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Using the Infant/Toddler Sensory Profile in Early Intervention Services

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Self-Study Module

Using the Infant/Toddler Sensory Profile in Early Intervention Services

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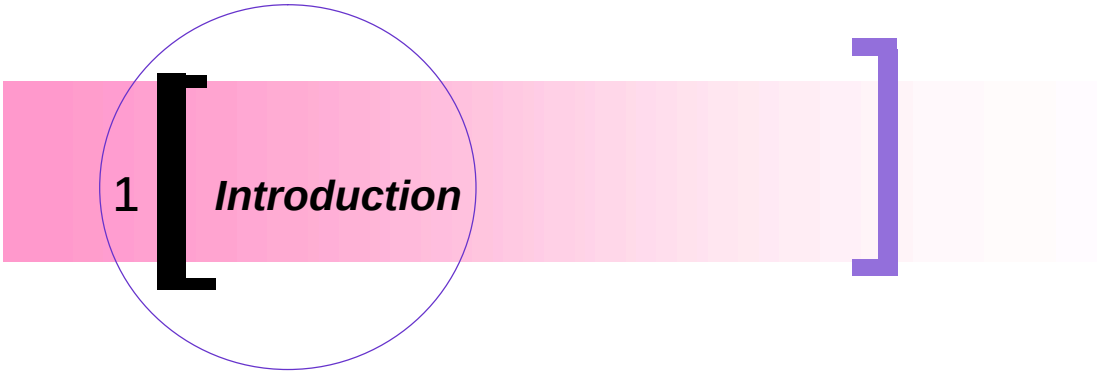
Contents



This module is designed for those who use the Infant/Toddler Sensory Profile (ITSP) as part of early intervention. The first two sections (pages 3-11) are directed to all users—those who are familiar with ITSP administration, scoring and interpretation, as well as those who are unfamiliar with the ITSP. The rest of the module addresses individual learning needs as explained on page 7. Readers should select from these sections according to their own unique needs. Specific notes throughout the module discuss how the ITSP is included within programs provided in Philadelphia County.

Learning Objectives

Following review of this module and completion of recommended activities, participants will be able to:

- explain the rationale for using the Infant/Toddler Sensory Profile (ITSP) and for its use in the Philadelphia Early Intervention system.
- administer the ITSP with families.
- score the ITSP.
- interpret an infant or toddler's own unique sensory processing patterns in relation to his or her identified performance strengths and limitations.
- summarize and communicate the ITSP results to families and other team members.
- document ITSP results on the MDE/IFSP form.
- provide suggestions about ways to address a child's unique sensory processing patterns within the family's daily routines and activities.

2 Infant/Toddler Sensory Profile: Overview

What is the Infant/Toddler Sensory Profile?

The Infant/Toddler Sensory Profile (ITSP) (Dunn, 2002) is a questionnaire that is completed by an infant's or toddler's primary caregiver in order to gather information about the child's sensory processing abilities. The caretaker's responses are summarized using standardized scoring procedures and then interpreted in terms of the impact that a child's sensory processing abilities may have on the lives of the child and his or her family (Dunn, 2001; Dunn, in press).

The ITSP is designed to:

- measure an infant's or toddler's sensory processing abilities
- help early intervention providers determine the impact of sensory processing preferences on the child's ability to participate in play, learning and socialization opportunities
- help early intervention providers determine areas of strengths and concern related to intervention planning

The ITSP provides valuable information about how a child takes in information from the world. When information from the ITSP is combined with a variety of other evaluation data, the team can consider whether or not the child's specific sensory preferences support or interfere with his or her participation in play, learning and social opportunities at home and in the community. Contrary to some beliefs, the ITSP is not a *diagnostic* assessment. It is not designed to identify children who do or do not need services from occupational therapists, or who have "sensory issues," or who have sensory integration dysfunction. Rather, the ITSP simply identifies a child's probable sensory preferences and provides information that can be used to explore the extent to which particular sensory preferences may impact positively or negatively on children's participation in various home and community activities and routines.

In Philadelphia County

The ITSP is administered for every child as part of both the initial and annual Multidisciplinary Evaluation (MDE).

Resources in the ITSP *User's Manual*

The User's Manual includes detailed information about the theoretical background that underlies the ITSP, procedures used to standardize this measure, reports of ITSP normative data, ITSP administration instructions, interpretation guidelines and several case examples that illustrate ITSP scoring and interpretation applications.

Who administers the ITSP?

In order to measure a child's sensory processing abilities, the ITSP relies on the perspectives of the parent or caregiver who knows the child over time. Therefore, its administration differs from other commonly used evaluation tools in which the infant or toddler is presented with specific tasks and activities and the service provider observes and measures the child's response. The ITSP is designed for the parent to read and complete on their own. In addition to supporting family-centered approaches, there are other benefits that result from the parent/caregiver providing information by completing the ITSP questionnaire.

What are your thoughts?

If you've used the ITSP before, what have parents reported to you regarding their experience of completing the Caregiver Questionnaire?

Even if you haven't used the ITSP before, from your own perspective, what are some of the advantages of a parent report format — one which relies on parent report of their infant or toddler's behavior?

Compare your ideas and experiences

Refer to the ITSP *User's Manual.* The section "Benefits" on pages 2-3 highlights several specific advantages of the ITSP for both parents and professionals.

How much time is required to administer the ITSP?

Parent completes the Caregiver Questionnaire	15 minutes
Provider scores items on Questionnaire; completes Quadrant Grid and other areas on Summary Score sheet	20 minutes
Provider interprets findings and develops specific strategies to support the child's participation across home and community-based settings.	Variable according to extent of participation challenges and the user's familiarity with ITSP. Experienced users—20-30 minutes

In Philadelphia County

The parent can complete the C*aregiver Questionnaire* during the initial MDE visit. For annual re-evaluations, a member of the child's IFSP team may leave a copy with the parent and pick up the completed form at the next scheduled home visit.

Sample cover letter to introduce the ITSP

Dear Parent,

Knowing about the way your child responds during everyday activities and routines is an important part of the early intervention evaluation process. The attached questionnaire helps us to gather that information.

Please take some time to fill in your response to the items. You can send the booklet back to me in the attached envelope.

(Or - You can give the completed booklet to me when I visit you next week.)

Thank you,

Where can I find information in this module that's specific to my learning needs?

To learn about . . .

- the use of current knowledge to interpret ITSP results—see pages 9-12
- ITSP administration, especially for new users —select topics on pages 13-18 according to your needs
- scoring procedures and interpretation guides using a practice example for a 5 month old infant—see pages 19-28
- scoring procedures and interpretation guides using a practice example for a toddler who is 22 months old—see pages 29– 43
- summarizing and reporting ITSP findings—see pages 43-47

Can I get TLC credits for completing this module?

In Philadelphia County

If you are reviewing this self-study module to receive TLC credits through the self-choice option, you need to complete a separate assignment. You can access the *ITSP Assignment* on line through the TLC website. Go to: http://jeffline.tju.edu/cfsrp/tlc/self-options.html

3 Understanding and Using ITSP Results

How do I use current knowledge to summarize and interpret ITSP results?

It's important to recognize that our knowledge about sensory processing abilities continues to grow with experience and as the result of further research. Newer understandings have provided us with additional ways to describe children's performance and have suggested alternate ways that we can intervene to enable young children to participate in valued home and community-based activities and routines. The ITSP publisher maintains a Website where current information is available for reference (www.sensoryprofile.com).

Sign onto the Internet and go to Harcourt Assessment's site at www.sensoryprofile.com
Click on **"Updating Our Understanding of Sensory Processing by Winnie Dunn"**

1. How did this update help to clarify your own thinking about how a child's unique sensory processing abilities may impact performance?

2. What questions do you have after reading this update?

3. Raise these questions to your supervisor or bring them up for discussion at your next staff meeting.

What are some general interpretation guidelines?

- All infants and toddlers have some degree of responsiveness in each of the four quadrants measured in the ITSP.
- The ITSP results are not intended to define a child's eligibility for early intervention programming or to suggest that a child does or does not need particular services.
- Extremes in responsiveness, either too little or too much, do not mean that the child has a "dysfunction" or requires remediation to address these attributes. For example, it is incorrect to say that a child has "sensory issues" or "sensory processing challenges" because his scores are in the "definite difference" range on two quadrants.

Variability in a person's nervous system influences his or her response patterns, and individuals can respond differently to sensory experiences in one sensory system than another. For example, a child may generally prefer intense visual experiences but may avoid movement opportunities or become distressed in situations when movement is experienced, such as during a bumpy car ride or one in which the car frequently stops, starts and turns. So it is not unexpected that you may find a variety of different ratings in the profile of one child, with some sections reflecting "more than others" results while others reflect "typical performance" and still others reflect "less than others" results.

- Remember that the ITSP is designed to help early intervention providers consider how to promote a child's performance in daily activities in view of his or her unique sensory processing profile. The ITSP ratings on the *Summary Score Sheet* are only a piece of the information that early intervention providers need in order to accomplish this goal.
- When an infant or toddler experiences difficulties with performance in daily routines and activities, his or her unique patterns and combination of patterns of sensory responsiveness may help to explain performance difficulties.
- ITSP results need to be carefully considered along with referral concerns and other measures of performance, such as parent interview, skilled observation of the child's behavior across situations, developmental testing results and other background information about the child.
- The ITSP was not designed for use as a pre– and post– measure to detect change in a child's sensory processing. For example, it is not appropriate to infer that sensory modulation has "improved" when a child's quadrant ratings move into typical ranges on a repeat administration of the ITSP.

What do the ITSP results suggest for children with and without disabilities?

Children with a variety of disabilities were included in the standardization of the ITSP. Since their number was small, definitive conclusions are not possible; however the *User's Manual* discusses some preliminary findings and trends when results between children with and without disabilities were compared. In general,

- ITSP scores for children with disabilities were generally lower than those of children without disabilities in the standardization samples.
- seeking behavior increased for older children with and without disabilities in the normative sample.
- the frequency of behaviors in Tactile Processing and Oral Sensory Processing sections diminished as children grew.
- the Sensation Seeking score was similar for both groups of children in the 7 to 36 months age group.
- sensory profiles of infants and toddlers with Down Syndrome in the standardization sample were similar to those of children without disabilities in all areas with the exception of lower scores in Auditory Processing.
- in the 7 to 36 months range, Low Registration and Low Threshold scores for children with autism, developmental delay and sensory integration dysfunction were lower than those of children without disabilities.

Resources in the ITSP *User's Manual*

Growth charts in Appendix A in the User's Manual (pages 116-117) illustrate developmental trends for children with and without disabilities.

Premature infants. When sensory processing was measured by 6 months of age, infants who were born at less than 38 weeks gestational age had more frequent Low Threshold responses when compared to results of infants born at full term. These results support the belief that premature infants may tend toward hyperresponsivity early in life. ITSP results in the 7-36 month range for infants born prematurely were not significantly different than those of full-term infants and toddlers in the age range. This finding, which suggests that this pattern of response changes as premature infants grow, is discussed in the *User's Manual* on page 41.

Children with Down Syndrome. While conclusions are limited in view of the small sample size, the *User's Manual* suggests that sensory processing may not be a priority factor that's related to performance challenges experienced by children with Down Syndrome. It's possible that the administration of the ITSP may help team members identify an area of strength in the child's profile. In this situation, it's important to communicate to the family about this area of strength and use the child's sensory processing abilities when planning strategies to support the child in play and learning opportunities.

Children with autism and developmental delay. Think about the combination of Low Registration and Low Threshold differences that have been reported. It may be that these children don't notice ("more than others" in Low Registration), but in addition, their systems don't require much stimulation to respond (Low Threshold). Activity and environment adaptations with increased stimuli may be made available to the child to gain his or her attention. But the child's behavior may quickly deteriorate and he or she may resist participation in activity because the enriched experiences are overwhelming to a nervous system that cannot process the heightened cues and increased levels of information. This combination can present a challenge for early intervention providers, families and other caretakers. Introducing small amounts of change and careful monitoring of the child's behavior is response to strategies that are implemented are recommended in order to support children with these sensory preferences.

Studies with older children with disabilities (Dunn & Bennett, 2002; Dunn, Myles & Orr, 2002; Kientz & Dunn, 1997; Watling, Dietz & White, 2001; Yochman, Parush & Ornoy, 2004) have also reported different sensory processing patterns when compared to children without disabilities.

4 Infant/Toddler Sensory Profile: Information for New Users

What materials are included in the ITSP?

The ITSP includes the:

- *User's Manual*
- *Caregiver Questionnaire* booklet (English and Spanish versions available)
- *Summary Score Sheet*

There are no other materials needed for administration, scoring and interpreting the ITSP.

Learning Activity

Take out one of the *Caregiver Questionnaire* booklets and one of the *Summary Score Sheet*s. Review how they are laid out. Look at the cover of the questionnaire and you will see that pages 2-4 of the booklet include items for the parent of a child whose age is either within the birth to 6 months range, or the 7 to 36 months range. Notice that when you turn over the *Caregiver Questionnaire* booklet, items for the other age group are represented on pages 2-4.

What do I do first when administering the ITSP?

Before you have the parent complete the questionnaire, be sure that you know the child's age. You need to subtract the child's birth date from the date the parent or caregiver completes the questionnaire in order to compute the child's chronological age. It's important to remember that when borrowing days from months, always borrow 30 days, regardless of the actual length of the month.

A. ITSP is completed by parent on 11/20/04 for a child whose birth date is 3/26/02.

	Year	Month	Day
Questionnaire date	*2004*	*~~11~~ 10*	*20 + 30 = 50*
Birth date	*2002*	*3*	*26*
Child's chronological age	*2 years*	*7 months*	*24 days*

At two years, seven months and 24 days of age, this child is considered to be 32 months old.

B. ITSP is completed by parent on 1/14/05 for a child whose birth date is 8/1/04.

	Year	Month	Day
Questionnaire date	*~~2005~~ '04*	*1 + 12 =13*	*14*
Birth date	*2004*	*8*	*1*
Child's chronological age	*0 years*	*5 months*	*13 days*

This child is 5 months old.

Practice Opportunity

Compute the child's chronological age in the samples on the next page.

Try these examples for additional practice in computing a child's chronological age.

	Year	Month	Day
Date of Questionnaire	2004	12	15
Date of Birth	2003	5	7
Chronological Age			

1. Child is _____ months old.

	Year	Month	Day
Date of Questionnaire	2004	12	2
Date of Birth	2001	11	15
Chronological Age			

2. Child is _____ months old.

	Year	Month	Day
Date of Questionnaire	2004	11	15
Date of Birth	2004	1	17
Chronological Age			

3. Child is _____ months old.

	Year	Month	Day
Date of Questionnaire	2005	1	17
Date of Birth	2003	5	3
Chronological Age			

4. Child is _____ months old.

	Year	Month	Day
Date of Questionnaire	2004	8	9
Date of Birth	2001	11	15
Chronological Age			

5. Child is _____ months old.

Correct chronological age for items on previous page:

1. *At 1 year, 7 months, 8 days, child is 19 months old.*
2. *At 3 years, 17 days, child is 37 months old and is too old for the ITSP. The Sensory Profile for children 3-10 years of age should be used.*
3. *At 9 months, 28 days, child is 10 months old.*
4. *At 1 year, 8 months, 14 days, child is 20 months old.*
5. *At 2 years, 8 months, 24 days, child is 33 months old.*

What should I tell the parent when I give him or her the ITSP Caregiver Questionnaire?

If a parent has difficulty reading, or doesn't speak or understand English, the early intervention provider may offer assistance so the parent comprehends what information he or she needs to consider in order to respond to the items. A *Caregiver Questionnaire* in Spanish is available from the publisher.

Let the parent know that the booklet also includes space to write information related to their own concerns and views about their child's strengths. When there isn't an opportunity to see the parent in person, the *Caregiver Questionnaire* can be mailed to the parent along with brief instructions for its completion and return.

Learning Activity

Take a few minutes to read through the instructions that are provided for the parent on the cover of *the Caregiver Questionnaire* booklet. You can see that the parent is asked to identify how often their child demonstrates specific behaviors. The ITSP is based upon the parent's judgment. Parents of children with and without disabilities who participated in the standardization process completed the ITSP in this same manner. *It's important that you follow this administration procedure in order to consider the child's ITSP results in relation to those of the national sample of children.*

What happens after the parent completes the Caregiver Questionnaire?

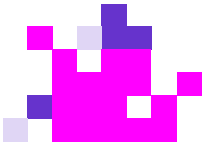
Raw score points are assigned to the response for each item according to the following distribution:

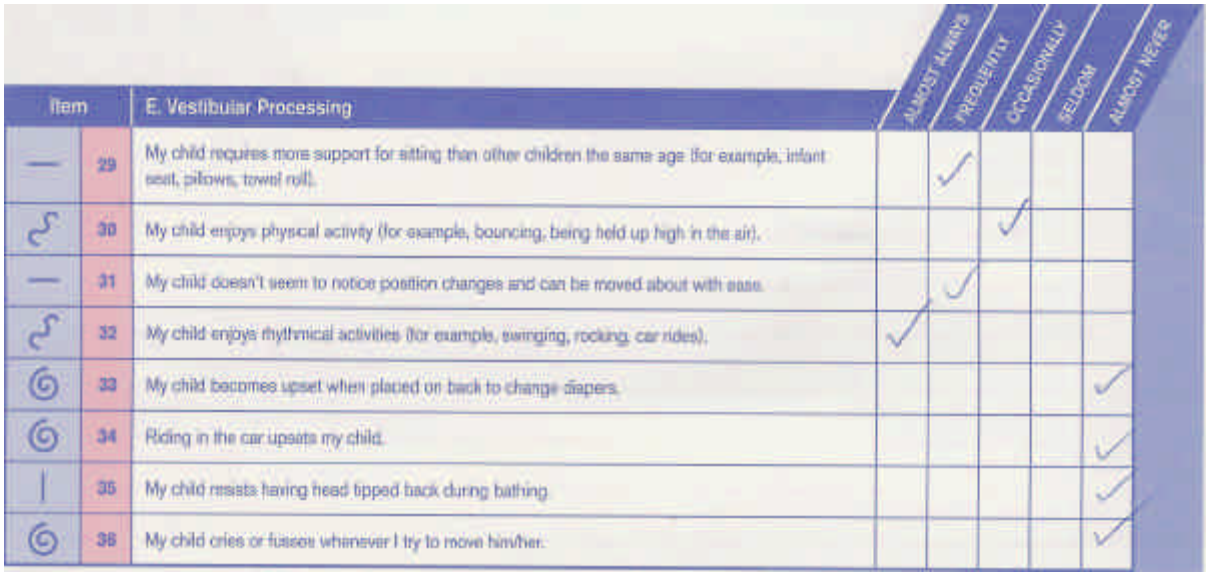
Almost always = 1 point	Seldom = 4 points
Frequently = 2 points	Almost never = 5 points
Occasionally = 3 points	

If a parent marked between two frequencies, count the lower number (see page 33 in the *User's Manual)*. An example of ITSP item scoring is illustrated on page 34 in the *User's Manual.*

Practice Opportunity

Assign raw score values to the parent's responses in this section of the *Caregiver Questionnaire.*



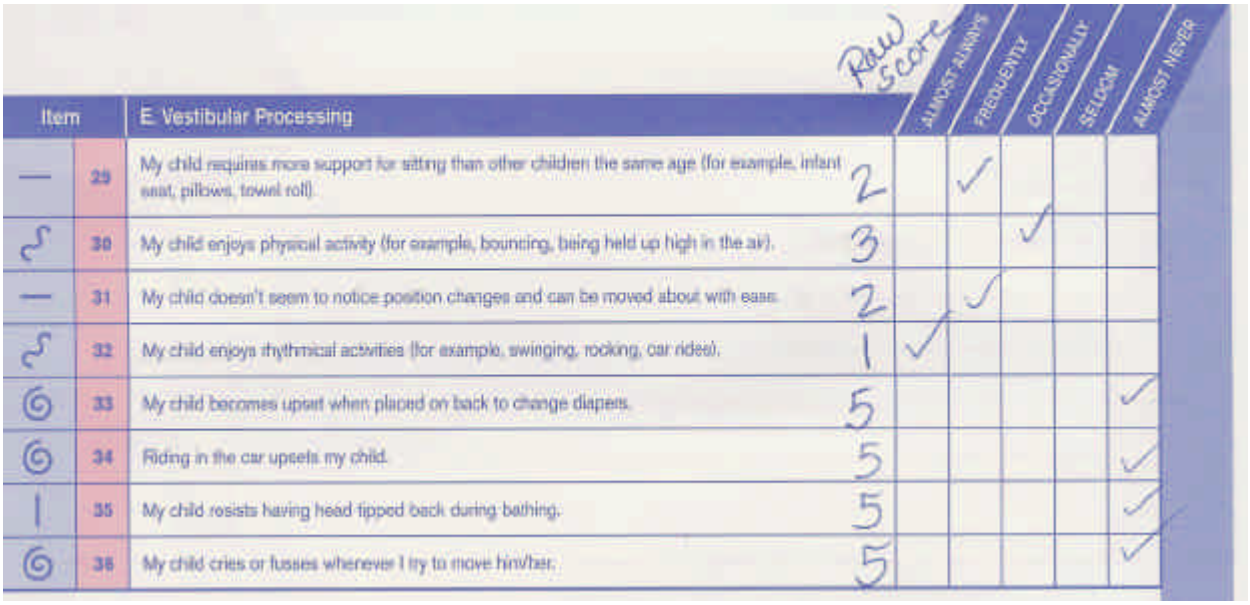


Item		E. Vestibular Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
—	29	My child requires more support for sitting than other children the same age (for example, infant seat, pillows, towel roll).		✓			
∿	30	My child enjoys physical activity (for example, bouncing, being held up high in the air).			✓		
—	31	My child doesn't seem to notice position changes and can be moved about with ease.		✓			
∿	32	My child enjoys rhythmical activities (for example, swinging, rocking, car rides).	✓				
@	33	My child becomes upset when placed on back to change diapers.					✓
@	34	Riding in the car upsets my child.					✓
|	35	My child resists having head tipped back during bathing.					✓
@	36	My child cries or fusses whenever I try to move him/her.					✓

Infant / Toddler Sensory Profile Caregiver Questionnaire. Copyright 2002 by Harcourt Assessment, Inc. Reproduced with permission. All rights reserved.

Check your work

Correct raw score values for items on previous page.



Item		E. Vestibular Processing	Raw Score	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
—	29	My child requires more support for sitting than other children the same age (for example, infant seat, pillows, towel roll).	2		✓			
∫	30	My child enjoys physical activity (for example, bouncing, being held up high in the air).	3			✓		
—	31	My child doesn't seem to notice position changes and can be moved about with ease.	2		✓			
∫	32	My child enjoys rhythmical activities (for example, swinging, rocking, car rides).	1	✓				
⊙	33	My child becomes upset when placed on back to change diapers.	5					✓
⊙	34	Riding in the car upsets my child.	5					✓
|	35	My child resists having head tipped back during bathing.	5					✓
⊙	36	My child cries or fusses wherever I try to move him/her.	5					✓

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What is the Summary Score Sheet?

The *Summary Score Sheet* is designed to help you interpret the child's sensory processing abilities. In addition to the child's chronological age, of the *Summary Score Sheet*, other demographic information about the child is recorded on the cover page of the *Summary Score Sheet.* Details about completing this sheet are included in each of the two the practice sections in this module (beginning on page 18 and on page 27).

Resources in the ITSP *User's Manual*

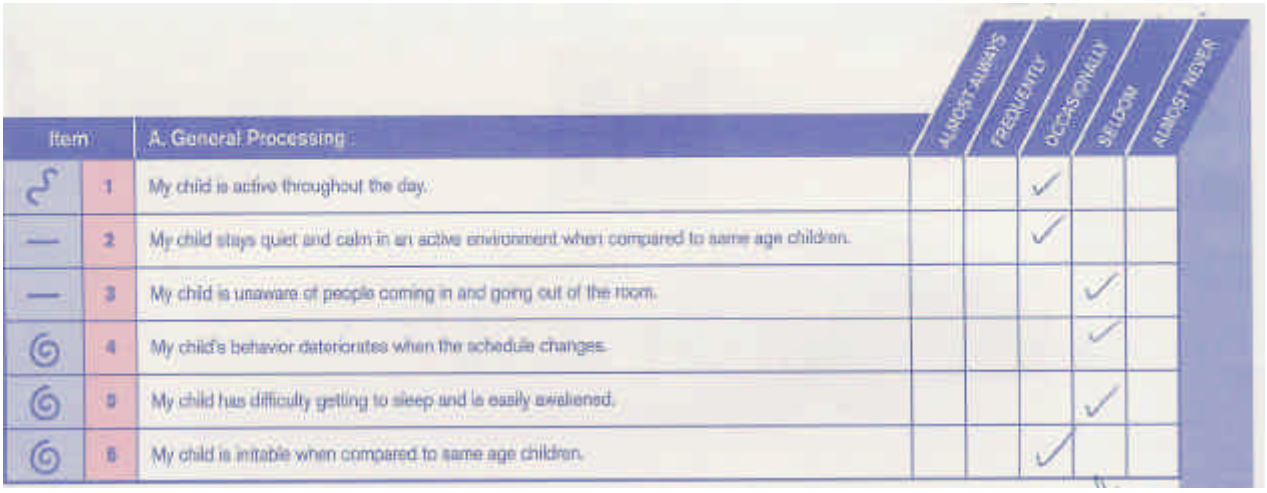
Completed sample cover pages of the Summary Score Sheet are included in the User's Manual on pages 76, 84, 91, 101 and 110. review these examples for an idea of the kinds of referral information and comments you may wish to document.

5 Practice Scoring and Interpreting the ITSP - Birth to 6 months

Practice Opportunity

Sections from Jamar's *Caregiver Questionnaire* are provided below and on the next two pages. Compute the raw score points for these items and then complete Jamar's Quadrant Grid on the blank *Summary Score Sheet* that's provided on page 21.

Jamar



Item		A. General Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
	1	My child is active throughout the day.			✓		
	2	My child stays quiet and calm in an active environment when compared to same age children.			✓		
	3	My child is unaware of people coming in and going out of the room.				✓	
	4	My child's behavior deteriorates when the schedule changes.				✓	
	5	My child has difficulty getting to sleep and is easily awakened.				✓	
	6	My child is irritable when compared to same age children.			✓		

Jamar

Item		B. Auditory Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
—	7	I have to speak loudly to get my child's attention.				✓	
—	8	My child remains calm, even with sudden, everyday sounds (for example, dog barking, phone).		✓			
—	9	I have to touch my child to gain attention.				✓	
—	10	My child seems unaware of continuous noise in the environment (for example, TV, stereo).				✓	
∫	11	My child enjoys making sounds with his/her mouth.			✓		
—	12	My child takes a long time to respond, even to familiar voices.			✓		
◎	13	My child startles easily at sound, compared to other children the same age.				✓	
◎	14	My child is distracted and/or has difficulty eating in noisy environments.				✓	
—	15	My child ignores me when I am talking.			✓		

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Jamar

Item		C. Visual Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
∫	16	My child enjoys looking at moving or spinning objects (for example, ceiling fans, toys with wheels, floor fans).			✓		
∫	17	My child enjoys looking at shiny objects.			✓		
—	18	My child reacts to all faces the same way (for example, to strangers, parents, caregivers, grandparents, siblings).			✓		
◎	19	My child gets fussy when exposed to bright lights.				✓	
—	20	My child avoids eye contact with me.		✓			
◎	21	My child startles at own reflection in the mirror.					✓
|	22	My child avoids looking at toys.			✓		

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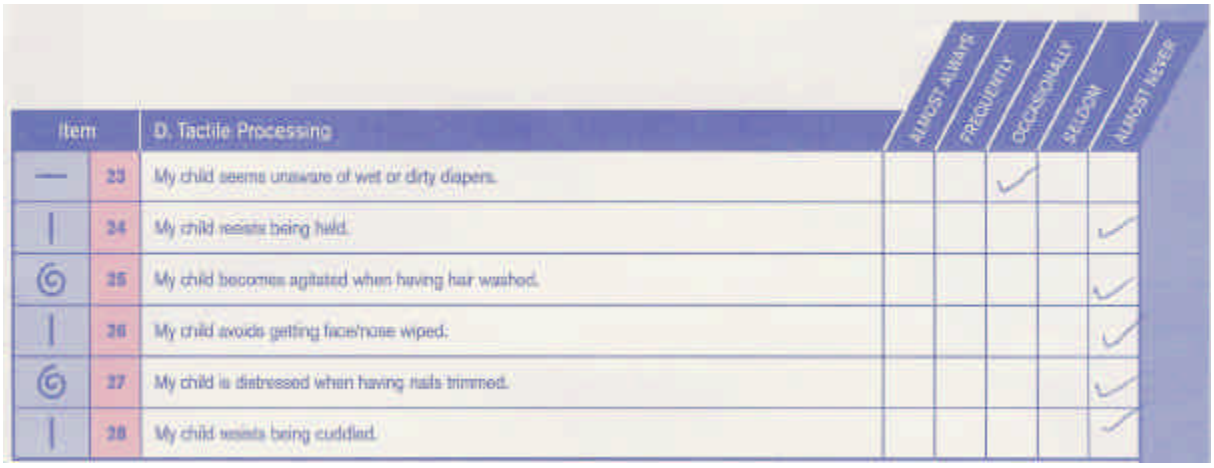
Jamar



Item		D. Tactile Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
—	23	My child seems unaware of wet or dirty diapers.			✓		
|	24	My child resists being held.					✓
🌀	25	My child becomes agitated when having hair washed.					✓
|	26	My child avoids getting face/nose wiped.					✓
🌀	27	My child is distressed when having nails trimmed.					✓
|	28	My child resists being cuddled.					✓

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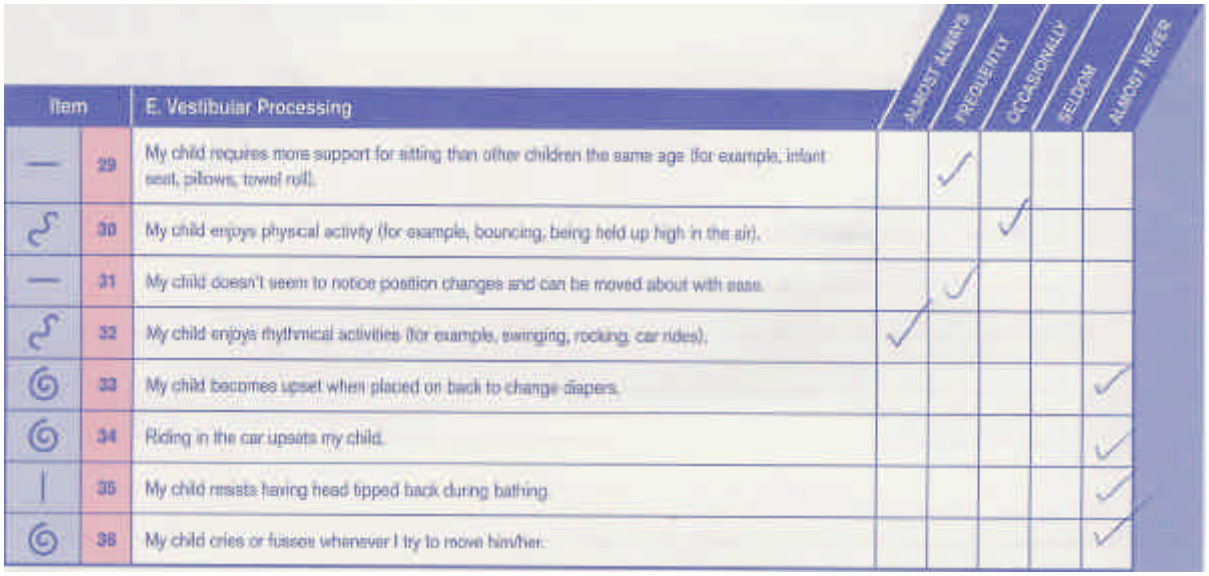
Jamar



Item		E. Vestibular Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
—	29	My child requires more support for sitting than other children the same age (for example, infant seat, pillows, towel roll).		✓			
〰	30	My child enjoys physical activity (for example, bouncing, being held up high in the air).			✓		
—	31	My child doesn't seem to notice position changes and can be moved about with ease.		✓			
〰	32	My child enjoys rhythmical activities (for example, swinging, rocking, car rides).	✓				
🌀	33	My child becomes upset when placed on back to change diapers.					✓
🌀	34	Riding in the car upsets my child.					✓
|	35	My child resists having head tipped back during bathing.					✓
🌀	36	My child cries or fusses whenever I try to move him/her.					✓

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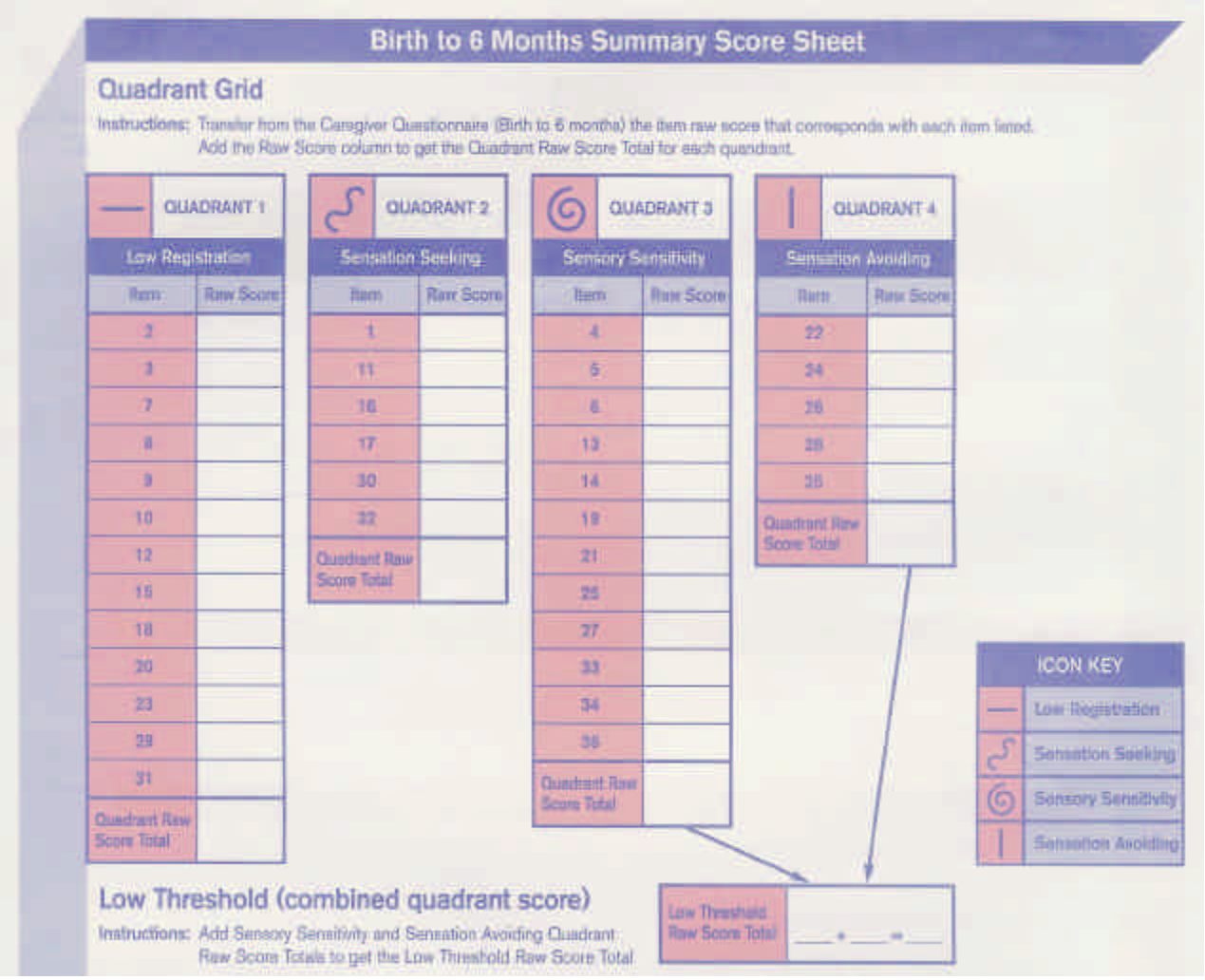

Birth to 6 Months Summary Score Sheet

Quadrant Grid

Instructions: Transfer from the Caregiver Questionnaire (Birth to 6 months) the item raw score that corresponds with each item listed. Add the Raw Score column to get the Quadrant Raw Score Total for each quandrant.

QUADRANT 1 — Low Registration

Item	Raw Score
2	
3	
7	
8	
9	
10	
12	
15	
18	
20	
23	
29	
31	
Quadrant Raw Score Total	

QUADRANT 2 — Sensation Seeking

Item	Raw Score
1	
11	
16	
17	
30	
32	
Quadrant Raw Score Total	

QUADRANT 3 — Sensory Sensitivity

Item	Raw Score
4	
5	
6	
13	
14	
19	
21	
25	
27	
33	
34	
36	
Quadrant Raw Score Total	

QUADRANT 4 — Sensation Avoiding

Item	Raw Score
22	
24	
26	
28	
35	
Quadrant Raw Score Total	

ICON KEY

- Low Registration
- Sensation Seeking
- Sensory Sensitivity
- Sensation Avoiding

Low Threshold (combined quadrant score)

Instructions: Add Sensory Sensitivity and Sensation Avoiding Quadrant Raw Score Totals to get the Low Threshold Raw Score Total

Low Threshold Raw Score Total ____ + ____ = ____

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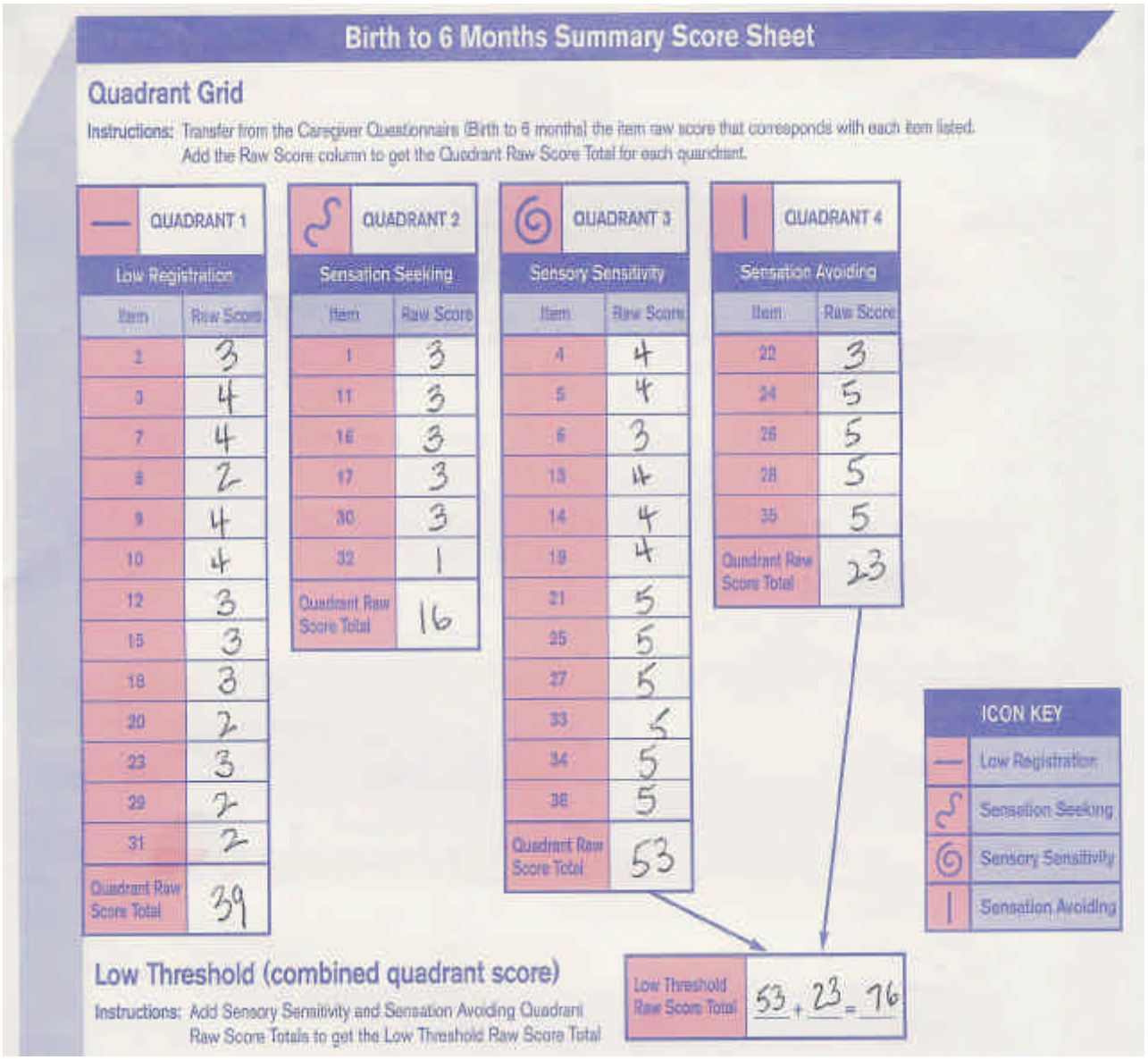
Compare your work

Jamar's completed Quadrant Grid is shown on the next page.

Jamar



Birth to 6 Months Summary Score Sheet

Quadrant Grid

Instructions: Transfer from the Caregiver Questionnaire (Birth to 6 months) the item raw score that corresponds with each item listed. Add the Raw Score column to get the Quadrant Raw Score Total for each quadrant.

QUADRANT 1 — Low Registration

Item	Raw Score
2	3
3	4
7	4
8	2
9	4
10	4
12	3
15	3
18	3
20	2
23	3
29	2
31	2
Quadrant Raw Score Total	39

QUADRANT 2 — Sensation Seeking

Item	Raw Score
1	3
11	3
16	3
17	3
30	3
32	1
Quadrant Raw Score Total	16

QUADRANT 3 — Sensory Sensitivity

Item	Raw Score
4	4
5	4
6	3
13	4
14	4
19	4
21	5
25	5
27	5
33	5
34	5
36	5
Quadrant Raw Score Total	53

QUADRANT 4 — Sensation Avoiding

Item	Raw Score
22	3
24	5
26	5
28	5
35	5
Quadrant Raw Score Total	23

ICON KEY

- Low Registration
- Sensation Seeking
- Sensory Sensitivity
- Sensation Avoiding

Low Threshold (combined quadrant score)

Instructions: Add Sensory Sensitivity and Sensation Avoiding Quadrant Raw Score Totals to get the Low Threshold Raw Score Total

Low Threshold Raw Score Total	53 + 23 = 76

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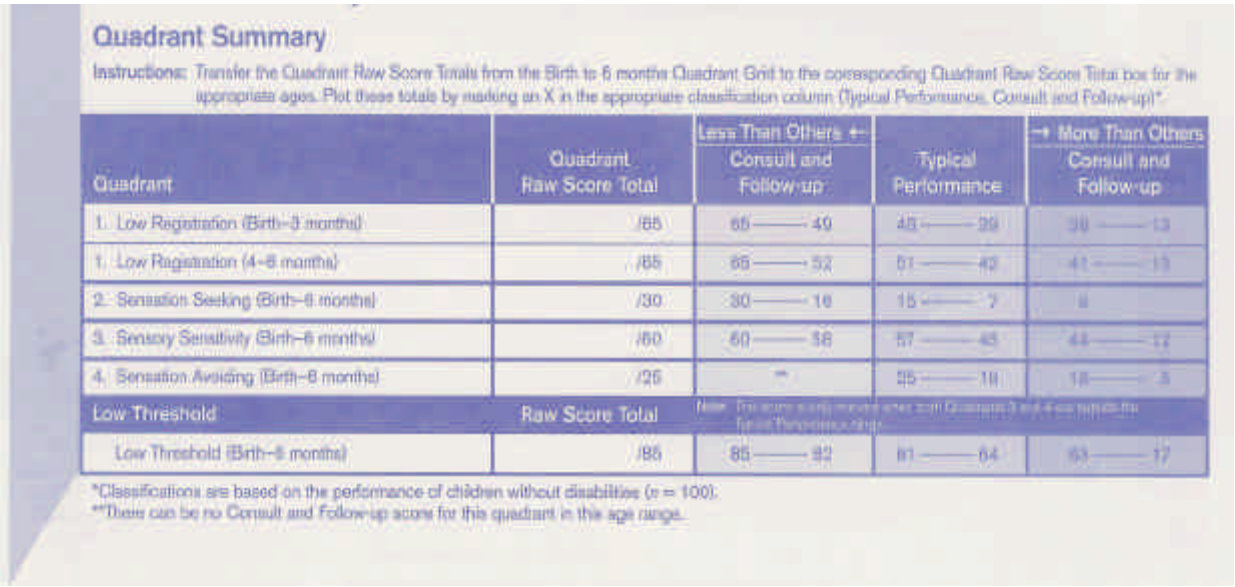
If you had any difficulty with this scoring, review pages 16-17 in this module.

Quadrant Summary descriptions are determined next. Follow the steps below to complete this procedure.

Step 1: Transfer the four quadrant scores into the second column of the Quadrant Summary table that's on the lower part of the page.

- Be sure that you reference the child's chronological age (computed and recorded on the *Summary Score Sheet* cover) before you complete this section. The Low Registration Quadrant is represented by two different subgroups in the birth to 6 month age range.

Step 2: For each score, move across the row into the blue shaded areas until you reach the score's location within the numerical range. Identify that position with an "X." You've just marked the column that describes the child's sensory processing abilities when compared to other infants from birth to 6 months of age.



Quadrant Summary

Instructions: Transfer the Quadrant Raw Score Totals from the Birth to 6 months Quadrant Grid to the corresponding Quadrant Raw Score Total box for the appropriate ages. Plot these totals by making an X in the appropriate classification column (Typical Performance, Consult and Follow-up)*.

Quadrant	Quadrant Raw Score Total	← Less Than Others: Consult and Follow-up	Typical Performance	→ More Than Others: Consult and Follow-up
1. Low Registration (Birth–3 months)	/65	65 — 40	45 — 29	28 — 13
1. Low Registration (4–6 months)	/65	65 — 52	51 — 42	41 — 13
2. Sensation Seeking (Birth–6 months)	/30	30 — 16	15 — 7	6
3. Sensory Sensitivity (Birth–6 months)	/60	60 — 56	57 — 45	44 — 12
4. Sensation Avoiding (Birth–6 months)	/26	**	25 — 18	18 — 3
Low Threshold	**Raw Score Total**			
Low Threshold (Birth–6 months)	/85	85 — 82	81 — 64	63 — 17

*Classifications are based on the performance of children without disabilities (n = 100).
**There can be no Consult and Follow-up score for this quadrant in this age range.

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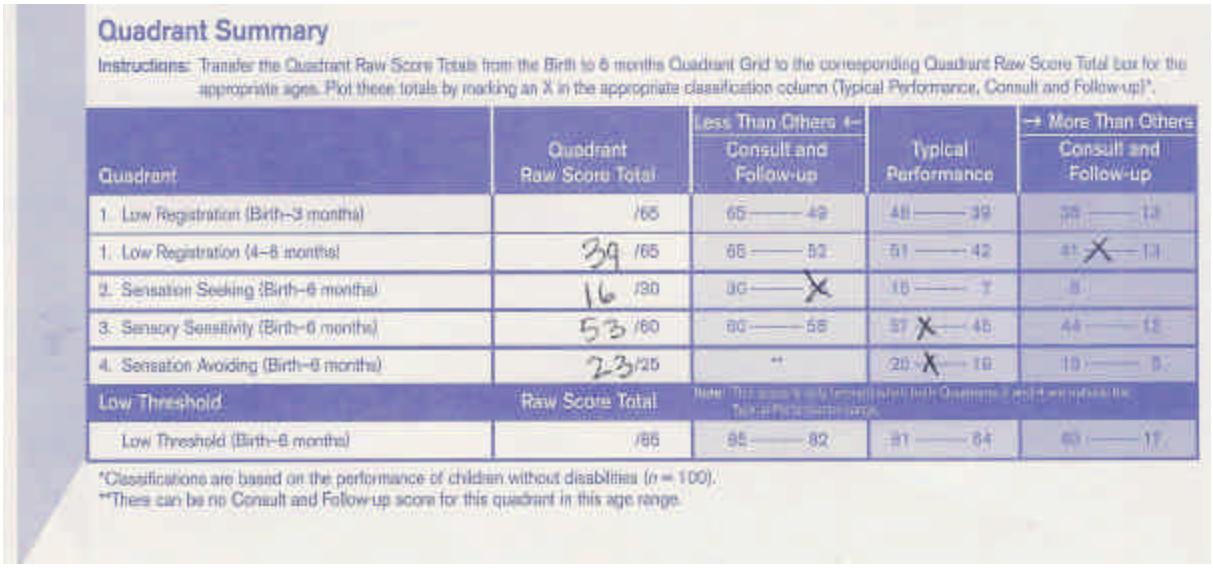
Compare your work

Jamar's completed Quadrant Summary is shown on the next page.

Jamar



Quadrant Summary

Instructions: Transfer the Quadrant Raw Score Totals from the Birth to 6 months Quadrant Grid to the corresponding Quadrant Raw Score Total box for the appropriate ages. Plot these totals by marking an X in the appropriate classification column (Typical Performance, Consult and Follow-up)*.

Quadrant	Quadrant Raw Score Total	← Less Than Others: Consult and Follow-up	Typical Performance	→ More Than Others: Consult and Follow-up
1. Low Registration (Birth–3 months)	/65	65 — 49	48 — 39	38 — 13
1. Low Registration (4–6 months)	39 /65	65 — 52	51 — 42	41 X 13
2. Sensation Seeking (Birth–6 months)	16 /30	30 — X	15 — 7	6
3. Sensory Sensitivity (Birth–6 months)	53 /60	60 — 58	57 X 46	44 — 12
4. Sensation Avoiding (Birth–6 months)	23/25	**	20 X 10	10 — 5
Low Threshold	**Raw Score Total**			
Low Threshold (Birth–6 months)	/66	66 — 62	61 — 54	53 — 11

*Classifications are based on the performance of children without disabilities ($n = 100$).
**There can be no Consult and Follow-up score for this quadrant in this age range.

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Look at Jamar's 3rd and 4th quadrant scores in the Quadrant Summary grid that you just completed. Since both of these scores are within the typical performance range, a Low Threshold score was not recorded in this table. If you are unfamiliar with this scoring, please review pages 36-37 in the *User's Manual.*

Resources in the ITSP *User's Manual*

More examples of quadrant scoring on the Summary Score Sheet are illustrated in the User's Manual on pages 35-37 as well as in the Case Studies in Chapter 7 (pp. 69-114). Note the score sheet for Ben on page 77. His 3rd and 4th quadrant scores are atypical. Therefore, the "Low Threshold" score is recorded on Ben's Quadrant Summary grid.

Once scoring is complete, how are the results interpreted?

Interpretation points for children in the birth to 6 months age range

- ITSP scores for this age group represent either typical performance or suggest a need for consultation and follow-up.
- The scores do not lead to recommendations for services by specific disciplines or by early interventionists.
- ITSP results, combined with parent interview and skilled observation, provide information that team members can use to develop suggestions for the family to implement within their daily care routines. This helps the parent to provide experiences that are responsive the baby's needs. The purpose is to provide optimal opportunities for bonding, interaction and early learning throughout the parent and child's day.

For example, when bath time presents a challenge for an infant who tends to move away from sensations (sensation avoiding), the provider may make specific recommendations for use during this activity. The temperature can be raised in the room before the child is undressed, radio and television in the area can be turned off, the parent can talk softly and slowly, use firm holds to place the baby in the water, avoid splashing water or pouring water streams onto baby's skin, and wash the baby with a soft cotton washcloth with firm but gentle pressure.

When scores suggest follow-up, the recommendations should include a means to check back with the parent, perhaps with a subsequent phone call or through a visit with the family. The early intervention provider should document this plan and ensure that it is carried out.

Learning Activity

Think about Jamar . . .

His mother reported that he is a very easy-going baby. He doesn't seem to get upset easily and goes along with the daily routine, even when things get hectic. He's been sleeping through the night for several months and he readily takes naps during the day. She wishes that he looked around more and was more active during meals and playtime, rather than being so content. He likes to look at his mobile and other toys that hang in his crib.

Do Jamar's ITSP results provide any possible explanation for his behavior? What suggestions can you give Jamar's mother so that she provides optimal opportunities for him to learn and develop?

Write down some of your ideas . . . .

Compare your ideas

Did you conclude …

- Jamar's profile reflects that sensory sensitivity and sensation avoiding behaviors are demonstrated with frequency that are typical for infants his age.
- He demonstrates seeking behaviors less frequently than other infants his age.
- He demonstrates low registration behaviors to a greater extent than infants his age.

Jamar has a combination of "more" Low Registration and "less" Seeking. This means that he tends to notice less and may miss cues in the environment. He doesn't actively look for additional sensory information. Perhaps his interest in the mobile and other toys that hang in his crib relates to the availability of these toys right in front of his face—he doesn't have to seek them out.

Did you identify recommendations that you may make to Jamar's mother?

A general strategy is to increase the intensity and variety of sensory input that's available to Jamar. Touch, movement, sound and visual stimulation can be increased in daily routines such as bath time, mealtime and play.

Some ideas include:

- playing a variety of music types during the day
- changing the intonation in voice when speaking to Jamar
- moving him frequently during the day
- giving him brisk massages when he wakes and during the day
- frequently changing the toys that hang in his crib
- increasing the colors and contrasts that he sees in his bed and play areas
- giving him textured teethers and toys to grasp and play with
- varying food textures and tastes to the extent that fits within his diet

What else can you think of?

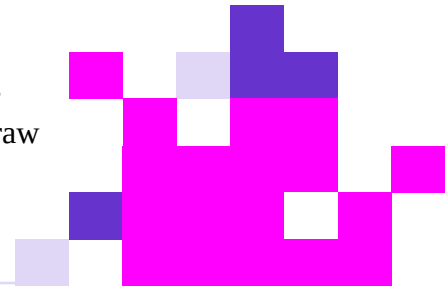
6 Practice Scoring and Interpreting the ITSP - 7 to 36 months

Jessie is 22 months old and lives at home with both of her parents. During the initial interview Jessie's mom reported that mealtime is a challenge because Jessie often refuses to eat and ultimately she's fed by an adult. Despite her fussing, she needs to eat in order to gain weight, so her parents persist. Jessie becomes increasingly distressed and the mealtime experience becomes unpleasant. The family enjoys eating out, but their choice of restaurants is limited only to several familiar places that offer menu items they know Jessie will eat. Otherwise, Jessie's parents feed her before they take her out and then hope that she will be content while her parents order and eat their own meals.

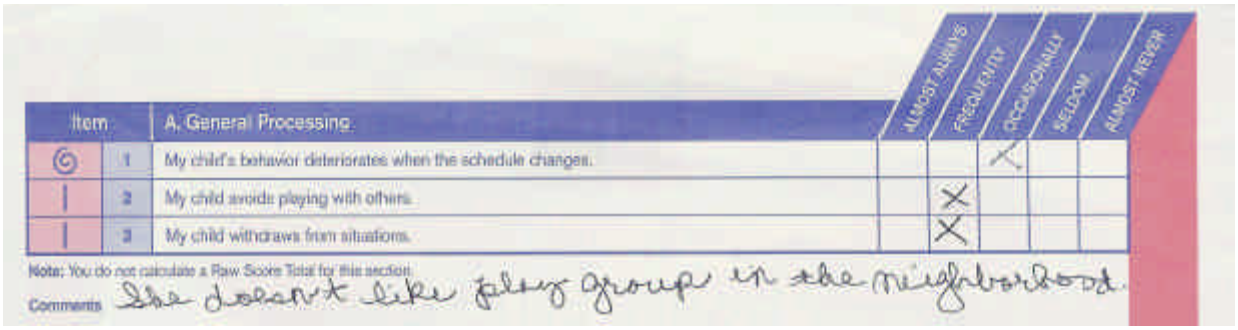
She doesn't play well by herself—she generally needs someone to get on the floor with her and start playing with the toy. After watching, she will try to repeat the same activity but her efforts don't continue without prompting. She doesn't seem to show a preference for music or children's television programs. Jessie doesn't interact when she is around other toddlers in the neighborhood. She generally sits near her mother and watches their play. She becomes easily upset when children come near her and attempt to interact. After several minutes she cries and clings to her mother. She enjoys sitting in the stroller for walks around the neighborhood, but is less content for walks in the nearby community park.

Practice Opportunity

Sections from Jessie's *Caregiver Questionnaire* are provided on the next 3 pages. Compute the raw score points for these items and then complete Jessie's Quadrant Grid on the blank *Summary Score Sheet* that's provided on page 32.



Jessie



Item		A. General Processing	Almost Always	Frequently	Occasionally	Seldom	Almost Never
	1	My child's behavior deteriorates when the schedule changes.			X		
	2	My child avoids playing with others.		X			
	3	My child withdraws from situations.		X			

Note: You do not calculate a Raw Score Total for this section.

Comments She doesn't like play groups in the neighborhood.

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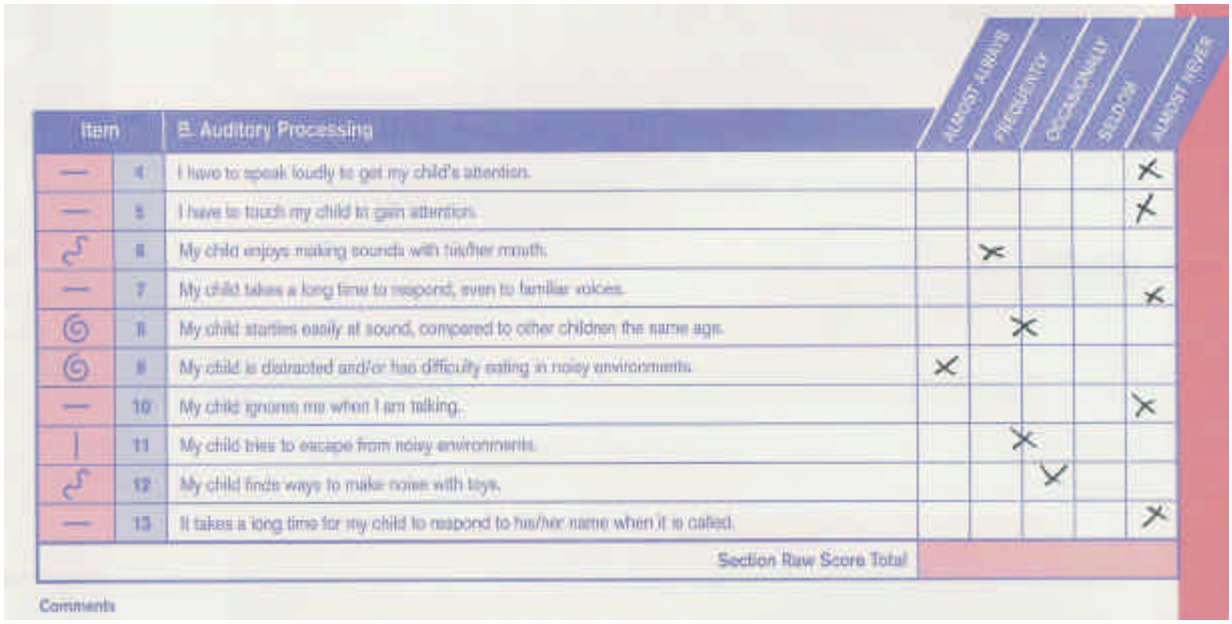
Jessie



Item		B. Auditory Processing	Almost Always	Frequently	Occasionally	Seldom	Almost Never
	4	I have to speak loudly to get my child's attention.					X
	5	I have to touch my child to gain attention.					X
	6	My child enjoys making sounds with his/her mouth.		X			
	7	My child takes a long time to respond, even to familiar voices.					X
	8	My child startles easily at sound, compared to other children the same age.			X		
	9	My child is distracted and/or has difficulty eating in noisy environments.	X				
	10	My child ignores me when I am talking.					X
	11	My child tries to escape from noisy environments.			X		
	12	My child finds ways to make noises with toys.				X	
	13	It takes a long time for my child to respond to his/her name when it is called.					X
		Section Raw Score Total					

Comments

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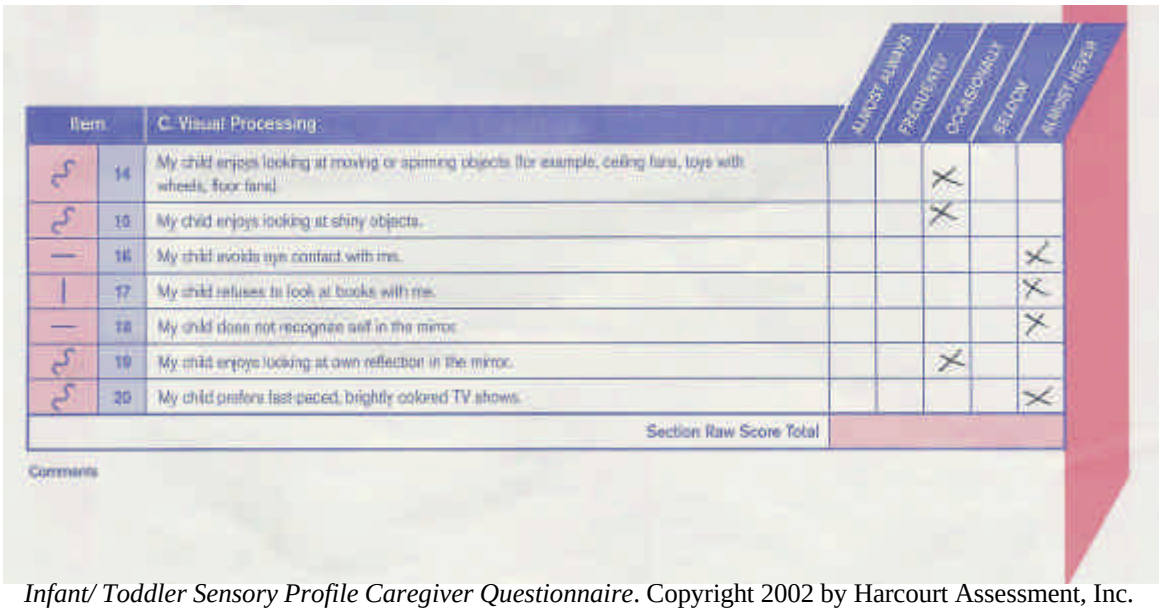
Jessie



Item		C. Visual Processing	Almost Always	Frequently	Occasionally	Seldom	Almost Never
	14	My child enjoys looking at moving or spinning objects (for example, ceiling fans, toys with wheels, floor fans)			X		
	15	My child enjoys looking at shiny objects.			X		
	16	My child avoids eye contact with me.					X
	17	My child refuses to look at books with me.					X
	18	My child does not recognize self in the mirror.					X
	19	My child enjoys looking at own reflection in the mirror.			X		
	20	My child prefers fast-paced, brightly colored TV shows.					X
		Section Raw Score Total					

Comments

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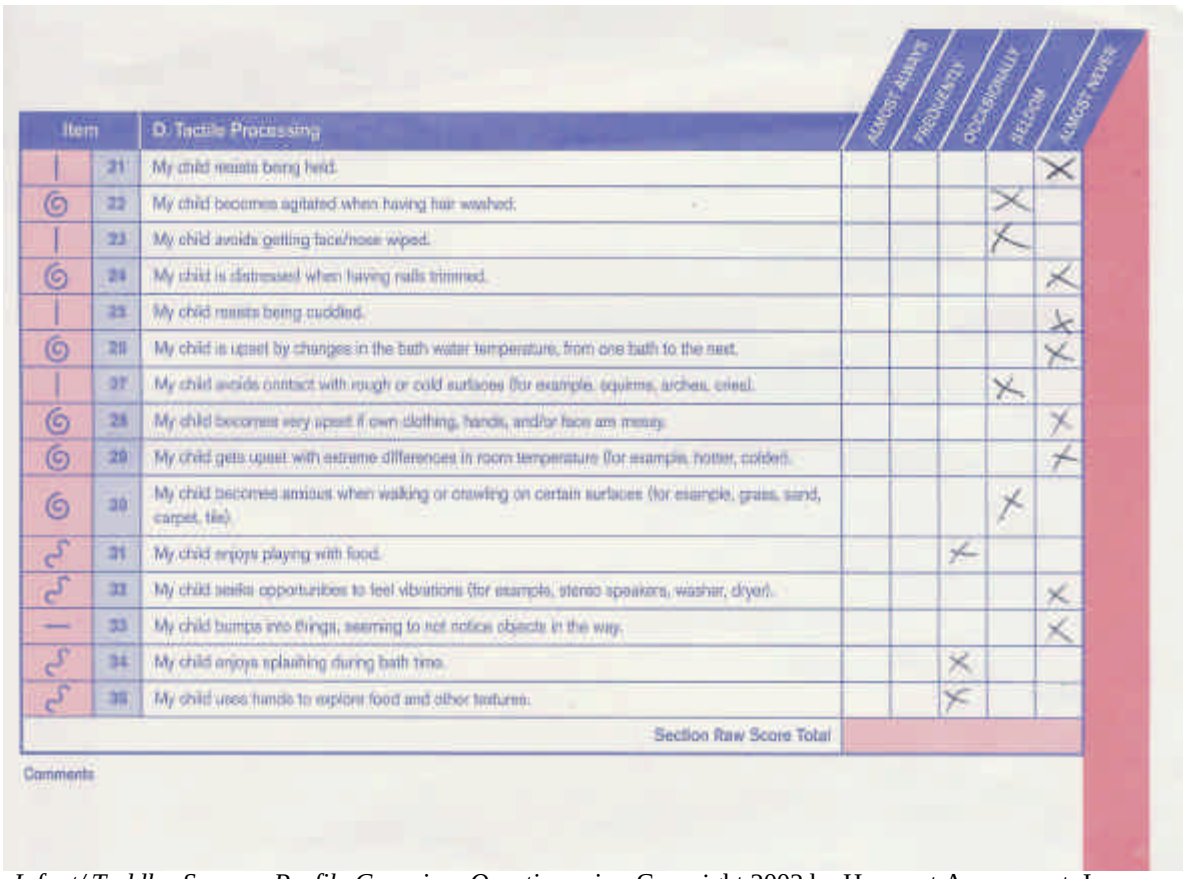

Item		D. Tactile Processing	Almost Always	Frequently	Occasionally	Seldom	Almost Never
	21	My child resists being held.					X
	22	My child becomes agitated when having hair washed.				X	
	23	My child avoids getting face/nose wiped.				X	
	24	My child is distressed when having nails trimmed.					X
	25	My child resists being cuddled.					X
	26	My child is upset by changes in the bath water temperature, from one bath to the next.					X
	27	My child avoids contact with rough or cold surfaces (for example, squirms, arches, cries).				X	
	28	My child becomes very upset if own clothing, hands, and/or face are messy.					X
	29	My child gets upset with extreme differences in room temperature (for example, hotter, colder).					X
	30	My child becomes anxious when walking or crawling on certain surfaces (for example, grass, sand, carpet, tile).				X	
	31	My child enjoys playing with food.			X		
	32	My child seeks opportunities to feel vibrations (for example, stereo speakers, washer, dryer).					X
	33	My child bumps into things, seeming to not notice objects in the way.					X
	34	My child enjoys splashing during bath time.			X		
	35	My child uses hands to explore food and other textures.			X		
		Section Raw Score Total					

Comments

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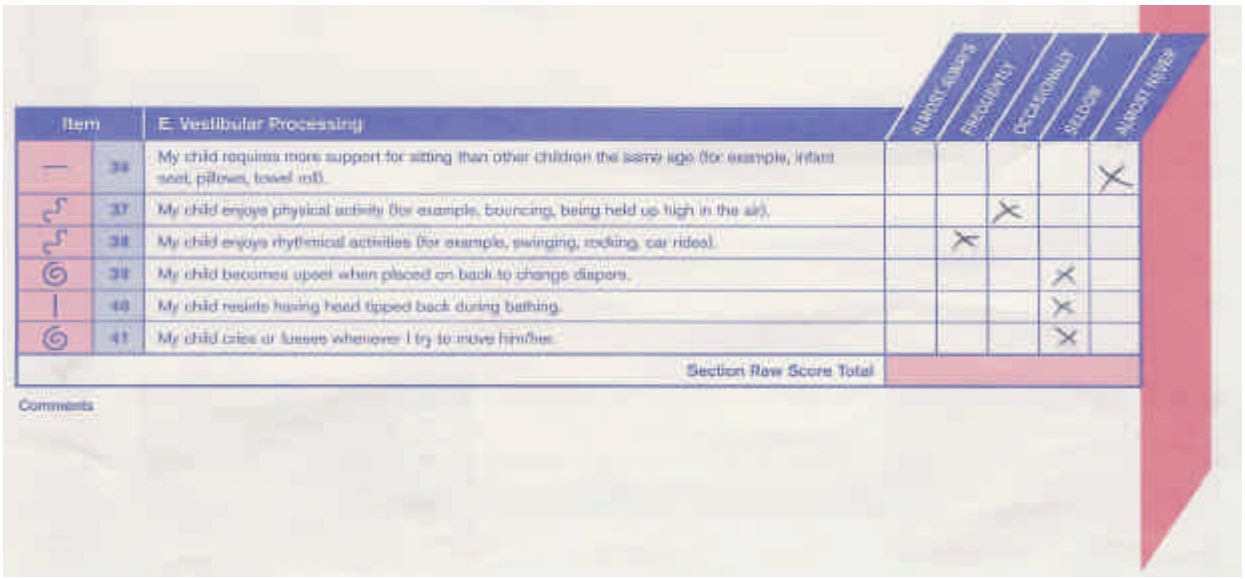
Jessie



Item		E. Vestibular Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
—	36	My child requires more support for sitting than other children the same age (for example, infant seat, pillows, towel roll).					X
~	37	My child enjoys physical activity (for example, bouncing, being held up high in the air).			X		
~	38	My child enjoys rhythmical activities (for example, swinging, rocking, car rides).		X			
@	39	My child becomes upset when placed on back to change diapers.				X	
|	40	My child resists having head tipped back during bathing.				X	
@	41	My child cries or fusses whenever I try to move him/her.				X	
		Section Raw Score Total					

Comments

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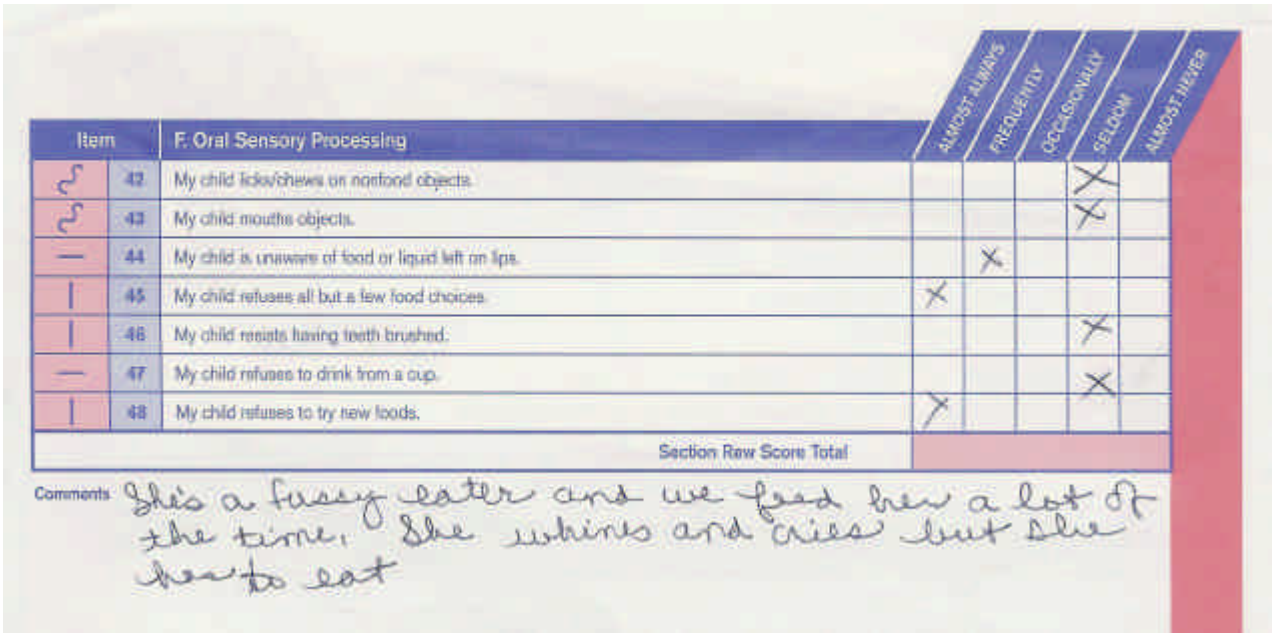

Item		F. Oral Sensory Processing	ALMOST ALWAYS	FREQUENTLY	OCCASIONALLY	SELDOM	ALMOST NEVER
~	42	My child licks/chews on nonfood objects.				X	
~	43	My child mouths objects.				X	
—	44	My child is unaware of food or liquid left on lips.		X			
|	45	My child refuses all but a few food choices.	X				
|	46	My child resists having teeth brushed.				X	
—	47	My child refuses to drink from a cup.				X	
|	48	My child refuses to try new foods.	X				
		Section Raw Score Total					

Comments She's a fussy eater and we feed her a lot of the time. She whines and cries but she has to eat

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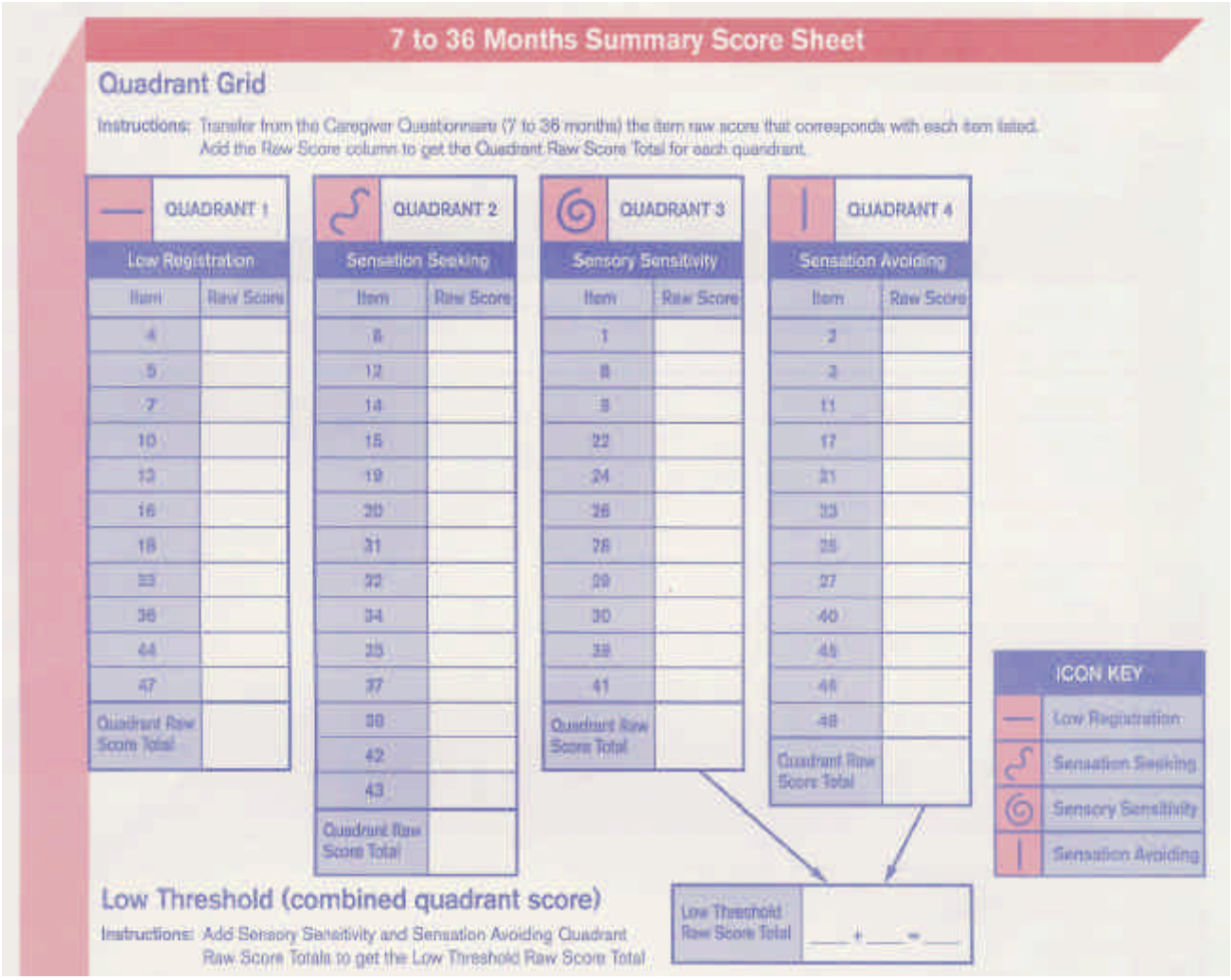

7 to 36 Months Summary Score Sheet

Quadrant Grid

Instructions: Transfer from the Caregiver Questionnaire (7 to 36 months) the item raw scores that corresponds with each item listed. Add the Raw Score column to get the Quadrant Raw Score Total for each quandrant.

QUADRANT 1	
Low Registration	
Item	Raw Score
4	
5	
7	
10	
13	
16	
18	
33	
36	
44	
47	
Quadrant Raw Score Total	

QUADRANT 2	
Sensation Seeking	
Item	Raw Score
6	
12	
14	
15	
19	
20	
31	
32	
34	
35	
37	
38	
42	
43	
Quadrant Raw Score Total	

QUADRANT 3	
Sensory Sensitivity	
Item	Raw Score
1	
8	
9	
22	
24	
26	
28	
29	
30	
39	
41	
Quadrant Raw Score Total	

QUADRANT 4	
Sensation Avoiding	
Item	Raw Score
2	
3	
11	
17	
21	
23	
25	
27	
40	
45	
46	
48	
Quadrant Raw Score Total	

ICON KEY
Low Registration
Sensation Seeking
Sensory Sensitivity
Sensation Avoiding

Low Threshold (combined quadrant score)

Instructions: Add Sensory Sensitivity and Sensation Avoiding Quadrant Raw Score Totals to get the Low Threshold Raw Score Total

Low Threshold Raw Score Total	___ + ___ = ___

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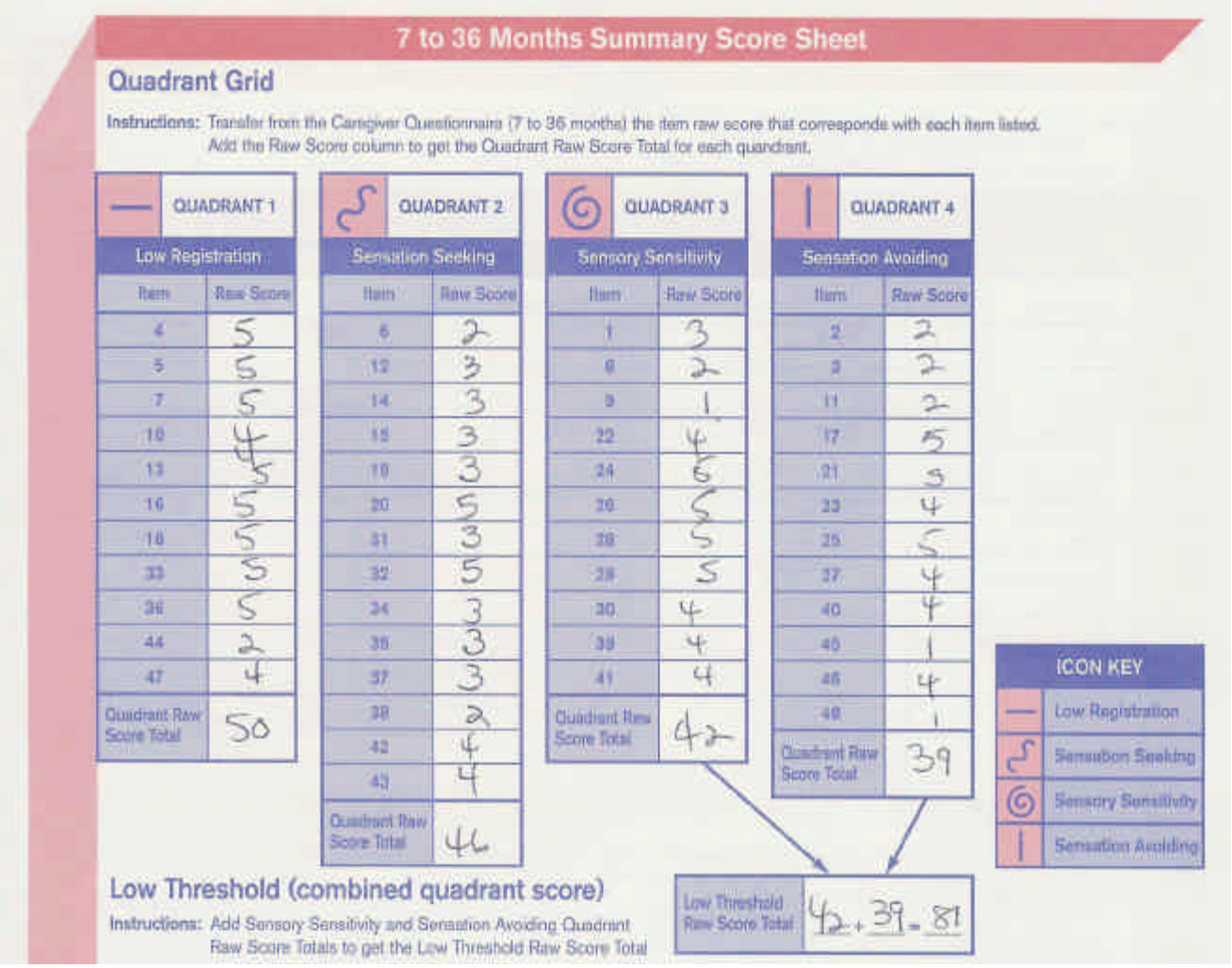
Compare your work

Jessie's completed Quadrant Grid is shown on the next page.

Jessie



7 to 36 Months Summary Score Sheet

Quadrant Grid

Instructions: Transfer from the Caregiver Questionnaire (7 to 36 months) the item raw score that corresponds with each item listed. Add the Raw Score column to get the Quadrant Raw Score Total for each quadrant.

QUADRANT 1 — Low Registration

Item	Raw Score
4	5
5	5
7	5
10	4
13	5
16	5
18	5
33	5
36	5
44	2
47	4
Quadrant Raw Score Total	50

QUADRANT 2 — Sensation Seeking

Item	Raw Score
6	2
12	3
14	3
15	3
19	3
20	5
31	3
32	5
34	3
35	3
37	3
38	2
42	4
43	4
Quadrant Raw Score Total	46

QUADRANT 3 — Sensory Sensitivity

Item	Raw Score
1	3
8	2
9	1
22	4
24	5
26	5
28	5
29	5
30	4
39	4
41	4
Quadrant Raw Score Total	42

QUADRANT 4 — Sensation Avoiding

Item	Raw Score
2	2
3	2
11	2
17	5
21	5
23	4
25	5
27	4
40	4
45	1
46	4
48	1
Quadrant Raw Score Total	39

ICON KEY

- Low Registration
- Sensation Seeking
- Sensory Sensitivity
- Sensation Avoiding

Low Threshold (combined quadrant score)

Instructions: Add Sensory Sensitivity and Sensation Avoiding Quadrant Raw Score Totals to get the Low Threshold Raw Score Total

Low Threshold Raw Score Total	42 + 39 = 81

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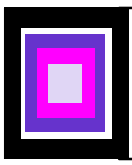


If you had any difficulty with this scoring, review pages 16-17 in this module.

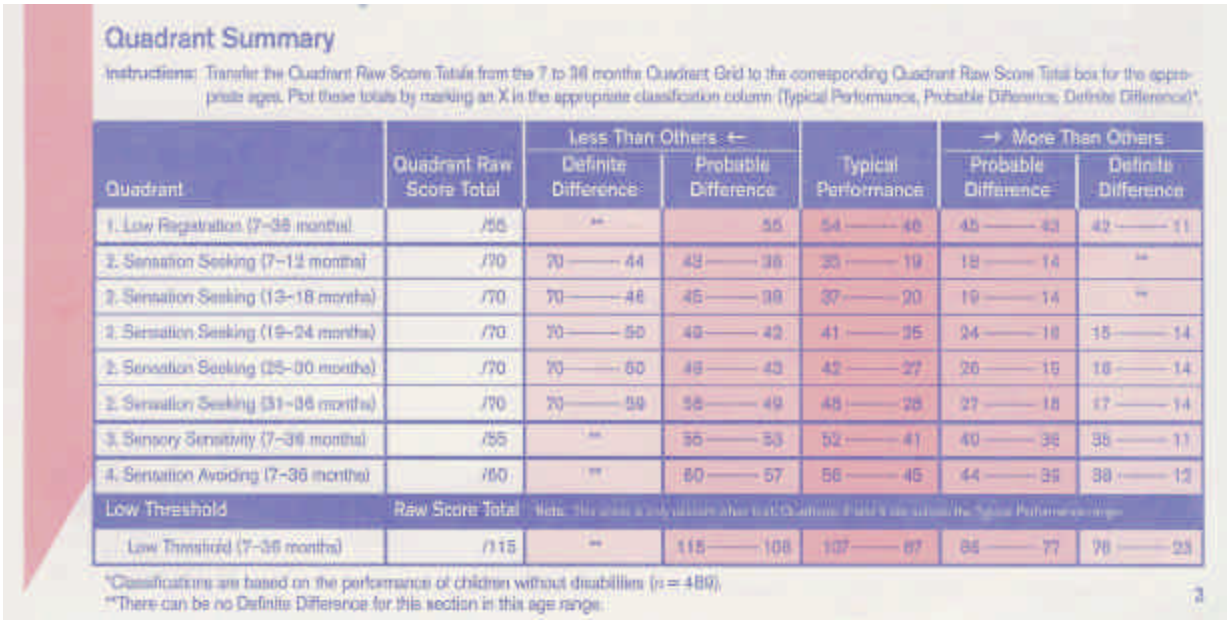
Quadrant Summary descriptions are determined next. Complete the *Quadrant Summary* using the blank section on the next page.

Follow these steps:

Step 1: Transfer the four quadrant scores into the second column of the Quadrant Summary table that's on the lower part of the page.

- Be sure that you reference the child's chronological age (computed and recorded on the *Summary Score Sheet* cover) before you complete this section as Sensation Seeking is divided into 5 different subgroups in the 7 to 36 month age range.

Step 2: For each score, move across the row into the pink shaded areas until you reach the score's location within the numerical range. Identify that position with an "X." You've just marked the column that describes the child's sensory processing abilities when compared to other infants and toddlers from 7 to 36 months of age.



Quadrant Summary

Instructions: Transfer the Quadrant Raw Score Totals from the 7 to 36 months Quadrant Grid to the corresponding Quadrant Raw Score Total box for the appropriate ages. Plot these totals by marking an X in the appropriate classification column (Typical Performance, Probable Difference, Definite Difference)*.

Quadrant	Quadrant Raw Score Total	Less Than Others ← Definite Difference	Probable Difference	Typical Performance	→ More Than Others Probable Difference	Definite Difference
1. Low Registration (7–36 months)	/55	**	55	54 —— 46	45 —— 43	42 —— 11
2. Sensation Seeking (7–12 months)	/70	70 —— 44	43 —— 38	35 —— 19	18 —— 14	**
2. Sensation Seeking (13–18 months)	/70	70 —— 46	45 —— 39	37 —— 20	19 —— 14	**
2. Sensation Seeking (19–24 months)	/70	70 —— 50	49 —— 42	41 —— 35	34 —— 16	15 —— 14
2. Sensation Seeking (25–30 months)	/70	70 —— 60	49 —— 43	42 —— 27	26 —— 15	16 —— 14
2. Sensation Seeking (31–36 months)	/70	70 —— 59	58 —— 49	48 —— 28	27 —— 18	17 —— 14
3. Sensory Sensitivity (7–36 months)	/55	**	55 —— 53	52 —— 41	40 —— 35	34 —— 11
4. Sensation Avoiding (7–36 months)	/60	**	60 —— 57	56 —— 45	44 —— 35	34 —— 12
Low Threshold	Raw Score Total					
Low Threshold (7–36 months)	/115	**	115 —— 108	107 —— 87	86 —— 77	76 —— 23

*Classifications are based on the performance of children without disabilities (n = 489).
**There can be no Definite Difference for this section in this age range.

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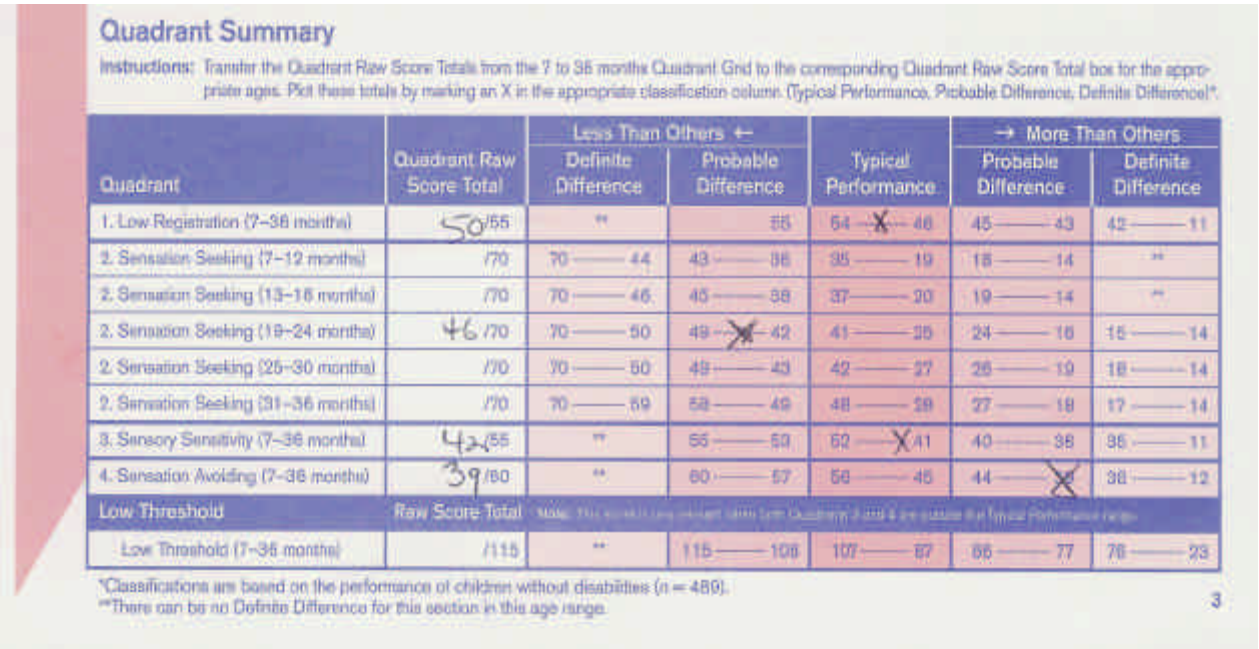
Compare your work

The completed *Quadrant Summary for Jessie's* ITSP is shown on the next page.

Jessie



Quadrant Summary

Instructions: Transfer the Quadrant Raw Score Totals from the 7 to 36 months Quadrant Grid to the corresponding Quadrant Raw Score Total box for the appropriate ages. Plot these totals by marking an X in the appropriate classification column (Typical Performance, Probable Difference, Definite Difference)*.

Quadrant	Quadrant Raw Score Total	← Less Than Others: Definite Difference	← Less Than Others: Probable Difference	Typical Performance	→ More Than Others: Probable Difference	→ More Than Others: Definite Difference
1. Low Registration (7–36 months)	50/55	**	55	54 — X — 46	45 — 43	42 — 11
2. Sensation Seeking (7–12 months)	/70	70 — 44	43 — 36	35 — 19	18 — 14	**
2. Sensation Seeking (13–18 months)	/70	70 — 46	45 — 38	37 — 20	19 — 14	**
2. Sensation Seeking (19–24 months)	46 /70	70 — 50	49 — X — 42	41 — 25	24 — 16	15 — 14
2. Sensation Seeking (25–30 months)	/70	70 — 50	49 — 43	42 — 27	26 — 19	18 — 14
2. Sensation Seeking (31–36 months)	/70	70 — 59	58 — 49	48 — 28	27 — 18	17 — 14
3. Sensory Sensitivity (7–36 months)	42/55	**	55 — 53	52 — X — 41	40 — 38	36 — 11
4. Sensation Avoiding (7–36 months)	39/60	**	60 — 57	56 — 45	44 — X	38 — 12
Low Threshold	**Raw Score Total**					
Low Threshold (7–36 months)	/115	**	115 — 108	107 — 87	86 — 77	76 — 23

*Classifications are based on the performance of children without disabilities (n = 489).
**There can be no Definite Difference for this section in this age range.

3

Infant / Toddler Sensory Profile— Summary Score Sheet. Copyright 2002 by Harcourt Assessment, Inc. Reproduced with permission. All rights reserved.

If you did not record your calculations correctly, check back to instructions on page 34 in this module and refer to additional details in the *User's Manual* on page 37.

Did you record a Low Threshold Score? Remember that this is recorded only when both 3rd and 4th quadrant ratings are outside of the typical performance range. Jessie's Low Threshold Raw Score Total (81) should not be included in this summary table. See page 36-37 in the *User's Manual* for more explanation.

Resources in the ITSP *User's Manual*

More examples of quadrant scoring on the Summary Score Sheet are illustrated in the User's Manual on pages 35-38 as well as in the Case Studies in Chapter 7 (pp. 69-114). Note the score sheets for Kaleb on page 111. Both his 3rd and 4th quadrant scores are atypical. Therefore, the "Low Threshold" score is recorded on Kaleb's Quadrant Summary grid.

Sensory system scores for children 7 to 36 months of age

Follow the steps listed below to compute Sensory Processing Section ratings for these systems:

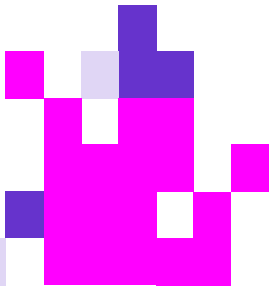
- auditory processing
- visual processing
- tactile processing
- vestibular processing
- oral sensory processing

Step 1: For each section on the *Caregiver Questionnaire* (except for General Processing), total the raw score points and record this number in the space provided at the end of the section. These totals need to be transferred to the 2nd column of the Sensory Processing Section Summary on the last page of the *Summary Score Sheet*.

Step 2: Complete the grid by marking an "X" that indicates each of the child's section scores in the same way as was done for the Quadrant Summary (see page 34 in this module). Once this is accomplished, you have descriptors about sensory processing in separate systems ("definite difference," "probable difference," "typical performance"). These results compare the child's responsiveness to that of his or her same-aged peers without disabilities.

Practice Opportunity

Use Jessie scores and complete the Sensory Processing Section Summary on the next page.



Sensory Processing Section Summary (7 to 36 Months)

Instructions: Transfer the Section Raw Score Totals from the 7 to 36 months Caregiver Questionnaire to the corresponding Section Raw Score Total box for the appropriate ages. Plot these totals by marking an X in the appropriate classification column (Typical Performance, Probable Difference, Definite Difference)*.

Sensory Processing Section	Section Raw Score Total	Less Than Others ← Definite Difference	Less Than Others ← Probable Difference	Typical Performance	→ More Than Others Probable Difference	→ More Than Others Definite Difference
A. General Processing	No section raw score total is calculated for the General Processing Section.					
B. Auditory Processing (7–36 months)	/50	50 — 48	47 — 44	43 — 35	34 — 31	30 — 10
C. Visual Processing (7–36 months)	/35	35 — 32	31 — 28	27 — 20	19 — 16	15 — 7
D. Tactile Processing (7–24 months)	/75	75 — 68	67 — 62	61 — 48	47 — 42	41 — 15
D. Tactile Processing (25–36 months)	/75	75 — 72	71 — 65	64 — 51	50 — 44	43 — 15
E. Vestibular Processing (7–36 months)	/30	30 — 27	26 — 24	23 — 18	17 — 15	14 — 6
F. Oral Sensory Processing (7–12 months)	/35	35 — 33	32 — 30	29 — 21	20 — 17	16 — 7
F. Oral Sensory Processing (13–18 months)	/35	**	35 — 32	31 — 23	22 — 19	18 — 7
F. Oral Sensory Processing (19–24 months)	/35	**	35 — 33	32 — 24	23 — 20	19 — 7
F. Oral Sensory Processing (25–30 months)	/35	**	35 — 33	32 — 25	24 — 22	21 — 7
F. Oral Sensory Processing (31–36 months)	/35	**	35 — 34	33 — 25	24 — 21	20 — 7

*Classifications are based on the performance of children without disabilities (n = 489)
**There can be no Definite Difference for this section in this age range.

Infant / Toddler Sensory Profile—Summary Score Sheet. Copyright 2002 by Harcourt Assessment, Inc. Reproduced with permission. All rights reserved.

Remember that the Tactile Processing and Oral Sensory Processing sections are divided into different subgroups within the 7 to 36 month age range. Be sure that you reference the child's chronological age and record his or her score into the correct row for each of these two sensory system sections.

Compare your work

Jessie's completed *Sensory Processing Section Summary* is shown on the next page.

Jessie

Sensory Processing Section Summary (7 to 36 Months)

Instructions: Transfer the Section Raw Score Totals from the 7 to 36 months Caregiver Questionnaire to the corresponding Section Raw Score Total box for the appropriate ages. Plot these totals by marking an X in the appropriate classification column (Typical Performance, Probable Difference, Definite Difference)*.

Sensory Processing Section	Section Raw Score Total	Less Than Others ← Definite Difference	Less Than Others ← Probable Difference	Typical Performance	→ More Than Others Probable Difference	→ More Than Others Definite Difference
A. General Processing	No section raw score total is calculated for the General Processing Section.					
B. Auditory Processing (7–36 months)	34 /50	50 — 48	47 — 44	43 — 35	X — 31	30 — 10
C. Visual Processing (7–36 months)	29 /35	35 — 32	31 — X — 28	27 — 20	19 — 16	15 — 7
D. Tactile Processing (7–24 months)	65 /75	75 — 68	67 — X — 62	61 — 48	47 — 42	41 — 15
D. Tactile Processing (25–36 months)	/75	75 — 72	71 — 66	64 — 51	50 — 44	43 — 15
E. Vestibular Processing (7–36 months)	22 /30	30 — 27	26 — 24	23 X — 16	17 — 15	14 — 6
F. Oral Sensory Processing (7–12 months)	/35	35 — 33	32 — 30	29 — 21	20 — 17	16 — 7
F. Oral Sensory Processing (13–18 months)	/35	**	35 — 32	31 — 23	22 — 19	18 — 7
F. Oral Sensory Processing (19–24 months)	20 /35	**	35 — 33	32 — 24	23 — X	19 — 7
F. Oral Sensory Processing (25–30 months)	/35	**	35 — 33	32 — 25	24 — 22	21 — 7
F. Oral Sensory Processing (31–36 months)	/35	**	35 — 34	33 — 25	24 — 21	20 — 7

*Classifications are based on the performance of children without disabilities ($n = 489$)
**There can be no Definite Difference for this section in this age range.

If you did not record your calculations correctly, check back to instructions in this module on page 36 and refer to additional details in the *User's Manual* on page 38.

Learning Activity

Think about Jessie . . .

Review the information her mother provided (page 28). Using the steps that are outlined below, consider the information that's available and begin to develop an interpretation about how Jessie's sensory processing abilities influence her behavior. What ideas do you have to give her mother in order to support Jessie's participation in home and community-based activities?

Once scoring is complete, how are the results interpreted?

Step 1: Look at the Quadrant Summary that you completed. Which quadrant scores reflect typical performance for a child this age? What do the ratings tell you overall about the child's sensory processing?

Step 2: Look at the Sensory Processing Section Summary. Do patterns emerge when the different sensory systems are considered? Remember, you may find considerable variability during this examination. Return to the *Caregiver Questionnaire* and review the items that were rated 1, 2 or 3 points, and for those that rated 4 or 5 points. What similarities or distinctions can you see when these items are considered? Are there any trends in specific systems? Do the high or low scores cluster in any particular sensory system?

(continued on next page)

Step 3: Now consider how the child's sensory processing may or may not be related to specific areas of concern for the child. Connect evaluation information to your analysis. Do details about the child's unique sensory processing patterns account for or relate to the areas of participation that are challenging for this child and family?

Step 4: Consider other measures of performance that were a part of the child's evaluation. Do details about the child's unique sensory processing patterns account for or relate to the child's performance profile?

Step 5: How do this particular child's unique patterns represent strengths that may be used to support his or her participation in activities and routines that are valued by the child's family?

Step 6: What kinds of adaptations can be implemented into the child's and family's daily routines in order to support this child's participation? Talk with the family and together, consider alterations that may be incorporated into the daily schedule, sequence of activities, materials used, or ways that family members interact with the child. Also think about adaptations to aspects of the sensory or physical environment.

Write your ideas:

Compare your ideas

Did you …

1. begin with the quadrant summaries and identify that when compared to other children her chronological age, Jessie's ITSP results identify a profile that reflects

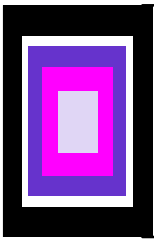
- registration and sensitivity responses that were typical
- hyporesponsive seeking behavior
- hyperresponsive avoiding responses

2. look at results for responsiveness in specific sensory systems and conclude that Jessie's behavior suggests that

- her responses to vestibular (movement) sensory information are typical for a child her age
- she is more responsive to auditory and oral sensory information than her same-aged peers
- she is less responsive to visual and tactile sensory information than her same-aged peers

3. note that items with similar scores (4-5 raw score points or those with 1, 2 or 3 raw score points) in the Quadrant Grid correlated with the results from the Sensory Processing Section Summary.

4. conclude that Jessie has a combination of "more" Sensation Avoiding and "less" Sensation Seeking. She notices sensory information, particularly auditory and oral, and is bothered by it. She doesn't look for additional sensory information.



If these patterns were not part of your initial interpretation, check back to pages 8-11 and 39-40 in this module and pages 43-47 in the *User's Manual.* Also, refer to *Winnie's Words of Wisdom* in Appendix D. (beginning on page xx in this module) for additional information.

(Continued on next page)

Did you identify several recommendations that you may make to Jessie's mother?

It's important to limit the intensity and variety of available sensory experiences—especially auditory and oral, in order to enhance Jessie's participation in play and learning activities. You may not need to limit visual and tactile information as these do not seem to be challenging for her.

Some ideas include:

- Together with Jessie's Mom, consider food options that provide her with needed nutrition, yet tend toward neutral taste and temperature
- Limit variety of food textures presented in one meal
- Limit noise during meals, or play Jessie's preferred music at a low volume
- Look for restaurants with subdued lighting and quieter environments, perhaps bringing some of Jessie's favorite foods from home rather than selecting her meal from the restaurant menu
- Attend neighborhood play group only for short periods, perhaps at beginning of the period, leaving play group once group size increases
- Encourage Jessie's play with one child in play group, perhaps sitting in a carpeted area away from others - limit noise toys, make books and quieter toys available
- Mom may invite one child with parent to visit for brief play period
- Consider ear plugs (ear muffs in warmer weather) when visiting community playground

7 Communicating ITSP Results

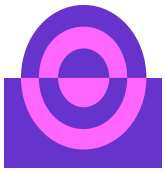
What goes into the Multidisciplinary Team Evaluation Report?

The date of the ITSP administration should be documented into the Multidisciplinary Evaluation Report. Below are some examples of summary statements that communicate ITSP findings.

ITSP was administered 1/5/05: Scores in Low Registration, Sensory Sensitivity and Sensation Avoiding were in the typical performance ranges. Sensation Seeking was in the "more than others, probable difference" range, suggesting that Jose seeks stimuli more than other children his age. Jose's play behaviors that include action, noise and simultaneous use of multiple toys, along with his preference for spicy table food rather than a more bland "toddler diet," afford him with the intense multisensory experiences he needs. ITSP results combined with parent interview and other evaluation procedures suggest that sensory processing is not a primary area of concern related to increasing Jose's participation in home and day care situations.

ITSP was readministered on 2/28/05: Scores in Registration, Sensitivity and Avoiding lie in the "less than others, probable difference" range. Sensation Seeking is in the typical range. These results suggest that sensory information is challenging for Renee and this may account for some of the negative behaviors that her parents identify as concerns. Her parents are interested in learning ways that they can help her be more comfortable and enjoy family activities in the community.

In Philadelphia, ITSP results are recorded on page 6 of the MDE/IFSP document, under "Child's Present Abilities, Strengths and Unique Needs," in the section "Other Information." The team is not required to attach the *Caregiver Questionnaire* and *Summary Score Sheet* to the MDE. A brief summary statement of the ITSP results should be recorded in this section.



Think about what's included here as well as what's missing. How can these statements be revised to reflect important information to include in the "*Child's Present Abilities, Strengths and Unique Needs*" section of the IFSP?

1) Maggie has less than others in sensitivity. Typical performance in remaining areas.
2) More than others in sensation avoiding, probable difference in TJ's remaining quadrants.
3) Ramon shows a low threshold, with a slight differences in the visual section.

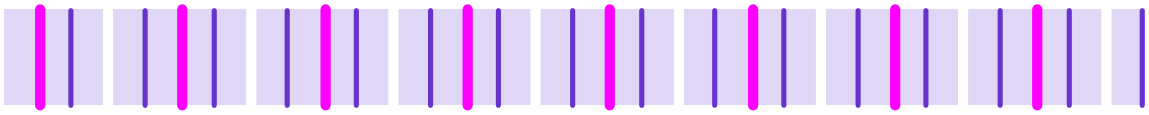
These statements use ITSP terminology but they are not connected to the child's performance—either in relation to the child's strengths or limitations. So, the reader may get some idea about what the child's ITSP results are, but he or she does not gain any understanding of what these results mean. It's important to communicate whether or not the results may explain the child's performance or any particular daily life challenges that the parent has identified to the team.

Revision:

1) Maggie's probable sensory processing pattern reflects more sensitivity to sensation, especially to touch and movement, when compared to other children her age. This may account for her crying and refusal to participate in many of the playground and classroom activities that her caregiver has discussed.

How can you improve the other statements listed above?

(More examples of how results may be documented into brief summary statements for the IFSP are on the next 2 pages.)



- SP results (3/16/05) find this child to be processing his senses the same as other children within his adjusted age range.

It's not accurate to say that based on ITSP scores a child processes sensation in a way that's similar to other children in his or her age group. Remember that the ITSP measures the frequencies of certain behavior and scores that are similar to the standardization sample indicate that the behavior occurred with about the same frequency noted in children without disabilities in the age group. The evaluator needs to consider other evaluation information along with ITSP scores. This combined data from multiple sources may suggest certain sensory processing preferences that influence the child's participation strengths and needs.

- Evaluation team could not do Sensory Profile as child's adjusted age was minus 1 week. (He was born at 32 weeks gestation).

The ITSP can be administered to premature babies, regardless of whether their adjusted age is less than zero weeks. Do consider the child's adjusted age when determining whether or not to use the 7 to 36 months items. For example, the birth to 6 months questionnaire should be used for a 7 month-old who was born 8 weeks early.

- SP scores showed a definite difference by only one point.

The rating categories are approximations based on statistical procedures that were applied to the ITSP results of many children who made up the standardization sample. An individual child's findings should be reported according to the category in which they fit (example:"probable difference, less than others") and not to the exact placement within that category.

- Tyrel's ITSP scores reflect improvement in sensory processing. His section scores have moved into the typical range for both auditory and oral sensory processing.

Remember that the ITSP was not designed to measure change in a child's sensory processing. When the ITSP is readministered and ratings move into the typical range, we can say that the child is demonstrating the behaviors with a frequency that's typical of children his or her chronological age. We cannot identify whether the child's sensory processing abilities have changed. Perhaps through intervention, we've help to create a better match between the child's probable sensory preferences and opportunities available within his or her daily experiences.

If the ITSP was not completed as part of the initial or annual MDE for a child in Philadelphia's early intervention system, an explanation should be provided.

8 Conclusion

Early intervention providers are concerned with supporting families who are raising infants and toddlers with delayed development or disabilities and helping them participate in a variety of play, learning and social opportunities in home and community-based settings. When an infant or toddler experiences performance difficulties in routines and experiences, ITSP results can be used in combination with other information to help identify how sensory processing patterns support or interfere with the child's participation.

Knowledge about sensory processing, and an understanding of its impact on behavior, continue to evolve. Competent early intervention providers integrate up-to-date information in their work with families and children. Visiting the Child and Family Studies website at http://jeffline.tju.edu/cfsrp/ is one way to access more information and resources to help you stay informed about current trends and professional development opportunities in early intervention and other children's services.

Internet sites with information specific to the ITSP:

Harcourt Assessments, Inc. : http://harcourtassessment.com/haiweb/Cultures/en-US/dotCom/SensoryProfile.com.htm

Sensory Processing in Everyday Life - from the Occupational Therapy Department at the University of Kansas: http://classes.kumc.edu/sah/resources/sensory_processing

When children in the early intervention system approach their third birthday and questions exist regarding their enrollment and/or programming needs in special education services, early intervention providers participate in the transition process. The Sensory Profile (Dunn, 1999) is available to help multidisciplinary teams evaluate and understand the sensory preferences of children from 3 to 10 years of age.

9 References

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10 Appendix

Winnie's Words of Wisdom

As part of a project implemented by the Child and Family Studies Research Programs in the Department of Occupational Therapy at Thomas Jefferson University, Dr. Winnie Dunn responded to specific questions related to the evaluation of sensory processing abilities in infants and toddlers with disabilities. Dr. Dunn's perspectives are included in this section.

This module is available online at

http://jeffline.tju.edu/cfsrp/tlc/modules.html

Winnie's words of wisdom ...

I am struggling to understand how the 'more than others' and 'less than others' concepts work. For example, if you have 'less than others' sensation avoiding, does this mean that you are sensation seeking?

Each quadrant represents a discreet continuum of behavior. If you have low sensation seeking it doesn't mean that you avoid activities it just means that you don't try to find/create added sensation and that you engage with the environment less than most people. If you have low avoiding - it doesn't necessarily mean you are a seeker but that you don't ever do things to control or limit the sensation in your environment.

Every sensory processing pattern has potential positive and negative impacts on a person's day. If a person has a "more than" issue, the negative component may become dominating in daily life. If the person has a "less than" issue, the positive component may be impoverished. For example, sensory seeking has the positive of seeking out new sensations for enjoyment and the negative of it interfering with other activities. So a person with "more than others" could have more interference due to their seeking behaviors and a person with "less than others" may have lower enjoyment of new sensations. This would be an impoverished habit of not looking for high threshold sensations rather than a dominating habit of not looking for high threshold sensation (sensation avoiding). These distinct scenarios would effect different interventions.

2004.04

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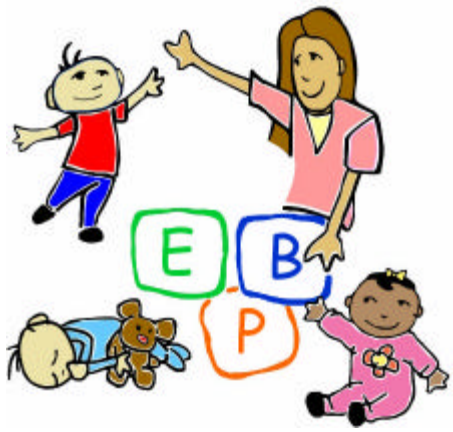
Winnie's words of wisdom …

I've given the Sensory Profile to the parent of a four-month old and found the results helpful – confirming "more than others" in low registration and "less than others" in seeking. I've identified a variety of different strategies that the mom found sensible for use in daily feeding, dressing, bathing routines. Now I'm wondering about when I should administer the 7-36 months version. I'm thinking about waiting until the child is several months into the age-range so that the baby begins to "do more" and the mom has more opportunities to observe the baby's behavior. What do you think?

You are right on target. Remember that with the birth to 6 month version, the only thing we can say is "provide suggestions and check again" since there are so few items with the very young babies (because their repertoire of behaviors is small).

I agree that waiting a little while is good; the child needs to acquire a bigger set of behaviors to demonstrate responsiveness and it sounds like you have been giving the mom soom good advice. I would probably give the Infant Toddler Sensory Profile (7-36 month version) at about one year of age.

2004.14



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Winnie's words of wisdom ...

The wording on some of the items of the Infant/ Toddler Sensory Profile is confusing. It is hard to figure out whether it is good or bad to do some of the behaviors, e.g.,: 'my child stays quiet and calm in an active environment'. We're not sure what the meaning is. Is it good or not so good to stay quiet and calm? These sound like such positive words to us.

We learned from previous work with children to make the items more 'neutral' so that we could get the range of performance, rather than extreme scores in one direction. This also encourages the caregivers to give us the frequency of the behavior without thinking there is a RIGHT answer. With our national sample of scoring, we can see what is the most likely answer, and then children with many more or many less responses fall outside that range... and we can hypothesize that either extreme might interfere with participation. If you look at the scoring system for the infants, you will see that the scores go 'both ways', that is, you can have more than others and less than others, indicating that both ends of the behavior are out of range when compared to peers.... the 'typical' scores in the middle represent the fat part of the bell curve [approximately 68%] Also, remember there is more than one item to reflect each way of responding, so although the individual items do matter, it is the pattern that they produce as a group that you are interested in.... does the child respond overall more or less than others...in an active or passive way?

2004.20

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Winnie's words of wisdom …

What do you say and do with a family whose child has 4 quadrant scores out of the typical range?

This child's processing shifts from day to day, so some days the thresholds will be low and other days the thresholds will be high. This makes intervention tricky because things that are encouraged / needed by the child when thresholds are high are exactly the opposite of what is needed by the child when thresholds are low! The service provider's role will be helping parents identify ways of telling what type of processing their child is "in" that day / hour etc and educate them on ways to present sensory info to them that is consistent with their current pattern.

Truthfully, this is what each of us does every day…. we all have days when we are more or less sensitive to certain stimuli in the environment. The difference is, we usually know how to make those adjustments for ourselves. When things get bad, we withdraw or explode. Our children just have less of a range, and do not know GOOD strategies for managing. They use strategies, but they are sometimes maladaptive [e.g., biting, tantruming, shutting down]. These behaviors are messages to us, and the nervous system's attempts to cope with being poorly organized or modulated.

Keep up your thinking and document what you do as a model for others.

2004.21

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Winnie's words of wisdom ...

Some of the kids we are working with are all over the place with extreme scores on different ends in different sections. Do you often see this?

A child with an out of range score is PROCESSING DIFFERENTLY than peers, putting that child's participation at risk. The provider's job is to sort out the interaction between the child's sensory processing patterns and the participation challenges.

It is better to start with the participation issue, then look at the quadrant scores, and then see how the sensory processing patterns inform you related to the first two things. So, if a child has out of range 'Sensitivity' score, then we would consider this in relation to the participation challenge, and then look to the sensory processing scores to see which sensory systems might be contributing to the challenge, or that might be recruited to support performance... if it is a strength.

2004.22

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Winnie's words of wisdom …

My team consistently challenges me about the term "sensory seeking," feeling that all children are normally sensory seekers. They also feel that the Sensory Profile leans to label anyone and everyone as having sensory processing issues.

Although you are frustrated, it is important to remember that all professionals have a responsibility to question the basis for decision making for children. Your colleagues are correct that all children are 'sensation seekers'. I agree that this is likely the pattern for all people to acquire information and learn.

It is also important to remember that the cut scores on the Sensory Profile are based on the bell curve, so that if any child gets a 'definite difference score' that this indicates that the child engages in the behaviors more than about 98% of other children....so even if it is the way children gather info, this child is doing the behaviors a lot more than everyone else…

AND … you must remember that 'sensation seeking' is not the relevant issue.... YOUR JOB is to determine whether this higher rate of sensory seeking is INTERFERING with participation in every day life.... THAT is what matters.... intervention planning needs to focus on taking advantage of knowing that this child seeks a lot, and find ways to build that 'seeking' tendency into daily routines so that learning, skill development and participation can all increase even with high seeking patterns.

2004.17

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Winnie's words of wisdom …

Can I have the child's day care provider complete the Sensory Profile and then compare these results to the parents' results in order to get a more complete picture of the child?

It's good to get multiple sources of information to both verify your hypothesis and to add substance to your understanding of the children's situations. It is likely that the day care provider won't be able to answer all of the questions, since they were designed for parents to answer.

My recommendation is that you either interview the day care provider or conduct a skilled observation. For the skilled observation, you can do a live observation at the day care site or you can ask the day care provider to videotape a successful and a challenging time, getting your observational data this way.

While interviewing, you can ask questions that are similar to the Sensory Profile items, with your focus being on the specific routines of the day care context. As a result, you get more detailed insights from the day care provider. Some questions you can ask to get at critical information from the day care provider might be:

- Tell me about your general routines of the day
- Tell me about situations that are challenging for _____. Explain to me what happens

(Continued on page 2)

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(Continued from page 1)

and how the child responds in the situation. Also, tell me what you do to try to support this child.

- Tell me about situations that are successful for _____. What do you think makes these situations better for the child?
- What strategies do you find to be the most helpful with this child?
- What do you think bothers this child the most?
- Are there thing you do, or situations in which this child always responds positively?
- What strategies have you found to calm the child/get the child's interest?

You can also ask about specific things, like eating habits, dressing/undressing, the child's response to art supplies, getting to sleep/waking up… anything that you think might be a risky situation based on your early hypothesis from parental input. This way you can compare and contrast the child's ability in the two different settings. If the day care providers says something is easy that the parents have found challenging, you can then follow-up to determine what the differences are. This is frequently a place to "mine the gold." You can identify the successful strategies in one setting that can be transferred to the other setting.

For example, if parents say that meals are easy and day care says snack time is difficult, you can analyze the possible differences in the demands in these settings. Perhaps you find out that parents only eat in one place, in a quiet setting, and serve a limited number of foods. At day care, there is likely to be more noises, bumping and a wider variety of foods. You can then make some suggestions to improve snack time at school (adapting the situation to put the child farther from the other children) while discussing a wider range of food choices for home.

2004.15

Winnie's words of wisdom ...

I am concerned about the Sensory Profile for Infants and Toddlers. I have a young boy of 10 months with obvious oral sensory hypersensitivity. I used the Sensory Profile to hopefully give objective feedback to his Physician. I found that because of the wording in the oral sensory area, his scores were on both sides of the extreme spectrum, but balanced out to a typical midrange score. I am quite concerned about this and would like some feedback. An example would be that he scored a 1-always on noticing changes and refusing food, and a 5-never on mouthing objects and licking food.

You are correct that sometimes an overall score will fail to reflect the extremes within a section. Remember, nationally standardized scores can only reflect an overall pattern. The overall quadrant scores include items from many sections, not just one. What is the child's overall pattern of sensory processing? Perhaps it is a low threshold pattern, and you can discuss this issue in a more general way with the pediatrician. It is ALWAYS critical to temper this with the daily life information and concerns in individual cases.

I suggest in this case that you take advantage of the categories of the individual items (those icons next to each item reflect which quadrant they represent) . Plot the number of extreme scores for the low threshold items in oral, and show the consistency of these items with the observations during eating times/ interviews with parents. I hope this helps. Remember, it is OUR PROBLEM SOLVING that parents and others need....any tool merely guides and informs that process....

2004.11

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Winnie's words of wisdom ...

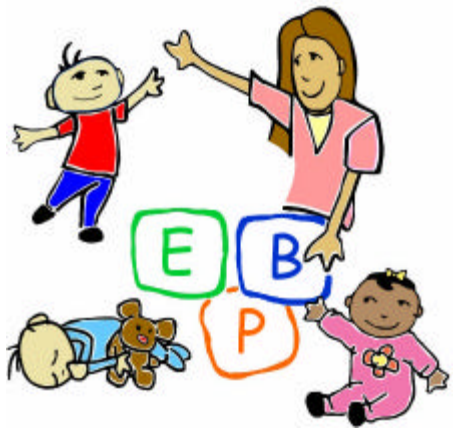
I'm considering using the Infant/Toddler Sensory Profile in a research project. The construct I'm wanting to measure is "tendency to ignore speech". I noticed that this instrument derives a low threshold score but not a high threshold score. I'm wondering why.

GREAT question...when we conducted the factor analyses, the two quadrants that represent the high thresholds, i.e., seeking and registration, always load independently of each other as separate constructs... The low threshold quadrants, i.e. sensitivity and avoiding, however, have some sharing of variance [e.g., mostly avoiding items with a few sensitivity items in a factor and vice versa]....and in practice, there are children and adults who have a range of responses from 'sensitivity' to withdrawing [avoiding] for things that they notice a lot…

Related to your research question, I have several thoughts…

1. 'ignore' suggests an active behavior...if so in your ideas, then Avoiding would match....
2. if you think the reporter (parent) will think of ignoring as volitional, but actually the child is more likely to be oblivious, i would hypothesize Low Registration....
3. you could report both high threshold scores

2004.16



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Winnie's words of wisdom …

I have been working with children who are blind or have severe vision impairments, and feel that sensory integration principles are appropriate for these clients. The challenge is determining if the difficulties are as a result of being blind (impact of lack of vision on development, or impact of the actual diagnosis causing blindness) or because of a sensory processing dysfunction. I see tactile defensiveness, poor tactile discrimination, poor motor planning, poor fine and gross motor coordination, poor body awareness and poor spatial awareness (particularly projecting spatial concepts from their bodies onto the environment around them). These difficulties have a significant impact on their ability to learn Braille, independence and mobility skills.

We have administered the Sensory Profile to a few of our children, whom we suspect have sensory modulation problems. The difficulty we have, however, is with the questions the parents cannot complete because their child is blind, e.g. the visual processing questions or those questions which could have a visual component (e.g. child gets lost easily). How would you recommend I guide the parents in answering these questions?

(Continued on page 2)

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Winnie's words of wisdom …

A young toddler recently enrolled in the day care center where I work. His family moved here from a rural area in another state and his records include the results of the Sensory Profile that was completed in his previous early intervention program. His behavior and function doesn't seem at all consistent with the sensory profile that is reported. In view of the major change that has occurred in this family's life, what do you think about readministering the Sensory Profile?

This is an interesting situation, and not an uncommon one. We wouldn't typically expect that the child's sensory processing patterns would change drastically. Remember, the parents have a long view of the child, so their responses are likely to reflect their overall knowledge of the child, not how the child is responding right now. This would result in a similar sensory processing profile.

You are correct that the context has changed dramatically - both the home and at day care. Not only is it a new home, the family is unpacking and trying to figure out how to organize their new life. All of you are new at day care as well. So focus on the context and how home and day care situations are interacting with sensory processing patterns. Conduct skilled observations (live or through videotapes) and interviews with parents and day care providers. Since you have the Sensory Profile data from the past, consider the sensory processing quadrant patterns of this child in light of what you learn about current home and day care situations. Is the child overwhelmed by the uncertainty (as a child with low thresholds might be), or agitated (perhaps a seeker trying to get input)…

Remember that a person's sensory processing is reflected as the person interacts in various environments. Look at the environment to see how they are affecting the child at this time.

2004.13

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Winnie's words of wisdom …

What about readministering the Sensory Profile to document whether or not change in behavior has occurred? I know that it's not designed for this, but it seems as though the "re-test" would document changed behaviors, if in fact increased function and participation was accomplished.

This is tempting isn't it? I think the biggest reason that I suggest not using the sensory profile measures as pre/post tests is that doing so sends the wrong message to our families and colleagues about what matters. You are correct that we want to document changed behaviors and increased function and participation. I think a better way to do this is by collecting data about participation itself.

So you would say to yourself, "if I am successful at figuring out ways to support this child's sensory processing patterns during his everyday life, then what will change in the child's ability to participate?"

Then you would collect direct observation, videotaped or parent collected data about the child's participation at the beginning and during the intervention period so you can see if your intervention is affecting performance… if not, then you can adjust your strategies until the child shows more success as a result of what you are suggesting.

Think about yourself… even though across your life, you have had a variety of adaptive behaviors and interests, you have likely had similar underlying ways of responding [you are sensitive to sounds, or crave texture…..]… what makes your life more satisfying is meeting those needs in your everyday life…. That's what we want to create for our children and their families as well… and it is those changes that matter.

2004.08

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