measures should always be supplemented with a comprehensive direct assessment by a qualified professional.
- Measure can be used to screen individuals for sensory processing challenges, provide additional information to a comprehensive Sensory Integration based assessment and to inform TX planning but is NOT a stand-alone assessment.



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ASH Accessibility

- Spanish US & European
- German
- Translated in Danish – available soon
- Turkish – In process
- Short report with psychometrics – Normative Sample and Reliability and Validity www.thespiralfoundation.org

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References

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- Bundy, A. C., and Lane, S. J., (Eds). (2020). *Sensory Integration Theory and Practice* (Third ed.). Philadelphia, PA: F.A. Davis
- May-Benson, T. A. (2015). *Adult/Adolescent Sensory History: User's Manual*. Newton, MA: SPIRAL Foundation.
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2023 STAR
Sensory Symposium

Heather Kuhaneck

PhD, OTR/L, FAOTA
Southern CT State University

The Classroom Sensory Environment (CSEA)


The views expressed in the following presentation are those of the presenter(s) and do not necessarily reflect those of STAR Institute.

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THE CSEA

Classroom Sensory Environment Assessment

Heather Miller Kuhaneck PhD OTR/L FAOTA



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My collaborator- Dr. Kelleher, PhD

- Executive Director of Vermont Family Network (VFN) whose mission is to empower and support all Vermont children, youth, and families, especially those with disabilities, and special health needs.
- VFN is also the federally designated Parent Training Information Center, a requirement of the IDEA Part D. Prior to VFN, Jacqui worked as the State Director of Special Education with the Vermont Agency of Education where she oversaw the implementation of special education policies, practices, and procedures with federal and state laws for districts in the state. Over her 25-year career, Jacqui also served as a teacher, administrator, professor, trainer, consultant, and evaluator. Jacqui’s doctoral work dually focused on measurement, evaluation and assessment, and Cognition & Instruction. She is the parent of four adult children with disabilities, including autism, ADHD, and generalized anxiety disorder. In January, Jacqui collaborated with Vermont Public as a panelist, with her autistic children, on Building Supportive Communities.



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CSEA Description

- The CSEA is a classroom mapping tool
- Completed by the teacher in the classroom
- Meant to inform collaboration between the teacher and the occupational therapist
- Assist teachers in understanding how specific aspects of their room design can impact learning for some students



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IMPORTANT NOTE

- THE CSEA does not give a classroom score or rate a room as "good" or "bad" and this is intentional!
- There is no standard score or any comparison between classrooms.
- However, by examining the number and level of items rated over time, it can be used descriptively to document that a teacher changed a classroom in response to OT intervention, consultation, or collaboration.

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History

- Interprofessional project started by a special college level grant given by the Dean
- Dr. Jaqueline Kelleher (SPED) and I worked together to design and implement a descriptive study of classrooms in our state
- Multiple phases of development supported by further small institutional grants
- Began in 2012 (yes, 2012!!!!)


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Phase 1

- We observed 18 classrooms in urban, suburban, and rural areas of the state
 - Video recorded the classroom in its entirety (without students present)
 - Measured light levels with a light meter
 - Measured noise levels with a decibel meter
 - We interviewed each of the teachers
- We completed two focus groups with regular and special educators (n=9)
- Purpose was to document all the types of sensory experiences occurring in classrooms and teacher's perceptions of their classroom sensory experiences
- Result was first draft of the tool

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Phase 2 and 3

Piloting the first draft in classrooms

Revisions and piloting the 2nd draft, with another focus group

Examination of inter-rater reliability with 6 pairs of teachers and either the school OT or a student research assistant

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Further Development of the Tool

- Phase 4 included a descriptive study of 159 elementary classrooms (152 with usable data)
- Results from this study can be found in the 2015 AJOT paper
<https://research.aota.org/ajot/article/69/6/6906180040p1/6049/Development-of-the-Classroom-Sensory-Environment>



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Qualitative results

- Pre-service teachers (n= 142) used the CSEA to rate classrooms and responded with written data regarding their reflections after using the tool
- Themes included the process led to greater awareness, driven to distraction, and the sights and sounds of a classroom
- Results can be found in JOTSEI paper
<https://www.tandfonline.com/doi/abs/10.1080/19411243.2018.1432442>



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MSOT Student Capstone Projects Along the Way

OT students examined teacher perceptions of most and least bothersome sensory experiences

OT students asked teachers to rank order visual and auditory experiences in relation to their amount of distraction, and then asked them what they attended to, to do so

Students examined IRR with classroom teachers



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Current Version and Usage

◦ Academic Therapy will be publishing the CSEA (this fall????)

<https://assessments.academictherapy.com/search?keywords=CSEA>

◦ We have been working for a few years on creating an online mapping tool that will provide teachers with a visual of their classroom, using a graphic to highlight the types of sensory experiences in their rooms and specific things that may be overstimulating for students based on expert therapist review (and some suggestions for how to change the room to make it more comfortable)

◦ It is NOT a tool that will give you a standard score or information about "average" or "good" classrooms (again, this was intentional)

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USING THE CSEA FOR COLLABORATION

Described in Kuhaneck and Kelleher (2018b), multi-step process

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Resources for More Information

❖ Website <https://www.classroomsensoryenvironment.com/> (still being developed and tweaked)

❖ AJOT paper about CSEA development

<https://research.aota.org/ajot/article/69/6/6906180040p1/6049/Development-of-the-Classroom-Sensory-Environment>

❖ JOTSEI paper about teacher education using CSEA

<https://www.tandfonline.com/doi/abs/10.1080/19411243.2018.1432442>

❖ AOTA SIS 1/4ly paper about collaboration

https://digitalcommons.sacredheart.edu/ot_fac/79/

❖ Poster of MSOT student project with teachers

https://www.researchgate.net/publication/329101376_Classroom_Sensory_Environment_Assessment_CSEA_General_educators_perceptions_of_the_most_bothersome_visual_and_auditory_characteristics_of_a_classroom



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