Assessing Sensory Strengths and Challenges

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About the Author

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Sensory Profile 2 Overview

Age Range:
Birth – 14:11

Administration Options:
Paper-and-pencil or online through Q-global™

Completed by:
Caregiver and/or teacher

Scoring Options:
Manual Scoring or Q-global™

Sensory Profile 2 Forms

Infant Sensory Profile 2: Birth-6 months
- Spanish available

Toddler Sensory Profile 2: 7-35 months
- Spanish available

Child Sensory Profile 2: 3-14 years
- Spanish available

Short Sensory Profile 2: 3-14 years
- Spanish available

School Companion Sensory Profile 2: 3-14 years

What is the Sensory Profile 2?

- Family of assessments
  - Evaluate sensory processing in children

- Helps identify the effect of sensory processing on functional participation in a child’s:
  - Home
  - School
  - Community
What is the Sensory Profile 2?

• A set of judgment-based caregiver or teacher questionnaires.

• Information collected helps formulate hypotheses.

• Parents and/or teachers (with regular contact with the child) complete the questionnaire.

• Patterns of responses indicate the child’s sensory processing patterns.

Sensory Processing is NOT a unitary construct

Everyone falls somewhere on EACH continuum

Appropriate Uses of SP2

• Contribute to determining eligibility for services.

• Data provides information for intervention planning within a multi-tiered model of support.

• Data provides a vehicle for discussion.

• Data are combined with other data (ex. Siblings)

• NOT designed to document progress.

Added Data for Diagnoses

• Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5) criteria for Autism Spectrum Disorder includes:
  – Manifestation of “hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment”
    • (American Psychiatric Association [APA], 2013)
  • The Sensory Profile 2 provides a data-based way to document this criteria.

Sensory Profile 2: What’s New?

• Infant, Toddler, Child, Short, and School Companion combined in one kit, with one manual

• Updated content

• Shorter administration time (reduced number of items except Toddler Form)
  – Infant: 36 -> 25
  – Child: 125 -> 86
  – School: 62 -> 44
  – Short: 38 -> 34

• Greater consistency between forms

• Infant and Toddler record forms now on two separate forms
Sensory Profile 2 Overview

**Sensory Profile 2: What’s New?**

- Ability to score online via Q-global
- Ability to compare responses across caregivers with new multi-rater report in Q-global
- Percentile rank added for an additional level of analysis
- Expanded upper age range to 14:11 on Child, School Companion, and Short Forms

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**Example Items & Icon Key**

**New Ratings (1-5)**

When presented with the opportunity, my child...

- **Almost Always** responds in this manner (Almost Always = 5% or more of the time)
- **Frequently** responds in this manner (Frequently = 15% to 49% of the time)
- **Half the Time** responds in this manner (Half the Time = 50% of the time)
- **Occasionally** responds in this manner (Occasionally = 25% to 49% of the time)
- **Almost Never** responds in this manner (Almost Never = 10% or less of the time)

If you are unable to answer because you have not observed the behavior or believe that it does not apply to your child, please check **Does Not Apply**.

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**52% of original items are included in the ISP2**

<table>
<thead>
<tr>
<th>Items used in Original but Not Used in SP2</th>
<th>Items used in Original &amp; SP3</th>
<th>New Items in SP2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GENERAL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>child is active throughout the day</td>
<td>stays quiet and calm</td>
</tr>
<tr>
<td>behavior deteriorates when the schedule changes</td>
<td>stays quiet and calm</td>
<td>needs the same routine to stay content and calm</td>
</tr>
<tr>
<td>has difficulty getting to sleep and is easily awakened</td>
<td>requires help to get to sleep</td>
<td>needs the same routine to stay content and calm</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOUGH PROCESSING</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Items used in Original but Not Used in SP2</td>
<td>Items used in Original AND in SP2</td>
</tr>
<tr>
<td></td>
<td>seems unaware of wet or dirty diapers</td>
<td>becomes upset when having nails trimmed</td>
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</tbody>
</table>

When all babies engage in a behavior, it does not discriminate

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Sensory Profile 2 Overview

Scores: Raw Score based cut scores, percentile ranges, and descriptive categories for:
1. Sensory Patterns Summary (Quadrants)
2. Sensory and Behavioral Sections
3. School Factors (School Companion only)

Combination of sensory events

1. Sensory System Scores
   - General, Auditory, Visual, Touch, Movement, Body Position, Oral
2. Behavioral Scores
   - Behavioral, Conduct, Social Emotional, Attentional
3. Sensory Pattern Scores
   - Seeking/Seeker, Avoiding/Avoider, Sensitivity/Sensor, Registration/Bystander
4. School Factor Scores (School Companion only)
   - Supports, Awareness, Tolerance, Availability

Dunn’s Framework of Sensory Processing

Sensory Sensitivity

- Passive response to a low threshold
- Easily respond to sensory stimuli
- Notice things other people don’t notice
- Highly aware of their surroundings
- Distractible
Sensory Profile 2 Overview

**Sensation Avoiding**
- Actively counteract a low threshold
- Intentional withdrawal or blocking of sensation
- Use of rituals and routines
- Overwhelmed by sensory-rich environments
- Good at creating structured and supportive environments

**Low Registration**
- Passive response with a high threshold
- Miss available sensory input
- Spacey, clumsy
- Under-responsive or slow to respond
- Can focus in distracting environments
- Flexible, comfortable in wide range of environments

**Sensation Seeking**
- Behavioral response to counteract a high threshold
- Enjoys sensory rich environments
- Creates sensation
- Easily bored
- Trouble tolerating low stimulus environments

**Profile: Autism/Asperger**
- More likely to exhibit behaviors in:
  - Sensation seeking, low registration, and sensory sensitivity
- Especially sensitive to auditory and oral motor input

**Profile: Older adults**
- Low scores on Sensation Seeking
- High scores on Low Registration with cumulatively higher scores as people age from 60 – 70 – 80.
Attention Deficit Hyperactivity Disorder

- Differences across all quadrants
- May be more reflective of a modulation problem

Scoring the Sensory Profile 2

Cut score and Classification System

<table>
<thead>
<tr>
<th>Less than Others</th>
<th>Same as others</th>
<th>More than Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>14%</td>
<td>34%</td>
</tr>
<tr>
<td>14%</td>
<td>34%</td>
<td>14%</td>
</tr>
<tr>
<td>2%</td>
<td>14%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Sensory Profile measures are based on the Bell Curve

Administration/Scoring Time

- **Paper and web-based Administration**
  - Infant Sensory Profile 2: 5 to 10 minutes
  - Toddler Sensory Profile 2: 10 to 15 minutes
  - Child Sensory Profile 2: 15 to 20 minutes
  - Short Sensory Profile 2: 5 to 10 minutes
  - School Companion (SP2): 15 minutes

- **Scoring**
  - Manual Scoring: Approx. 15 minutes
  - Web-based administration and scoring: 0 minutes

- **Enhanced Assessment and Planning Report**
  - Adds approx. 15 to 30 minutes to completion time

Sensory Profile 2: Q-global Scoring

1. **Reporting Options in Q-global:**
   - Score Report
   - Item Analysis Report
   - Assessment & Planning Report
     - Helps determine next-steps based on results
   - Multi-rater Report

2. **Administration Options in Q-global:**
   - Ability to administer on-screen in the office, or remotely by sending a link by email through Q-global

Q-global example

<table>
<thead>
<tr>
<th>QUADRANT SCORE SUMMARY</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Processing</td>
<td>64%</td>
<td>Key by the Majority of Others</td>
</tr>
<tr>
<td>Auditory Processing</td>
<td>71%</td>
<td>Key by the Majority of Others</td>
</tr>
<tr>
<td>Sensory Processing</td>
<td>90%</td>
<td>Key by the Majority of Others</td>
</tr>
<tr>
<td>Motor Processing</td>
<td>98%</td>
<td>Key by the Majority of Others</td>
</tr>
</tbody>
</table>

SENSE AND BEHAVIORAL SECTION SCORE SUMMARY

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Reliability and Validity

Normative Information
- 2012-2013 – Stratified sample
- 1791 - Total children
- 337 - Children rated on both child and school forms
- 774 children with disabilities
- Approx. 10% of sample - children with disabilities
- Data collected both digitally and paper/pencil

Reliability Studies
- Test-Retest Reliability
  - “Consistency of a measure from one time to another”
    - Caregiver = .83 - .97
    - School = .66 - .93
- Inter-Rater Reliability
  - “Degree to which different raters give consistent estimates of the same phenomenon”
    - Caregiver: Mostly in .70s and .80s
    - Teacher: Mostly in .70s, .80s and .90s

Validity Studies
- Previous Sensory Profiles
- BASC-2 PRS and SP2 Child/Short forms
- BASC-2 TRS and SP2 School form
- SSIS parent and SP2 Child form
- SSIS teacher and SP2 School form
- Vineland-II and SP2 Infant/Toddler/Child forms
- School Function Assessment and SP2 School form

Spanish Validity
- Spanish caregiver forms for:
  - Infant
  - Toddler
  - Child
  - Short
- Validation with 138 Spanish speaking families
- 3 summary scores with differences (Social Emotional, Conduct, Registration)
- **Advice**: Use English cut scores, but Spanish cut scores available for further analysis

Clinical Comparison Groups
- Discrimination for clinical groups was key for development
- Infant and Toddler forms
  - Developmental Delays
- Child and School Companion forms
  - Autism
  - ADHD
  - Dual diagnosis of ADHD/ASD
  - LD
  - Giftedness
  - Intellectual Disabilities
  - Down Syndrome
  - English as additional language
  - Other vulnerable conditions
Intervention Planning

- Whole chapter on intervention planning to address the 'what next' question
- Whole chapter on case studies to address different scenarios
- Assessment and Planning Report
  - Main function is to support the clinician in relating findings from the questionnaire[s] to participation.

Intervention Strategies (Table B.1)

Case Study: Arnie

- 11 years old, 5th grade

  Teacher concerns:
  - Not available for learning
  - Gets upset with his group for not understanding him
  - Frequently leaves the group and refuses to rejoin them
  - Arnie spends more and more time alone when not required to work on projects

Case Study: BASC-2 TRS

- EXTERNALIZING Behavior:
  - Hyperactivity: 40%ile
  - Aggression: 98%ile
  - Conduct Problems: 85%ile

- INTERNALIZING Behavior:
  - Anxiety: 70%ile
  - Depression: 99%ile
  - Somatization: 30%ile
**Case Study: Observations**

- **OT Observation:**
  - Arnie works well when teacher sends him to library
  - Intolerance for small groups, especially when students are enthusiastic about ideas

**Case Study: SCSP2 Quadrants**

- **Seeking/Seeker**
  - Arnie is just as interested in sensory experiences as the majority of other students

- **Avoiding/Avoider**
  - Arnie is much more likely to be overwhelmed by sensory experiences than other students

- **Sensitivity/Sensor**
  - Arnie detects about the same amount of sensory cues as the majority of other students

- **Registration/Bystander**
  - Arnie notices sensory cues just like the majority of other students

**Case Study: SCSP2 Sensory and Behavioral Sections**

- **Auditory processing**
  - Arnie responds much more to sounds than other students.

- **Visual processing**
  - Arnie responds to sights just like the majority of other students.

- **Touch processing**
  - Arnie responds to touch just like the majority of other students.

- **Movement processing**
  - Arnie responds to movement just like the majority of other students.

- **Behavioral responses**
  - Arnie exhibits behaviors associated with sensory processing much more than other students.

**Case Study: SCSP2 School Factors**

- **School Factor 1 (Need for External Supports)**
  - Arnie needs the same amount of support as the majority of other students

- **School Factor 2 (Awareness and Attention)**
  - Arnie is just as alert and active in the learning environment when compared to the majority of other students

- **School Factor 3 (Tolerance)**
  - Arnie has many more challenges tolerating changes in the routine than other students

- **School Factor 4 (Availability)**
  - Arnie is much more detached from learning than other students

**Case Study: Conclusions**

- Arnie is experiencing Sensory AVOIDING, linked with Aggression and Depression, and has challenges Tolerating changes and is less Available for learning.

- Fleeing groups is likely related to an increased number of students in the classroom making more noise as they interact about their projects.

**Case Study: Interventions**

- Focus on decreasing sensory experiences in daily activities, and focusing on Arnie’s sensory strengths.

- Limit large group exposure and find opportunities for small groups or one-on-one interaction

- Use white noise or calming, repetitious sounds to drown out distracting noises

- Limit long unstructured time (recess)/provide alternatives (quiet place)

- Present information visually rather than verbally to minimize noise and speak to Arnie’s preference to review information in this way

- Manage Depressive and Aggressive behaviors
### Case Study: Kaleb

- **Age:** 2.5
- **Male**

**Difficulty with Self-calming:**
- Since 6 months old
- Always cried while being held and when riding in a car
- Withdrew when upset by “shutting down”
- Stopped interacting with parents and favorite toys

**Developmental team (developmental pediatrician, OT, and developmental psychologist) diagnosed Regulatory Disorder**

**Self-calming has improved, but continues to have limited diet and resists self-care activities (bathing, brushing teeth, etc.).**

### Case Study: Interventions

- **First focus on mealtime**
  - Introduce new foods on a separate plate
  - Do not force him to eat

- **Morning routine**
  - Didn’t want teeth brushed, nails clipped, or baths
  - Deeper water for calming touch
  - Try different washcloths and hand positions
  - Warm bathroom ahead of time

- **Calming touch**
  - Did not like cuddling (mother recoiled)
  - Hold Kaleb firmly while putting on lotion, drying him off

### Case Study: Intervention Outcomes

- Would eat chicken and noodles
- Bath time smiling and reclining on foam sponge; preferred bath “pouf”
- Would let parents hold him to read a book

### Summary

- 4 products now combined into one manual
- Expanded age range to 14:11
- No need to purchase separate forms, scoring summary included
- No double negatives!
- Shorter questionnaires
- Strong theoretical constructs
- Web-based administration and scoring
- Links sensory processing to participation through Assessment and Planning Report
- Strengths-based assessment; positive psychology

### Thank you!

**For more information...**

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