STAR Institute
for Sensory Processing Disorder

# Sensory Processing Disorder (SPD): Assessment using the SP-3D in Relation to Sensory and Relationship-Based Treatment

ct

Lucy Jane Miller, Sarah Schoen, Shelley Mulligan,
Lisa Porter, Robyn Chu & Michele Parkins

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www.spdstar.org





## 1. Introductions and Schedule Lucy Jane Miller, Ph.D., OTR

- Founder and Clinical Director of the STAR Institute for SPD
- Clinical Professor of Pediatrics at the University of Colorado, Denver
- Professor, Rocky Mountain University of Health Professions
- Author, *Sensational Kids: Hope and Help for Children With Sensory Processing Disorder* and *No Longer A SECRET: Unique Common Sense Strategies for Children with Sensory or Motor Challenges*





## Outline of Talk

- 1. Introduction
  - Importance of Assessment
  - Brief History of SPD - Development of Nosology
  - Components of the SP-3D
- 2. Assessment
  - Subtypes in Modulation and Discrimination
  - Subtypes in Posture and Praxis
  - Assessment of FEDL Level
- 3. From Assessment to Report Writing
- 4. From Assessment to Treatment
  - From a Sensory Perspective
  - From a Social - Emotional Perspective
  - Synthesis: The STAR Method: A Process Approach

# 2. Importance of Assessment and History of SP-3D

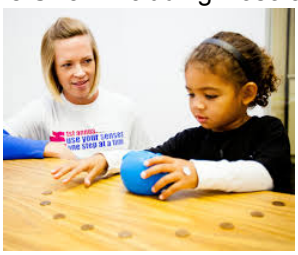
Lisa M. Porter, MOT, OTR/L
Owner/Director, Sensory KIDS, LLC
Faculty, STAR Institute for Sensory Processing Disorder





## Importance of Assessment

History of the SP3D including Nosology







## Why do we test?

- To understand the child's
  - Story
  - Function abilities
  - Strengths
  - Challenge areas
  - Intervention outcomes

## Why do we test?

- To establish as child's ability to
  - Attend
  - Follow directions
  - Relate to examiner





## Process-based Assessment

- The process is a flow of
  - Activities
  - Interactions
  - Experiences





## Process-based Assessment

- Encompasses
  - Clinical reasoning
  - Problem solving
  - Questioning
  - Relationships

## Problem Solving Approach

- Questions to answer
  - How does SPD impact the child's
    - Engagement
    - Participation
    - Function
    - Regulation





## Problem Solving Approach

- Questions to answer
  - Co-morbid diagnoses?
  - Further questions?
  - Other frames of reference?





## Specific Tests of Sensory Processing

- Miller Assessment for Pre-Schoolers (MAP)
- Sensory Integration and Praxis Tests (SIPT)
- The Sensory Processing 3-Dimensions Assessment

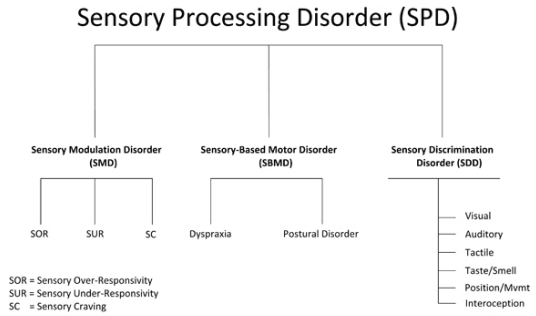
# Out of the Box: Tests Not Typically Seen as Tests of Sensory

- Miller Function & Participation Scales (M-FUN)
- Goal Oriented Assessment of Life Skills (GOAL)
- Bruininks-Oseretsky Test of Motor Proficiency – second edition (BOT 2)





# Bottom Up Approach






*Miller LI et al.,2012*





# Bottom Up Approach – Linking M-FUN Subtests to SPD Nosology

| | | M-FUN | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Visual Motor | | Fine Motor | | | Gross Motor | | | Neurological foundations |
| SPD NOSOLOGY | | | | | | | | | | |
| SENSORY MODULATION | SOR | | | | | | | | | Attention, regulation & control; |
| | SUR | | | | | | | | | Seeks input; regulation; |
| | SC | | | | | | | | | |
| Sensory Discrimination | Tactile | mazes | | Penny bank | origami | | | | | In-hand manipulation; mature grasp |
| | Visual | | | | | snack | | Soccer | jumping | Scanning; FG |
| | Auditory | | | | | snack | | | | |
| | Vestibular | | | Penny bank | | | Statue | soccer | jumping | Bilat coord; timing, balance; ER |
| | Proprioception | mazes | | clay | | snack | Statue | soccer | jumping | Body awareness |
| | Interoception | | | | | snack | | | | |
| PRAXIS | | DAK | | clay | origami | snack | | soccer | | MP; motor accuracy; timing |
| Postural disorder | | mazes | | clay | origami | snack | statue | soccer | jumping | Hand strength; stability, strength; weight shift |

Key: Average; Below Average; Above Average

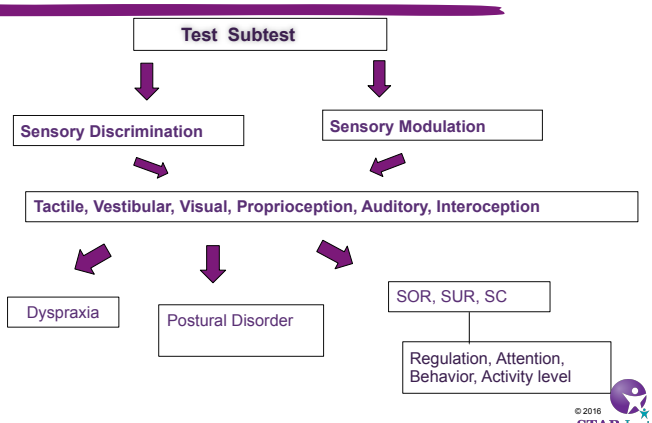
## Test Data vs Performance

- Video Review
- HOW?
- WHICH?
- WHAT?
- WHY?





## Clinical Reasoning in Action



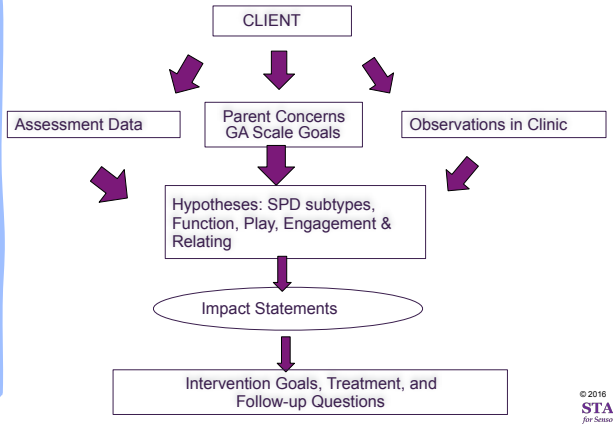





## Top Down Approach

- Unstructured clinical observations
  - Play
  - Behavior
  - Praxis
    - Ideation
    - Motor Planning
    - Motor Execution
  - Sensory Modulation
  - Engagement & Attention
  - Arousal Regulation

## From Assessment to Treatment Planning- Linking Assessment Findings to Presenting Problems







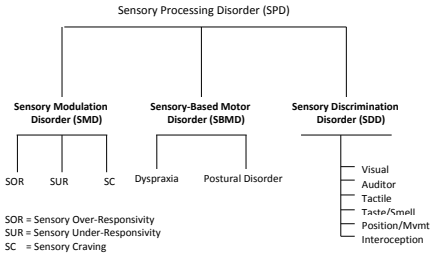

## 3. History of the SP-3D





## Need for the SP-3D Scales

- Tools that are theoretically linked to the new diagnostic classification system
- Proposed taxonomy has come under scrutiny by many researchers




SOR = Sensory Over-Responsivity
SUR = Sensory Under-Responsivity
SC = Sensory Craving

## Need for the SP3D Scales

- Need exists for empirical evidence about the proposed classifications
- Need for a comprehensive assessment of sensory function





## Need for the SP3D Scales

- Diagnostic tools to identify homogeneous samples in research with a measure of directly observed behaviors
- No gold standard exists for the identification of Sensory Processing Disorder

Miller, L.J., Schoen S.A. Mulligan, S.





## Limitations of Existing Measures

- Parent/caregiver questionnaires
  - Screening tools supplement traditional developmental assessments
  - Parent report measures are not always correlated with clinical observations (Ben-Sasson, 2009).
- Teacher questionnaires help to cross validate parent observations

## Unique features of the SP3D Scale: Assessment and Inventory

- Measure of Sensory Modulation
- Measure of Sensory Discrimination
- Measure of Posture and Praxis
- Assesses sensory processing across all sensory domains
- Characterizes adults and children
- Uses direct observation and caregiver/self report
- Links sensory and motor skills to occupational performance





## Research: Pilot Version of SOR

- Group 1:
- Administered to 125 subjects, ages 3-49
  - 51 % males ; 53% sensory over-responsivity
- Reliability
  - Assessment:
    - Inter-rater r = .63 to .89
    - Internal α = .60 to .94
  - Inventory:
    - Internal α = .65 to .97

Schoen, Miller, Green 2008





## Research Edition of SOR

- Group 2:
- Assessment and Inventory reduced
- Findings cross-validated with a new sample
  - n = 92 (44 typicals; 48 sensory over-responsivity)

## Discriminant Validity

- Both group 1 and group 2:
- The Assessment and Inventory discriminated between Sensory Over-Responsive and Typically Developing groups at a meaningful and statistically significant level





## Comprehensive Scale of Sensory Modulation: added SUR and SC

- Assessment
  - High intensity items added to capture SUR
  - Duration with materials increased to capture SC
    - Especially after activity and during transitions
- Inventory
  - SOR subscale
  - SUR subscale
  - SC subscale





## Factor Analysis of the Inventory

- N = 407, 4-18 years
- 267 with SPD; 140 were typical
- Principal Components Analysis
  - Produced 3 factor loadings
  - 90% of the items had factor loadings greater then .4
  - Factors consistent with theoretical structure of taxonomy (SOR, SUR and SC)

Schoen, Miller & Sullivan , 2016

## Psychometrics of the Assessment

- Administered to 128 new sample of children, 4-18 years
- 63 were typical;  65 with SPD
- Coding system for sensory modulation behaviors was validated
- Subtests had strong internal consistency reliability
- All sensory domains differentiated children with SMD from typical controls

Schoen, Miller & Sullivan, 2014





## Cluster Analysis (not published yet)

- Suggests 3 distinct clusters: SOR, SUR and SC
- Confirmed coexistence of posture, praxis and discrimination challenges especially  in the SUR and SC groups
- Challenges in adaptive behavior (e.g. self care, home living, social skills, self direction)
- SC group more aggressive hyperactive, anxious and depressed
- More attention problems in SUR and SC

Miller, Schoen & Sullivan, submitted





## Pre-Post Treatment Data

- Following 30 sessions of STAR therapy
- n = 65
- Diagnosis: SPD
  - SOR significant decrease in symptoms
    - ($p < .001$, ES = .33)
  - SC significant decrease in symptoms
    - ($p < .001$; ES = .52)
  - SUR significant decrease in symptoms
    - ($p < .001$; ES = .44)

Schoen, Miller, Flanagan, in review

# Components of Sensory Processing 3 Dimensions Scale, research

- Performance Assessment for measuring 3 types of SPD:
- Sensory Modulation,
- Sensory Discrimination, and
- Sensory-based Motor Disorder
- The assessment has 8 Domains : Visual, Tactile, Auditory, Vestibular, Proprioception, Postural, Praxis, and Complex Task Domains
- Test kit is provided with toys/supplies and testing materials; test manual, with detailed administration and scoring instructions, training DVD, and score forms
- SP-3D Inventory (report measure completed by caregiver or Self)
- Occupation-Participation Scale (report measure completed by caregiver or Self)





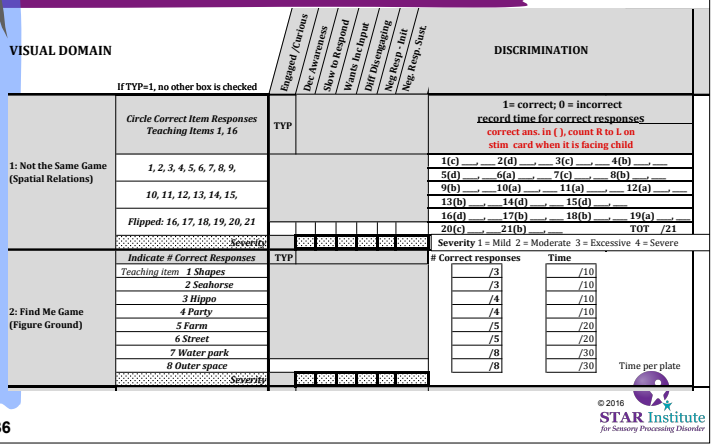
# Performance Assessment: 5 Sensory Domains

- Visual, Tactile, Vestibular, Proprioceptive, Auditory
- Each Domain has a number of subtests (3-6); Subtests include a number of items
- Within each domain some subtests assess modulation, some assess discrimination, and many address both
- Sensory Modulation is assessed by observing for 6 atypical behaviors during the administration of the items; 2 represent sensory over-responsivity, 2 represent sensory under-responsivity, and 2 represent sensory craving
- Sensory Discrimination is scored using quantitative parameters depending upon the task/items, such as the number of correct responses, or time to complete the items





# Visual Domain of Record Form: Discrimination



# Sensory Based Motor Disorders Domain

- Postural Domain has 7 subtests
- Praxis Domain has 6 subtests
  - each subtest like the sensory domains is made up of a number of items
- Quantitative measure of performance based on content of items
  - number of correct responses
  - time
- Examiner observes for 5 atypical motor behaviors:
  - quality of movement
  - motor control





# Praxis Domain of Record Form

| PRAXIS DOMAIN | | ATYPICAL MOTOR BEHAVIORS: Weak / Slow / Awkward / Few Ideas | | DISCRIMINATION | NOTES |
|---|---|---|---|---|---|
| **1: Make a Face Game** | ***Child copies oral movements*** | **TYP** | | **Performs within 5 secs = 1 Unable = 0** | |
| Trial: smile | 8. smack lips 2x | | | **Trial 1** ___ **7** ___ | |
| 2. tongue out past lower lip | 9. "sssssssss" (3 sec) | | | **2** ___ **8** ___ | |
| 3. pucker lips | 10. tongue - up, right, left | | | **3** ___ **9** ___ | |
| 4. puff cheeks | 11. BaGaPa sound | | | **4** ___ **10** ___ | |
| 5. teeth over lower lip | 12. blow 2x, suck 2x | | | **5** ___ **11** ___ | |
| 6. frown | make raspberries | | | **6** ___ **12** ___ | |
| 7. "purrr" "purrrr" | | | | | |
| Severity | | | | | |
| **2: Imitation Game** | ***Child imiates body movements in sitting or standing*** | **TYP** | | **Peforms within 5 secs = 1 Unable = 0** | |
| 1. Teaching item: Both hands on head | 8. R fist taps R lap 2x | | | **1** ___ **9** ___ | |
| 2. L hand on R knee | 9. Stomp R, Stomp L | | | **2** ___ **10** ___ | |
| 3. R arm on R hip; L arm extended, palm up | 10. tap R on L thigh 2x, tap L on R thigh 2x, clap | | | **3** ___ **11** ___ | |
| 4. L fist on top R fist | 11. L hand to forehead, chin; R hand to nose | | | **4** ___ **12** ___ | |
| 5. Arms above head, lean to R | 12. Stomp L, stomp R, stomp both 2x | | | **5** ___ **13** ___ | |
| 6. L elbow on R hand, palm facing out | 13. clap; R fist on R thigh; R palm on R thigh; L fist on L thigh 2x | | | **6** ___ **14** ___ | |
| 7. L heel on R calf, toes out, ankle dorsiflex | 14. R foot on L shin, L foot on R shin, tap R, tapL, R toe | | | **7** ___ **15** ___ | |
| 15. Jump side to side over line 4x | | | | **8** ___ **16** ___ | |
| 16. L hand to R heel, R hand to L heel,bend knees & lift arms, stand up with jump & hands on hips | | | | | |
| Severity | | | | **Severity:** 1 = Mild 2 = Moderate 3 = Excessive 4 = Severe | |

START TIME:





# Complex Tasks Domain

- Tasks that require integration of sensory information from more than one sensory system (4 subtests)
- Many of the tasks also have cognitive demands such as the Draw-a-Person
- Quantitative performance on the items is scored
- Observations are made of Atypical Motor Behaviors
  - (same as used in Posture and Praxis)

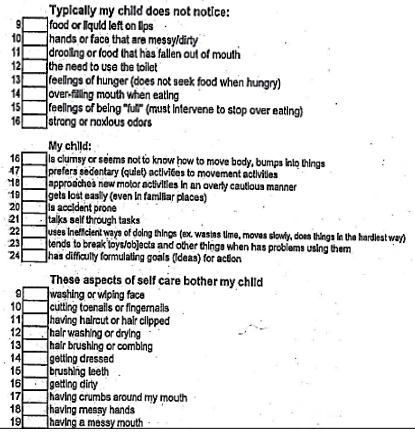
# Sensory Processing 3 Dimensions Inventory

- Has 6 subscales that follow the SPD Nosology,
- Sensory Over-Responsivity, Sensory Under-Responsivity, Sensory Craving, Sensory Discrimination Disorder, Postural Disorder, Dyspraxia
- The Inventory parallels the structure of the SP-3D Performance Assessment
- The Inventory subscales scored using a binary system
  - Respondent indicates whether or not a behavior applies to their child (present = 1; absent =0).
- 30-50 items on each subscale





# Inventory: Sample Items



Typically my child does not notice:

9 food or liquid left on lips
10 hands or face that are messy/dirty
11 drooling or food that has fallen out of mouth
12 the need to use the toilet
13 feelings of hunger (does not seek food when hungry)
14 over-filling mouth when eating
15 feelings of being "full" (must intervene to stop over eating)
16 strong or noxious odors

My child:

16 is clumsy or seems not to know how to move body, bumps into things
17 prefers sedentary (quiet) activities to movement activities
18 approaches new motor activities in an overly cautious manner
19 gets lost easily (even in familiar places)
20 is accident prone
21 talks self through tasks
22 uses inefficient ways of doing things (ex. wastes time, moves slowly, does things in the hardest way)
23 tends to break toys/objects and other things when has problems using them
24 has difficulty formulating goals (ideas) for action

These aspects of self care bother my child

9 washing or wiping face
10 cutting toenails or fingernails
11 having haircut or hair clipped
12 hair washing or drying
13 hair brushing or combing
14 getting dressed
15 brushing teeth
16 getting dirty
17 having crumbs around my mouth
18 having messy hands
19 having a messy mouth





# Occupational Performance and Satisfaction Scale

- Four areas of functioning:
  - Social Relationships and Participation;
  - Participation at Home
  - Participation at School (or preschool), and
  - Community Participation
- Addresses
  - Activities of daily living
  - School-related tasks
  - Play/leisure, and instrumental activities of daily living, and
  - Social relationships

# Occupational Performance and Satisfaction Scale

- Evaluates impact of child's sensory processing abilities, deficits and/or differences on his/her ability to carry out daily activities and routines
- Use to identify areas to target in intervention.
- Caregiver rates each item with a slash
  - child's ability level
  - how satisfied they are with their child's performance

| Ability | | Level of Satisfaction | |
|---|---|---|---|
| Unable | Fully Able | Not Satisfied | Satisfied |

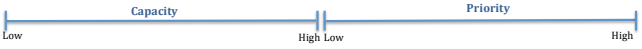




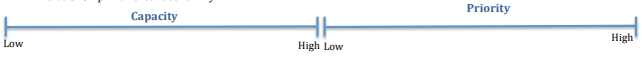
# Occupational Performance and Satisfaction Scale

**Relationships**

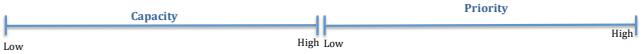
1. Relationships within the family:




2. Relationship with extended family:

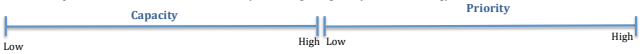



3. Relationships with peers:

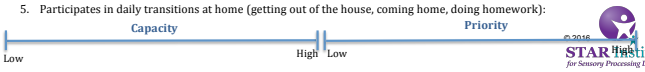



**Routines at home**

4. Completes AM and PM routines at home (bedtime, getting ready in the morning):




5. Participates in daily transitions at home (getting out of the house, coming home, doing homework):



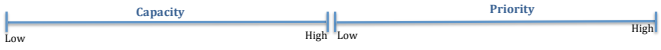




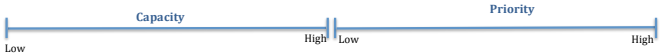

# Occupational Performance Scale, continued

**Family Activities Outside the Home**

10. Participates in family activities outside the home (holiday gatherings, going to a restaurant or movie):

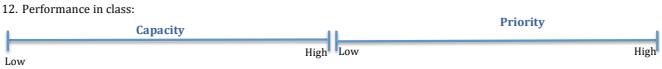



11. Participates in community activities outside the home (church, park, birthday parties):

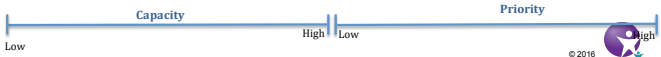



**School Activities**

12. Performance in class:




13. Engages in transitions in school:



# 4. Assessment of Modulation

Lucy Jane Miller, PhD, OTR
Sarah A. Schoen, PhD, OTR





## 4. Sensory Modulation Disorder (SMD)

- Difficulty regulating responses to sensory input - responses are not adjusted to the situation
- Difficulty achieving and maintaining an optimal range of arousal and adapting to challenges in daily life
- To be labeled a “disorder” must be severe enough to disrupt ability to adapt to challenges in daily life





## Sensory Over-Responsivity: Introduction

- Responds too much, too frequently, or for too long to sensory stimuli
- Hyper-sensitivity to sensations e.g. sights, sounds, touch, movement, smells, taste
  - Examples: Bothered by--
    - Smells in a restaurant
    - Being touched unexpectedly
    - Being in a car or up high
    - Loud unexpected sounds
    - Having hair cut or brushed

## Sensory Over-Responsivity: Behaviors

- When overwhelmed by sensory stimulation:
  - Upset by transitions and unexpected changes
  - Aggressive or impulsive
  - Irritable, fussy, moody
  - Unsociable; avoids group activities and has trouble forming relationships
  - Excessively cautious and afraid to try new things
  - Often labeled a “fussy baby,” “difficult,” or “out of control”





## Sensory Under-Responsive

- SUR is less sensitive to and less aware of sensory stimuli than most people
  - Examples:
    - Doesn’t cry when seriously hurt
    - Doesn’t seem to notice when touched
    - Is or was unaware of the need to use the toilet



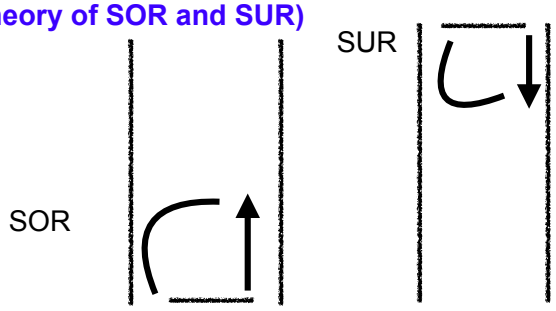


## Modulation: SUR

- When in the presence of sensation:
  - **Poor inner drive, uninterested/unmotivated in exploring world around him/her; only small bands of interests**
  - Passive, quiet, withdrawn
  - Difficult to engage in conversation or other social interactions
  - Easily lost in his own fantasy world
  - Apathetic and easily exhausted
  - Excessively slow to respond to directions or complete assignments

## SOR and SUR Treatment Depends on Theory of Dysfunction

**Assess for Arousal Threshold (Theory of SOR and SUR)**








## Sensory Craving: Behaviors

- Constantly wants control over every situation
- Does not wait turn, interrupts constantly
- Angry or even explosive when required to sit still or stop what he is doing
- Intense, demanding, hard to calm
- Prone to create situations others perceive as “bad” or “dangerous” or disruptive
- Excessively affectionate physically
- Often discharged from schools if behavior is intense enough





## Theory of Sensory Craving: Dopamine related?

- Involved in the highest-level aspects of motor control, which includes motivation and decision-making.
- Plays important roles in:
  - motor control, motivation, arousal, cognition, and reward
  - learning new motor programs
- Dopamine is also arousing; it produces a general increase in movement

## Effect on child with SC if you give a SC more stimulation?

- Give an alcoholic a drink and he will want more.
- Give an SC a spin and he will want more.
- Stimulation must be **interrupted and functional (will discuss more during treatment)**. Do not try to "fill up" a child with sensory craving. They are not under-aroused!





## Sensory Craving

- Seems to have an intense need (insatiable) for sensory stimuli than most people, often in vestibular/ proprioceptive domains
  - Examples:
    - Is on the move constantly
    - Likes/Needs crashing, bashing, bumping, and rough-housing
    - Excessive need for spinning, swinging or rolling
    - Constantly touches objects and/or intrudes on people
    - Hard to inhibit verbalizations; trouble turn-taking in conversation
    - Seeks vibration; watches spinning objects





## What is Discrimination?

- The ability to process the spatial aspects, temporal aspects and amplitude of a sensation

## What do we THINK about the sensation?

(Credit: iStockphoto/Guido Vrola)





## Frontal Lobe

- Frontal lobe is the site of interconnections and feedback loops between the major sensory and major motor systems
- It is primarily how info about external environment & internal state comes from posterior cortex and from limbic system (converging in anterior portion of frontal lobes = prefrontal cortex)





## Discrimination Disorders

- Visual Discrimination
- Auditory Discrimination
- Proprioceptive Discrimination
- Vestibular Discrimination
- Tactile Discrimination
  - Example follows of this one

## Two types of scores: Discrimination and Modulation rating

DISCRIMINATIVE scores

- Scores are quantitative measurements based on operationally defined parameters for measuring specific performance characteristic
  - Uses quantity or criterion indicators.
- Common examples of ways of measuring discrimination items include:
  - Number of items performed accurately, and
  - Time required to complete a task.





## Modulation Ratings





## Typical Rating

- Modulation is like that of a child who is typically developing
- No atypical behavior scores are marked for that item or subtest.
- Typical responses have the following characteristics:
  - Handles materials well and maintains attention to tasks
  - Separates from items easily and converses with examiner
  - Aware of external sensory stimuli but is able to maintain focus and Persists with tasks, remains calm, and enjoys the challenge
  - Follows directions, completes tasks as directed,
  - Has novel/flexible ideas of how to play and interact with materials,
  - Initiates and terminates activities with minimal cueing or assistance.

## SOR Rating

- Anxious/concern: Demonstrates anxious or worried behaviors in anticipation of a negative experience and/ or a brief/subtle negative response
  - Adverse: Displays discomfort, dislike or a significant adverse response that may last for all or most of the duration of the item, and which may persist following the task. Child might withdraw or refuse to do the item.





## SUR Rating

- *1) Decreased Awareness:*
  - Appears withdrawn, unaware, "in their own world,"
  - Responds with a flat affect
- *2) Slow to Respond:*
  - Eventually does respond but demonstrates a slow or delayed response
  - Often needs extra cues to initiate response





## SC Rating

- *1) Wants Increased Input:* Child attempts to or creates a way to derive more input than task requires
- *2) Difficulty Disengaging:* Child wants to continue tasks and resists transition to the next task

# Domains:

- Domains measured:
  - Visual
  - Tactile
  - Vestibular
  - Proprioception
  - Auditory





# Visual Domain of Record Form: Discrimination

| VISUAL DOMAIN | If TYP=1, no other box is checked | Engaged /Curious | Dec Awareness | Slow to Respond | Wants Inc Input | Diff Disengaging | Neg Resp - Init | Neg Resp- Sust. | DISCRIMINATION |
|---|---|---|---|---|---|---|---|---|---|
| | *Circle Correct Item Responses Teaching Items 1, 16* | TYP | | | | | | | 1= correct; 0 = incorrect<br>record time for correct responses<br>correct ans. in ( ), count R to L on stim card when it is facing child |
| 1: Not the Same Game (Spatial Relations) | *1, 2, 3, 4, 5, 6, 7, 8, 9,* | | | | | | | | 1(c) ___, ___ 2(d) ___, ___ 3(c) ___, ___ 4(b) ___, ___<br>5(d) ___, ___ 6(a) ___, ___ 7(c) ___, ___ 8(b) ___, ___ |
| | *10, 11, 12, 13, 14, 15,* | | | | | | | | 9(b) ___, ___ 10(a) ___, ___ 11(a) ___, ___ 12(a) ___, ___<br>13(b) ___, ___ 14(d) ___, ___ 15(d) ___, ___ |
| | *Flipped: 16, 17, 18, 19, 20, 21* | | | | | | | | 16(d) ___, ___ 17(b) ___, ___ 18(b) ___, ___ 19(a) ___, ___<br>20(c) ___, ___ 21(b) ___, ___ TOT /21 |
| | *Severity* | | | | | | | | **Severity** 1 = Mild 2 = Moderate 3 = Excessive 4 = Severe |
| 2: Find Me Game (Figure Ground) | *Indicate # Correct Responses* | TYP | | | | | | | # Correct responses: Time |
| | *Teaching item 1 Shapes* | | | | | | | | /3 /10 |
| | *2 Seahorse* | | | | | | | | /3 /10 |
| | *3 Hippo* | | | | | | | | /4 /10 |
| | *4 Party* | | | | | | | | /4 /10 |
| | *5 Farm* | | | | | | | | /5 /20 |
| | *6 Street* | | | | | | | | /5 /20 |
| | *7 Water park* | | | | | | | | /8 /30 |
| | *8 Outer space* | | | | | | | | /8 /30 Time per plate |
| | *Severity* | | | | | | | | |





# Visual Modulation Record Form

| VISUAL DOMAIN | If TYP=1, no other box is checked | MODULATION: Engaged /Curious | Dec Awareness | Slow to Respond | Wants Inc Input | Diff Disengaging | Any/Concern | Adverse | DISCRIMINATION |
|---|---|---|---|---|---|---|---|---|---|
| 3. Round and Round | ***Black & white designed disc, stopwatch***<br>*Child watches spinning disk for 20 seconds then looks up at examiner*<br>***Leave Disc out after administration*** | TYP | | | | | | | |
| | | | | | | | | | |
| Severity: 1=Mild, 2=Moderate, 3=Excessive, 4=Severe | | | | | | | | | |
| 4: Lightening Storm | ***Paper plate, 5 animals, strobelight with cheesecloth***<br>*Child finds each of the animals from in front of the strobelight and places them on the paper plate ("barn")* | TYP | | | | | | | |
| | | | | | | | | | |
| Severity: 1=Mild, 2=Moderate, 3=Excessive, 4=Severe | | | | | | | | | |
| 5: Sparkle Game | ***Hand held sparklewheel, stopwatch***<br>*Child watches the sparklewheel for 20 seconds* | TYP | | | | | | | |
| | | | | | | | | | |
| Severity: 1=Mild, 2=Moderate, 3=Excessive, 4=Severe | | | | | | | | | |

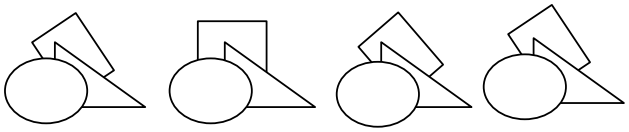
## Visual Domain: Modulation vs. Discrimination

- Modulation
  - The Different Game (visual discrimination)
  - Find me game (figure ground)
  - Round and round game
  - Lightening  Storm
  - Sparkle wheel
- Discrimination
  - The Different Game (visual discrimination)
  - Find me game (figure ground)





## The Different Game discrimination (accuracy, time)







## Find Me Game (figure ground) discrimination (accuracy, time)

## Visual Modulation example

- TYP
  - Engaged, curious
- SOR
  - Anxious, concerned
  - Adverse response
- SUR
  - Decreased awareness
  - Slow to respond
- SC
  - Wants increased input
  - Difficulty disengaging





## Tactile Domain: Modulation vs. Discrimination

- Modulation
  - The Feely Game
  - The Finger Game
  - Mystery Writing
  - Goo Game
  - Painting Game
  - Fishing Game
- Discrimination
  - The Feely Game
  - The Finger Game
  - Mystery Writing





## Tactile Modulation example

- TYP
  - Engaged, curious
- SOR
  - Anxious, concerned
  - Adverse response
- SUR
  - Decreased awareness
  - Sow to respond
- SC
  - Wants increased input
  - Difficulty disengaging

## Vestibular Domain: Modulation vs. Discrimination

- Modulation
  - The Bouncy Ball Game
  - The Beach Ball Game
  - Statue Game
- Discrimination
  - The Statue Game





## Vestibular Modulation example

- TYP
  - Engaged, curious
  - SOR
    Anxious, concerned
  - Adverse response
- SUR
  - Decreased awareness
  - Sow to respond
- SC
  - Wants increased input
  - Difficulty transitioning





## Proprioceptive Domain: Modulation vs. Discrimination

- Modulation
  - The Follow Me Game matches force?
  - Slow Mo Game (l# seconds high is good)
  - Finger Tapping Game Nosey Game
  - Ladder and Wheel Game
- Discrimination
  - The Follow Me Game matches force? )accuracy)
  - Slow Mo Game (l# seconds high is good) (accuracy, time)
  - Finger Tapping Game (time)
  - Nosey Game (accuracy)
  - Ladder and Wheel Game (Accuracy)

## Example Proprioceptive Modulation

- TYP
  - Engaged, curious
- SOR
  Anxious, concerned
  - Adverse response
- SUR
  - Decreased awareness
  - Sow to respond
- SC
  - Wants increased input
  - Difficulty disengaging





## Auditory Domain: Modulation vs. Discrimination

- Discrimination
  - Same or different (accuracy)
  - Rhymed pairs (accuracy)
  - Drop a morpheme part 3 (accuracy)
  - Drop/add phoneme (accuracy)
  - Say what I say game (accuracy)
  - Say what i say backwards (accuracy)
- Modulation and Discrimination
  - Sounds and pictures (accuracy)
  - Orchestra time
  - Find a picture that matches sound (accuracy)





## Auditory Domain: Modulation vs. Discrimination

- Modulation
  - Orchestra Time
  - Sounds and Pictures
  - Find a Picture that matches Sound

## Same or different words? discrimination (accuracy)

- nine vs. night
- row vs. grow
- kitchen vs kitchen
- comb vs cone





## Rhyming words (accuracy)

- truck & trunk
- school & pool
- bay & bake
- fake & rake





## Morphemes dropped (accuracy)

- meatball without meat
- playground with out play
- superpower without power
- elephant without ela

## Sentence Repetition (accuracy)

- Wants more
- The cat is in the house





## Sentence Repetition backwards(accuracy)

- Dogs bark.
- He drank milk.





## Example Auditory Modulation

- Orchestra
- Sounds and Pictures
- Find a picture

# 5. Sensory-based Motor Disorder Domain (Posture and Praxis): Qualitative Assessment of Motor Behaviors

Shelley Mulligan PhD, OTR/L, FAOTA
Associate Professor, University of New Hampshire





## Postural Disorder

- Difficulty stabilizing the body during movement or at rest such that the individual is challenged or unable to meet the demands of the environment or of a given motor task.
- Often characterized by abnormal muscle tone, inadequate control of movement, or inadequate muscle contraction/tension for executing movements against gravity/resistance.





## Postural Disorder (cont'd)

- Often poor balance between flexion and extension of the trunk and body parts, poor stability of the trunk, shoulder and pelvic girdles
- May have inefficient righting and equilibrium reactions, poor weight shifting and trunk rotation, and poor bilateral integration.
- May have decreased ocular–motor control.
- Difficulty performing age appropriate fine motor, gross motor, oral-motor and visual-motor skills and activities.

## Postural Domain

- 7 Subtests (scored based on performance criteria, or time)
  - Standing broad jump
  - Wall push-ups
  - Supine flexion and  getting up from supine to standing
  - Prone extension and getting up from supine to standing
  - Eye movements-quick location
  - Eye movements-up/down
  - Gross motor imitation with bilateral motor





## Dyspraxia

- Deficits in conceptualizing, planning, sequencing, and/or executing motor actions, especially novel actions.
- May be slow to initiate and position the body effectively for motor tasks especially novel tasks.
- Often present with poorly coordinated fine and gross motor skills.





## Dyspraxia (cont'd)

- Difficulty with motor imitation, and often seem unsure of where their body is in space with trouble judging their distance from objects, people, or both.
- Difficulty with sequences of movement in which timing and spacing must be judged, particularly if they must mentally project forward to complete a task.
- Types of praxis: Oral praxis, postural and sequencing praxis, constructional praxis, and ideational.

## Praxis Domain

- 6 subtests: (scored based on performance criteria, time)
  - Oral praxis
  - Imitation of Postures- static, dynamic, sequences
  - Construction task
  - Motor planning using grommets
  - Ideation- Affordances using a novel object
  - Ideation- Use of gestures; ideational praxis- affordances





## Qualitative Motor Behaviors

- 5 motor behavioral categories record observations of atypical motor behaviors during the Postural, Praxis, and Complex Task Domains
- Motor behaviors commonly associated with dyspraxia and/or postural disorder such as muscle weakness, decreased proximal joint stability, motor control and motor planning, and motor incoordination.





## Qualitative Motor Behaviors (cont'd)

- Behaviors are observed and recorded at the end of each subtest as either present or not present; for a few subtests, atypical motor behaviors are recorded after each item of the subtest

## 5 Atypical Motor Behavior Categories

- **Weak**: Muscles seem weak, child fatigues easily, demonstrates poor proximal stability; may struggle to keep an upright standing or sitting posture or to sustain muscle contraction; may appear lazy, lethargic, or apathetic due to a posture problem; Physical activities, especially gross motor movements appear effortful.





## 5 Atypical Motor Behavior Categories

- Poor Posture: Child might demonstrate decreased ability to use weight shifting and rotational movements; difficulty crossing midline of the body and dissociating movements (right from left side, or upper from lower body); difficulty attaining anti-gravity postures; evidence of soft neurological signs such as associated reactions; inefficient automatic righting, equilibrium and protective reactions.





## 5 Atypical Motor Behavior Categories

- **Slow** not Automatic: Child exhibits difficulty planning and organizing motor behavior. Tasks are completed with excessive cognitive effort rather than appearing automatic. Poor problem solving abilities and difficulty sequencing multi-step tasks are observed.
- **Awkward**/Uncoordinated: Child has difficulty with the execution of motor actions; will appear more clumsy and awkward than other children of the same age; inefficient movement patterns are used to complete tasks; movements may be poorly graded, or jerky.
- **Few Ideas**: Child is slow to create new ways of playing with materials. Difficulty may be seen in figuring things out, poor engagement in motor exploration, and poor initiation of spontaneous, creative play with materials.

## Qualitative Motor Behaviors

- The number of atypical motor behaviors observed and recorded within each category are summed for each Subtest and Domain
- A severity rating for each atypical motor behavioral category is made for those areas that were observed as being present after the administering each Domain using the following scale: 0= typical, 1= mild, 2= moderate, 3 = excessive, 4 = extreme (based clinical judgment)




## Qualitative Motor Behaviors (Cont'd)

- Some subtests are more likely than others to elicit certain atypical motor behaviors; eg. Subtests effective in eliciting motor behavior associated within the Muscle Weakness category include: Standing Broad Jump, Wall Push-ups, Prone Extension, and Supine Flexion




## Video examples

- Muscle weakness
- Poor Postural responses
- Slow not Automatic
- Awkward/Uncoordinated
- Poor Ideation

## Posture and Praxis Ratings





## Posture/Praxis Ratings

- TYP
  - Engaged, curious
- Weak
- Poor posture
- Slow
- Awkward
- Few ideas





## Example Posture/Praxis

- TYP
  - Engaged, curious
- Weak
- Poor posture
- Slow
- Awkward
- Few ideas

## Example Posture/Praxis

- TYP
  - Engaged, curious
- Weak
- Poor posture
- Slow
- Awkward
- Few ideas





## Example Posture/Praxis

- TYP
  - Engaged, curious
- Weak
- Poor posture
- Slow
- Awkward
- Few ideas

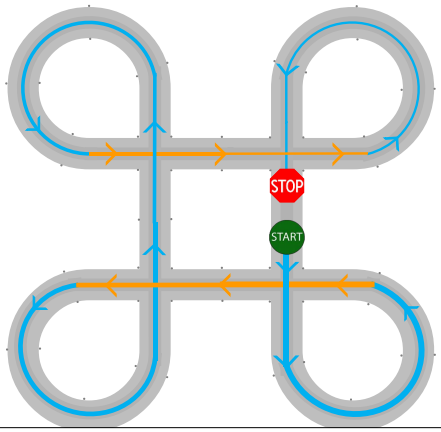




## Complex Tasks: Integrative abilities

- Qualitative Ratings (postural)
  - Copy house / sentences
  - Beads and bows
- Quantitative Abilities (accuracy, time)
  - Race car
  - Copy house
  - Draw a Person
  - Beads and Bows

## RACE CAR
## Quantitative: (time , accuracy)

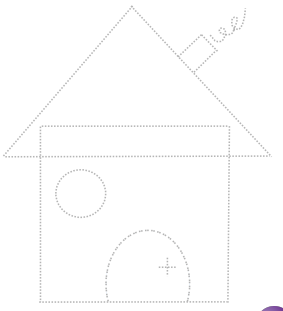







## Copy Me Game (copy a house)
## quantitative: (accuracy, time)

Square
Arch
Circle
Cross
Triangle
Rectangle
Squiggle







## Copy sentences
## quantitative: (accuracy, time)

Birds fly.

You play with friends.

The five boxing wizards jump quickly.

# 6. Assessment of Social Emotional Development

Michele Parkins, MS, OTR
Owner, Great Kids Place
Profectum Faculty
Faculty, STAR Institute for Sensory Processing Disorder





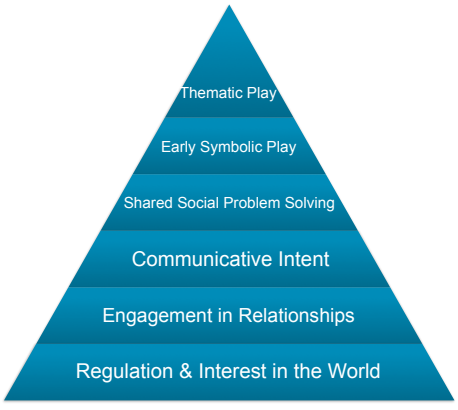
# Functional Emotional Assessment Scale

- Measure of social-emotional development in the context of interactions with caregivers
- Observation tool of the six functional emotional developmental levels as defined by Stanley Greenspan and Serena Wieder, Ph.D. in the DIR model.





# Functional Emotional Developmental Levels



## Getting Started: Set Up Space

- Symbolic Play
  - Figures, baby dolls, cars, telephone, toy food, etc.
- Tactile Play
  - Textured balls and cushions, shaving cream, rice and beans, playdoh and other “messy” materials, dress up clothes of various materials (feather boa, wigs, clown nose)
- Movement Play
  - Therapy ball, suspended equipment, trampoline, slide



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## FEDL 1: Regulation

- Is the child interested and attentive to play with toys showing happy, content affect
- Exploring freely without caution, remaining calm
- Comfortable with touch and movement experiences
- Remains focused on caregiver without being distracted by sights and sounds
- Shows happy, content affect

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## FEDL 2: Engagement in Relationships

- Shows emotional interest and connection with caregiver by vocalizing and smiling at her/him
- Anticipates with curiosity when caregiver presents an object or game
- Initiates physical closeness with caregiver
- Communicates with caregiver from across space by looking, gestures, or vocalizations

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## FEDL 3: Communicative intent

- Initiates intentional actions with objects while also engaged with caregiver
- Responds to caregiver's cues in contingent manner/ elaborates on what caregiver did by taking toy held by caregiver, imitating her or another response directly linked to the initiation by the caregiver





## FEDL 4: Shared Social Problem Solving

- Engages in complex patterns of communication stringing together several circles of communication with caregiver
- Imitates or copies something new that caregiver introduces then incorporates that idea into play
- Turns to another person for assistance when met with a challer



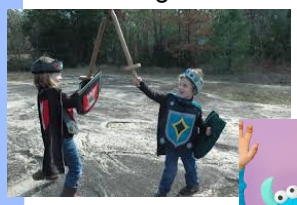


## FEDL 5: Early Symbolic Play

- Engages in symbolic play with various toys or equipment
- Uses language or pretend play to communicate needs, wishes, intentions, feelings
- Uses pretend play express closeness dependency, and/or assertiveness

## FEDL 6: Thematic Play

- Building Bridges Between Ideas & Emotional Thinking








## FEDL 6: Thematic Play (Logical Discussions)

- Starts with cause and effect
- Play involves two or more ideas logically connected
- There is a planned quality and child can elaborate on “how,” “why,” or “when”
- Play has a story – beginning, middle, end





## Explore developmental themes

- Attachment
- Separation
- Bodily Injury
- Fears
- Good guy, bad guy and aggression
- Reality Testing

## Now we will look at a child using your Guiding Questions worksheet

- 3 contexts
- Use your "FEDL Guiding Questions to Assessment" handout
- Think about functioning in each FEDL represented





## Peter

- Family came for feeding
- 19 months old
- Supportive, wonderful family





## Assessment of Peter's FEDLs in Movement Play

| | Not reached | Evident for brief moments with support | Evident for extended time (needs consistent structure and support | Independently evident but regresses with challenge | Age appropriate |
|---|---|---|---|---|---|
| 1 Regulation | | X | | | |
| 2 Engagement | | | X | | |
| 3 Communicative Intent | | | | X | |
| 4 Shared Problem Solving | X | | | | |
| 5 Early Symbolic | X | | | | |
| 6 Thematic Play | X | | | | |

# Interpretation: Clinical Reasoning related to Movement

- Movement Play: Child
  - Impact of postural control
    - More cautious and less freely moving
    - Affect is more one of worry as opposed to content & joy
  - Impact of activity on Sensory Under Responsivity
    - Higher elevation allowed him to joint reference more
    - Climbing gave him more input and he gestured more
  - Impact of Relationships
    - When his intentions are recognized he initiates more, even through vocalizations





# PD and SUR impact regulation, engagement and communicative intent

| | SOR | SUR | SC | PD | DYS | SDD |
|---|---|---|---|---|---|---|
| 1 Regulation | | X | | X | | |
| 2 Engagement | | X | | X | | |
| 3 Communicative intent | | X | | X | | |
| 4 Shared Problem solve | | | | X | X | |
| 5 Early Symbolic | | | | | | |
| 6 Thematic Play | | | | | | |



# Assessment of Peter's FEDLs in Tactile Play

| | Not reached | Evident for brief moments with support | Evident for extended time (needs consistent structure and support | Independently evident but regresses with challenge | Age appropriate |
|---|---|---|---|---|---|
| 1 Regulation | | X | | | |
| 2 Engagement | X | | | | |
| 3 Communicative Intent | | X | | | |
| 4 Shared Problem Solving | X | | | | |
| 5 Early Symbolic | X | | | | |
| 6 Thematic Play | X | | | | |

## Interpretation: Clinical Reasoning related to Tactile

- Tactile: Child
  - Impact of Sensory Modulation
    - Sensory Over-Responsivity (SOR) derails engagement/play
    - Gestures are around controlling sensation versus sharing experiences
  - Impact of Relationship
    - Interaction turns to congratulations versus play and statements of "he doesn't like." Perceptions from past experiences frame sensory play





## SOR impacts Regulation, Engagement and Communicative Intent

| | SOR | SUR | SC | PD | DYS | SDD |
|---|---|---|---|---|---|---|
| 1 Regulation | X | | | | | |
| 2 Engagement | X | | | | | |
| 3 Communicative intent | X | | | | | |
| 4 Shared Problem solve | X | | | | | |
| 5 Early Symbolic | | | | | | |
| 6 Thematic Play | | | | | | |





## Assessment of Peter's FEDLs in Symbolic Play

| | Not reached | Evident for brief moments with support | Evident for extended time (needs consistent structure and support | Independently evident but regresses with challenge | Age appropriate |
|---|---|---|---|---|---|
| 1 Regulation | | X | | | |
| 2 Engagement | | X | | | |
| 3 Communicative Intent | | X | | | |
| 4 Shared Problem Solving | | X | | | |
| 5 Early Symbolic | X | | | | |
| 6 Thematic Play | X | | | | |

## Interpretation: Clinical Reasoning related to symbolic play

- Symbolic play: Child
  - Impact of postural control
    - Cautious versus curious
    - Decreased orientation to parents
    - Unsure of Dad's roughhouse play/flip
  - Impact of low tone
    - Neutral affect
    - Decreased persistence with intentionality





## Interpretation: Clinical Reasoning

- Symbolic play: Child
  - Impact of Sensory Under-Responsivity
    - Slow-paced in actions but eventually aroused near end
  - Impact of Praxis
    - Initiates intentional actions but limited repertoire
    - Notice's caregivers bids for play but unsure how to reciprocate
    - Minimizes his ability to sustain long period of back and forth engagement





## Impact of SUR, PD and DYS on Peter's FEDLs

| | SOR | SUR | SC | PD | DYS | SDD |
|---|---|---|---|---|---|---|
| 1 Regulation | | | | X | | |
| 2 Engagement | | X | | X | | |
| 3 Communicative intent | | X | | X | | |
| 4 Shared Problem solve | | | | X | X | |
| 5 Early Symbolic | | | | X | X | |
| 6 Thematic Play | | | | | | |

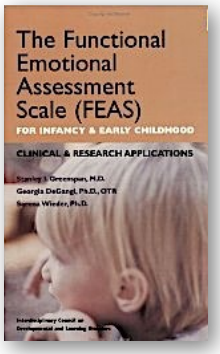
## Where to Join & What to Revisit

- Is there a context (symbolic, tactile, movement) that is more successful and challenging than others?
- Is there a FEDL that is more successful and challenging than others?





## Available on Amazon & icdl.com








## 7. From Assessment to Report Writing

Robyn Chu, MOT, OTR/L
Owner, Growing Healthy Children Therapy Services, Inc
Faculty, STAR Institute for Sensory Processing Disorder

## Case Study: S.

- 6-year-old girl
- Previous diagnosis of PDD-NOS
- Severe allergies
- Receives school-based speech therapy
- Strengths: intelligent, creative, caring, wonderful big sister, excellent fine motor control, eager to please
- Parent Concerns: social skills, ability to perceive and report allergic reactions, emotional regulation, attention





## Assessment Process

- Clinical Observations
- Standardized assessments:
  - BOT-2
  - MVPT
- SP3D
- Parent Report Measures
  - Short Sensory Profile
  - Sensory Processing Disorder Inventory





## Observations to Impact Statements

- Data (observations during whole evaluation) grouped into strengths and concerns to look for

| | Strengths | Challenges |
|---|---|---|
| SOR | ~painted arm with each<br>~played with musical instruments | ~covered ears during sounds and pictures<br>~touched goo with 1 finger, wiped hands |
| Motor Planning | ~thought of using utensils to get animal out of goo<br>~imitated marching with correct # of steps | ~no clap during jumping jacks<br>~extended time to open toothette |

## See Assessment 7A & 7B





## Observations to Impact Statements

- Form hypothesis: based on quality of life report
  - Are peer relationships being impacted by tactile over-responsivity?
    - If I incorporate various tactile sensations and deep pressure into an activity of the child's choice, does child touch sticky texture?
    - Played pretending to make cat food . . .
- Sensory Profile: Sensory Over-Responsive + Motor Planning





## Impact Statement

S. is over responsive to auditory and tactile input. People with sensory over responsivity are hypothesized to have a low threshold for registering sensory input and respond too quickly or too much to low levels of input. This means that their arousal level is too high in the presence of sensory stimuli. S. appears to be on high alert (increased sympathetic nervous system activity) and exhibit a protective, "fight, flight, or freeze" response to sensory input. This causes her to make noises to block environmental noises, appear to be in her own world, and misinterpret sensory stimuli.

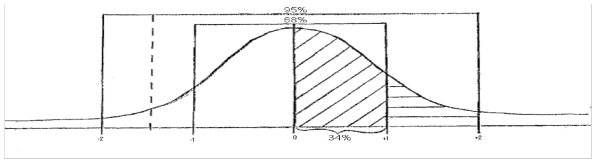
# Impact Statement (Cont'd)

She frequently scratches herself and is bothered by many types of clothing. It may be that her brain is being bombarded with auditory and tactile input, which is perceived as dangerous, causing intense behavior and emotional responses and increasing her overall arousal.





# Evaluation Parent Meeting: Bell Curve



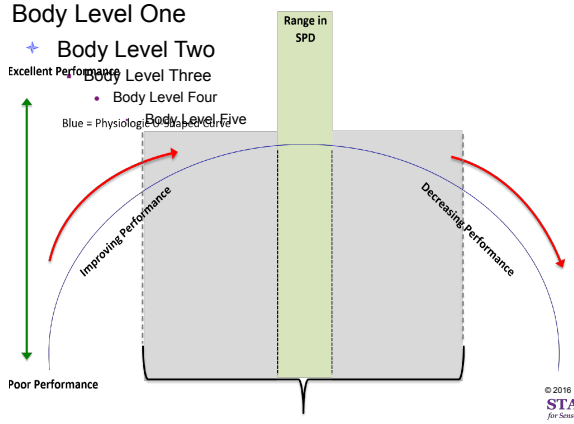

| | EXTREMELY IMPAIRED | CLINICALLY SIGNIF. PROBLEM | BELOW AVERAGE | AVERAGE | ABOVE AVERAGE | EXCELLENT | |
|---|---|---|---|---|---|---|---|
| | | | | Mean | | | Mean St |
| SIPT, Short Sensory Profile | -2.0 | -1.5 | -1 | 0 | +1.0 | +2.0 | 0 |
| MAP | 2% | 7% | 16% | 50% | 84% | 98% | 50% |
| ABAS, Beery VMI, IQ, DAP | 70 | | 85 | 100 | 115 | 130 | 100 |
| M-FUN,ABAS SCAN-C, TAPS | 4 | | 7 | 10 | 13 | 16 | 10 |
| Bruininks (BOT-2) | 5 | | 10 | 15 | 20 | 25 | 15 |
| BOT-2, BASC (adaptive profile) | 30 | | 40 | 50 | 60 | 70 | 50 |
| Clinical Scales: BASC-2, SPM (higher scores = greater impairment) | 70 | 65 | 60 | 50 | 40 | 30 | 50 |



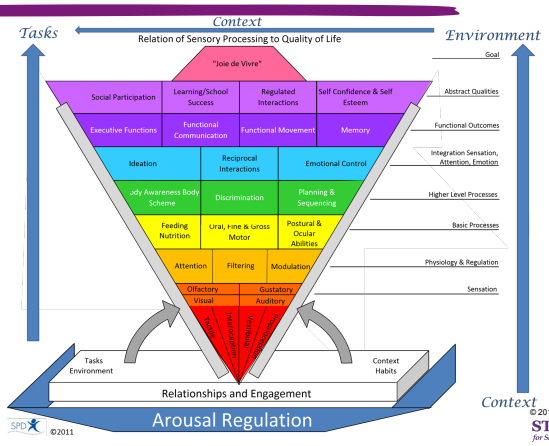


# Sample Parent Handout: Arousal Regulation Model

- Body Level One
- Body Level Two
- Body Level Three
- Body Level Four
- Body Level Five



# Sensory Pyramid








# Empowering Parents

- Parent Feedback
  - Empowering parents with knowledge
    - SPD Subtypes
    - Bell Curve
    - SPD (internal factors) in relation to Task, Context and Environment (external factors)
    - Arousal Regulation; Engagement and Relationships
    - Balanced interaction- External factors, Internal factors, Arousal Regulation for joyful living





# Goal Attainment Scaling (see handout 7C)

| | |
|---|---|
| **Functional Goal #5:** | Improve tactile modulation by tolerating lotion/Vaseline |
| **Current Performance:** | When attempting to put lotion on S., S. will try to talk her way out of it, grimace, wipe it off, yell, and verbally protest 100% of the time. |

| **-2** | **-1** | **0** | **1** | **2** |
|---|---|---|---|---|
| By August of 2016 S. will calmly tolerate Mom putting lotion on her 1 time per week. | By August of 2016 S. will calmly tolerate Mom putting lotion on her 2 times per week. | By August of 2016 S. will calmly tolerate Mom putting lotion on her 3 times per week. | By August of 2016 S. will calmly tolerate Mom putting lotion on her 4 times per week. | By August of 2016 S. will calmly tolerate Mom putting lotion on her 5 times per week. |

## Evaluation to Report

- Connection with the child
- Standardized performance measures
- Non-standardized measures
- Parent Report Measures
- Help the parent to adjust their lens
  - strengths
  - challenges
  - remove the barrier of labels
  - understand treatment principles





## Bridge to Treatment

- Navigation of the clinic: shared problem solving on scooter board
- Mario magnet game with finger paints (lotion-based)
- Pokemon in the hammocks





## 8. Treatment Strategies for SPD

Lucy Jane Miller, PhD, OTR

## Intervention for Sensory Over-Responsivity

- Clients administer sensation to themselves with calming (inhibitory) activities:
  - Deep touch pressure
  - Proprioceptive input
    - Bubble ball bath
    - Brushes, textured material, joint compression
    - Many others
- Use one sensation to effect another





## Treatment for Sensory Over-Responsive

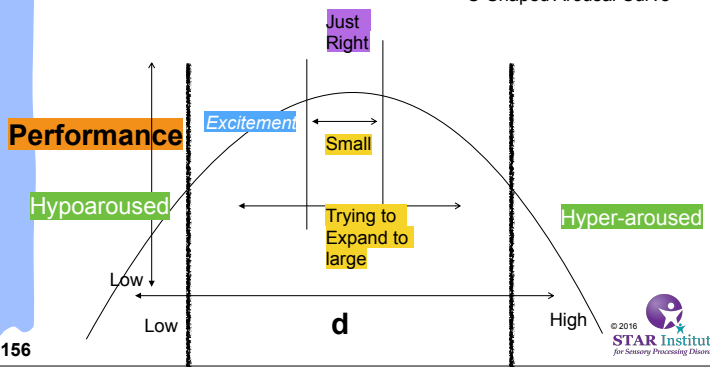
- Control arousal
  - Use enclosed spaces to
  - Use gentle stimulation
  - Provide notice in advance (use visual schedules)
  - If possible, assign a buddy rather than group projects
- Proprioception excellent to decrease sensitivity
- Have a time-in place that is not disciplinary





## 2. Attain and Maintain Regulation

Hebb- Yerkes - Dodson , 1908
U-Shaped Arousal Curve



| | Threshold | Goal | Activities |
|---|---|---|---|
| SOR | low | raise threshold | slow/low |
| SUR | high | decrease threshold | fast / blast |
| SC | does not fit with threshold model | | |
| | | | |





## Principles of Intervention for Sensory Over-responsivity (from No

- Principle 1: Normalize the child's arousal.
- Principle 2: "Heavy work" helps to calm high arousal, especially when the child administers the sensation to self.
- Principle 3: Predictability is king (or queen)!
- Principle 4: You must stay calm.
- Principle 5: Keep child busy with predictable tasks in public.
- Principle 6: Avoid overstimulating sensory events at times, but slowly expose your child to sensation when possible.
- Principle 7: Have sensory tools easily available, and teach your child to use them when you're not around.





## Intervention for SUR

## Principles of Intervention for Sensory Underresponsivity

- Principle 1: Use alerting, fast, or intense sensory input to generate arousal.
- Principle 2: Use fast blasts of tactile, proprioceptive, and vestibular sensory input to alert whole-body responses.
- Principle 3: Use the stimulation of taste and smell to increase arousal.
- Principle 4: Use activities that are motivating

From *No Longer A SECRET*





## Intervention for Sensory Craving





## Principles of Intervention for Sensory Craving
**(from *No Longer A SECRET*)**

- Principle 1: Create organized movement experiences that are goal-directed and purposeful.
- Principle 2: Use intermittent, varying, or interrupted vestibular and/or proprioceptive input.
- Principle 3: Use activities that incorporate “heavy work” - purposeful tasks with proprioceptive components.
- Principle 4: Use environmental modifications when socializing with peers.
- Principle 5: Use enclosed or small spaces to control activity level

## Effect on Treatment of SC

- Give an SC a spin and he will want more.
- Stimulation must be **interrupted** and **functional**. Do not try to "fill up" a child who has sensory craving. They are not under-aroused!
- Work on response inhibition; stop and start in **every** activity!





## Heavy Work Activities with a meaningful (to them) goal

- Lifting heavy books, wiping chalk board, or cleaning tables
- Stretchy band routine
  - On classroom chair legs
- **Recess should be structured so that purposeful activity is a part of it**





## The "I finished early closet"

# 9. Treatment for Social Emotional Development: Tailoring your interaction based on FEDL

Michele Parkins, MS, OTR
Owner, Great Kids Place
Profectum Faculty
STAR Institute Faculty





## Getting started…

- When is the child most **connected/engaged**? What **affective**/relationship-based supports are used at those times?
- What supports the child to be engaged with you with true **joy**/interest? *("joie de vivre")*





## Getting started…

- What supports the child to initiate/share their **intentions** (both verbally and nonverbally)?
- What supports the child to feel **success**ful and to expand on the **play**?

## Facilitating Level 1: Regulation

- Is the child slow and sluggish?
  - Increase your affect
  - Wider more excited and exaggerated facial expressions
  - Bigger gestures.
  - Vary the tone and volume of your voice.
  - Move in faster, silly, bigger movements.

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## Facilitating Level 1: Regulation

- Is the child excited and hyperactive?
  - Decrease your affect
  - Lower your voice and use a deeper tone or even a whisper
  - Slow down your movements and gestures
  - Dull down your facial expressions

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## Sensational Emotions

- Work on Emotion Recognition and Coping
- Name the emotion that coexists with the sensation – “That was surprising!”
- Ask them to describe the world they are in – sensory experience – “I think that was too loud. It scared me.  What did you think?”



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## Reframe Experiences

- Give meaning to sensations
  - "You hear that, that was the phone."
  - "Ooo, I saw that too, someone turned those lights off."
- Share in the relief of discovering the mystery
  - "Phew that was just the vacuum." –with a deep sigh

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## Think about your pace & rhythm

- Go Slow
- Use **Rhythm**
- Hold back
- **WAIT**
- **Wonder**
- Silence is OK! In fact it often can accomplish what nothing else can?



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## Facilitating Level 2: Engagement

- Follow the child's lead.
- What is the child most interested in?
- What activities does the child do most often?
- What brings the "gleam" to the child's eye?
- What sensory behaviors does the child do and enjoy?
- What is the child's favorite idea – the one they are most proud of?



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## Level 2: Affect, Affect, Affect!

- Use **anticipation** to engage
- Be **dynamic**!
- Work **face to face**
- Be **animated – bigger than toys**





## Level 2: Engagement

- **Be patient**, positioning yourself so that the child can see you and is secure
- **Listen** to the child, their vocalizations and gestures, and join with the child so that they know you are in "sync" with them
- **Use anticipation**





## Facilitating Level 3: Communicative Intent

- Treat everything as purposeful
  - Flapping hands could be the butterfly dance or for a game of waving at each other
- Help him be purposeful by creating a meaning – scaffolding - to his actions even when none may appear to exist
  - He is moving his car in a back-and-forth motion and you might make engine sounds saying "the car is getting ready to go"

## Level 3: Open and close circles of communication


- Sustain two-way communication
  - **DON'T TAKE NO FOR AN ANSWER**
- The activity isn't important
  - **PROCESS IS MORE IMPORTANT THAN PRODUCT**
- Close the "circles" that your child opens





## Level 3: Communicative Intent

- Challenge child to close circles of communication… facilitates adaptation
  - You ask a question and he walks away or changes the topic, you say "Whoa, whoa, whoa wait …." and repeat the question.

The child is moving her car but ignores your desire to have your doll go for a ride in it. Be the character saying, "I really, really want to go in!"



## Level 3: Communicative Intent

- React to your child's expression of emotion
  - Emotional exchanges are intent!
  - "Wow, that made you mad!"
- Support initiative by challenging him to do things to you or with toys of interest
  - When roughhousing, get him to jump on you or push you down or climb up to your shoulders

## Facilitating Level 4: Shared Problem Solving

- Encourage Motor Planning
  - Don't do for the child what they can do for themselves
  - Give the child time to **do it all themselves** –help him/her do it!
  - Support **pride** in being independent
  - **MAKE IT THEIR IDEA!**





## Level 4: Shared Problem Solving

- As a collaborator
  - Share in problem solving interaction
    - "You hold the bottom, I'll twist the top."
  - Help to elaborate
    - "So we have a truck and some people, but we have a problem."
  - Increase the range of affective interaction
    - When frustrated/sad/mad help them solve the problem versus fixing it yourself
  - Help them see the entire sequence of how things work





## Level 4: Shared Problem Solving

- As a unique individual
  - Adhere to and and respect limits
    - Make the limits clear
    - Help define alternative channels of challenge
  - Voice your desires and ideas
    - "I want…" or "You were picturing… and I was picturing…"
  - Point out other's perspectives
    - There are a lot of different ways to do the same thing

## Facilitating Level 5: Early Symbolic Play

- Create a Play Environment
  - Sensory needs respected
  - Motivating toys accessible
  - Sensory toys
  - Symbolic and pretend toys available
  - Dress up clothes





## Support Symbolic Development

- Foundational game – peek a boo, chase, hide and seek
- Use objects as things they are not
  - Swing becomes a horse, ship, spaceship
- Engage in role play
  - Superhero, doctor





## Introduce concepts through meaningful activities

- Activities should be familiar, meaningful, and experience based
- Use motivating themes or toys

## Facilitating Level 6: Thematic Play

- Encourage child to problem solve and THINK for themselves
  - **Prompt to THINK, not to DO**
  - Ask “what happens next?”
  - Use inquiring gestures
  - Provide multiple choices
  - Ask “Why?”

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## Level 6: Encourage links between ideas

- We were just playing with the car, why are we now cooking dinner? I’m confused, can you explain?
- Foster a beginning, middle and end



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## Explore developmental themes

- Attachment
- Separation
- Bodily Injury
- Fears
- Good guy, bad guy and aggression
- Reality Testing



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## Move up and down the ladder as needed

- Within each playful interaction work on each developmental level
- Start with regulation…then engagement…etc.
- If the interactions comes to an end…start back at regulation and "move up the ladder" again





## Thank you

- Serena Wieder and Stanley Greenspan
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- Therapists and Faculty of STAR Institute