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Sensory strategies: Sanity Restoration for Family Life Part II

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Learning Objectives

At the end of this program, participants will....

1. Recognize how sensory information is critical to brain development (including the development of emotional regulation).
2. Identify how sensory strategies can support function within family routines and enhance the flow of daily occupations
3. Identify the primary areas of family life impacted by sensory based behaviors
4. Describe how sensory based strategies support adaptation in family life

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A quick review from Part I

- ▶ Sensory learning
 - ▶ No learning without sensation
- ▶ What senses are we talking about
- ▶ How emotions and emotional learning gets involved
 - ▶ Emotions and learning/ memory
- ▶ Outcomes measures that matter

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All learning occurs

through the senses

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The Five Senses + 3 More + a nearly sense

- ▶ The five senses
 - ▶ Seeing (vision)
 - ▶ Hearing (auditory)
 - ▶ Touching (tactile)
 - ▶ Smelling (olfactory)
 - ▶ Tasting (gustatory)
- ▶ Plus three
 - ▶ Proprioception (position orientation)
 - ▶ Vestibular (spatial orientation)
 - ▶ Interoception (inner selves)
- Nearly sense
 - ▶ Praxis/Kinesthetic (movement orientation)

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Emotional Learning and Role of the Amygdala

The amygdala receives inputs from all senses and is very important in emotional learning.

Stimulation of the amygdala causes intense emotion, such as aggression or fear.

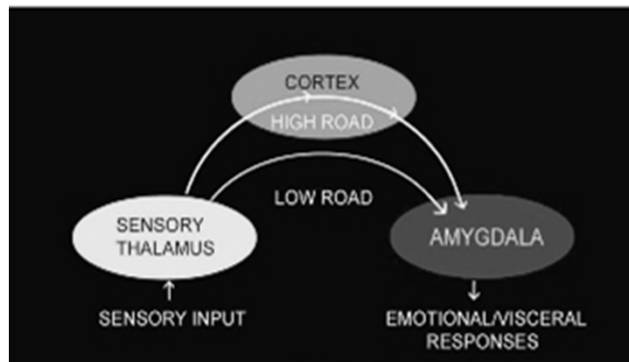


Image from: <http://www.nlm.nih.gov/health/index.shtml>

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The eighth sensory system

Interoceptive: Sensory system of the internal organs (e.g., heart rate, hunger, thirst, digestion, state of arousal, mood, etc.).

- internal sensors provide a sense of what our internal organs are 'feeling'
- detects responses that guide regulation
- provides the basis for subjective feelings of ones' emotional awareness.
- is a foundation for subjective feelings, emotion and self-awareness.

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Outcomes of Adequate Sensory Integration

Participation in self-care, leisure, academic, and social activities

- ▶ Play
- ▶ Academic skill
- ▶ Social participation
- ▶ Daily occupations

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Sensory strategies: Sanity Restoration for Family Life Part II

How is sensory information critical to brain development & emotional regulation?

How do sensory strategies support function within family routines?

What are daily occupations?

What are some of the primary areas of family life that sensory based behaviors impact?

Think about how sensory based strategies support adaptation in family life

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Ready?

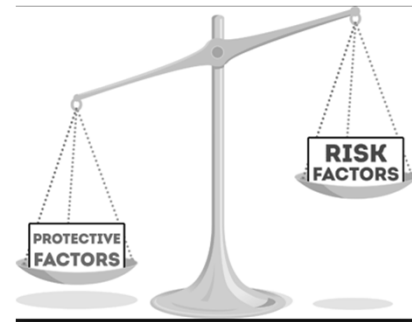
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Learning Objective 1

Recognize how sensory information is critical to brain development (including the development of emotional regulation).

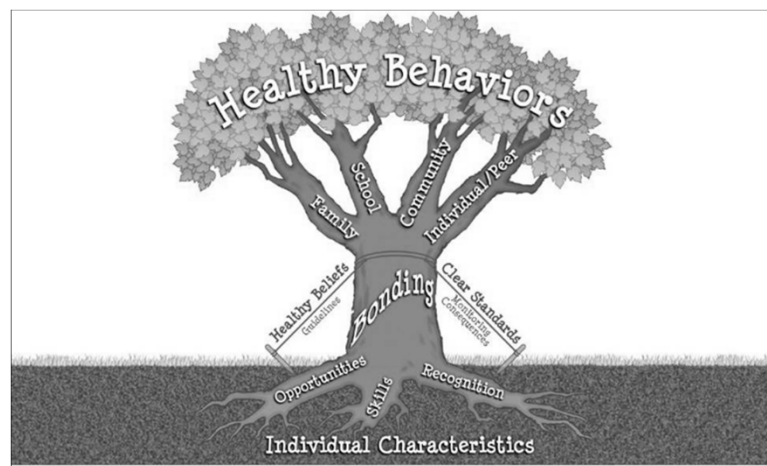
- ▶ A Risk & Protection Approach
- ▶ The Importance of “Dosing”



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Grow a
healthy brain

Grow a
healthy child



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Risks and Protections

INFANCY & EARLY CHILDHOOD

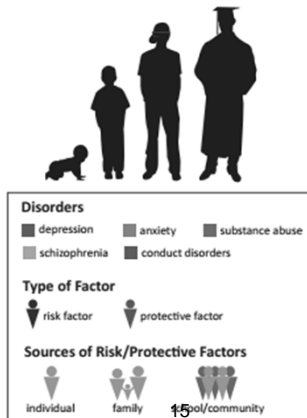
- Difficult temperament
- Insecure attachment
- Hostile to peers, socially inhibited
- Irritability
- Fearfulness
- Difficult temperament
- Head injury
- Motor, language, and cognitive impairments
- Early aggressive behavior
- Sexual abuse
- Parental drug/alcohol use
- Cold and unresponsive mother behavior
- Marital conflict
- Negative events
- Cold and unresponsive mother behavior
- Parental drug/alcohol use
- Family dysfunction
- Disturbed family environment
- Parental loss
- Poor academic performance in early grades
- Specific traumatic experiences
- Negative events
- Lack of control or mastery experiences
- Urban setting
- Poverty

- Self-regulation
- Secure attachment
- Mastery of communication and language skills
- Ability to make friends and get along with others
- Reliable support and discipline from caregivers
- Responsiveness
- Protection from harm and fear
- Opportunities to resolve conflict
- Adequate socioeconomic resources for the family
- Support for early learning
- Access to supplemental services such as feeding, and screening for vision and hearing
- Stable, secure attachment to childcare provider
- Low ratio of caregivers to children
- Regulatory systems that support high quality of care

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
www.samhsa.gov

ROCK
THE
TEST

Risk and Protective Factors for Mental, Emotional, and Behavioral Disorders Across the Life Cycle



Find image at http://dhss.alaska.gov/dbh/Documents/Prevention/programs/spfsig/pdfs/IOM_Matrix_8%20x11_FINAL.pdf

ROCK
THE
TEST

Top 10 Muscular Strength and Power Exercises

DIPS

SIT UPS

PUSH UPS

POWER KICKS

SHOULDER PRESSES

VERICAL JUMPS

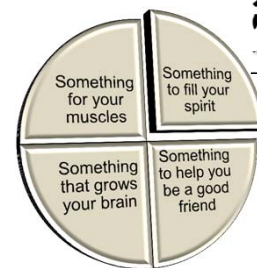
POWER LUNGES

SQUAT JUMPS

PULL UPS

STANDING SQUATS

[Note: Also vestibular]



Daily Doses

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continued™



Check this out
<https://www.youtube.com/watch?v=tM8-lChVuJ4>

Daily Doses

Activities for heavy work
 (think chores)



Daily Doses



continued™

Heavy Work



Daily Doses



Heavy work Yoga and Pilates

Daily Doses

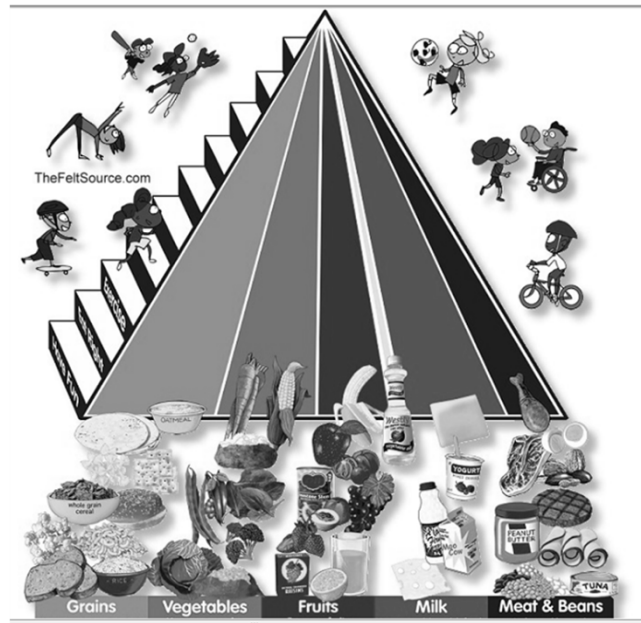


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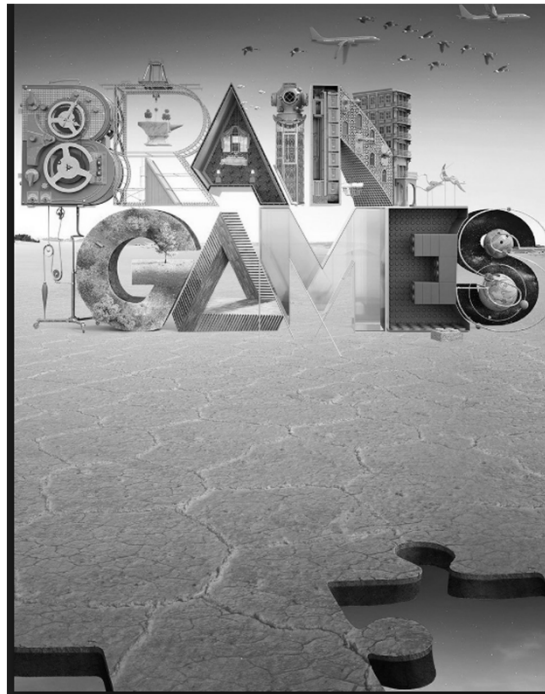
You can think
about organizing
a 'diet' in many
different
ways

Daily Doses = a sensory diet

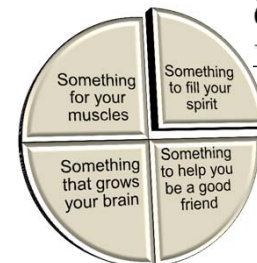
<http://www.thefeltsource.com/Food-Guide-Pyramid.html>



Something
that grows
your brain



ROCK
THE
TEST



Make a list:

Look through a telescope
Make a telescope
Examine a flower
Follow a recipe
Paint something
.....

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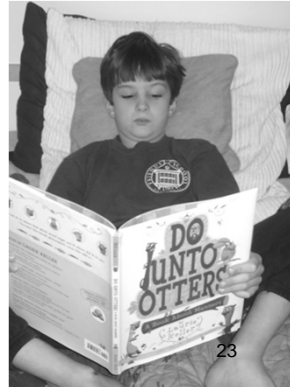
Learn to apologize
 Call someone
 Write a letter
 Gather something you're done with to donate
 Volunteer
 Find something helpful to do
 Read a book about kindness



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THE
TEST**

Tip: These reduce anxiety

Daily Doses







Daily Doses





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continued™

Dosing for the Tactile System

Touch



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Case:

Joe is a 16 year old male who participated in the Saturday Life Hacks Course at the University.

With eyes occluded, Joe was asked to participate in a painting group. Joe began to sweat, his face was red and blotched, his muscles appeared to tighten and his breathing became shallow and quick.

What would you do?

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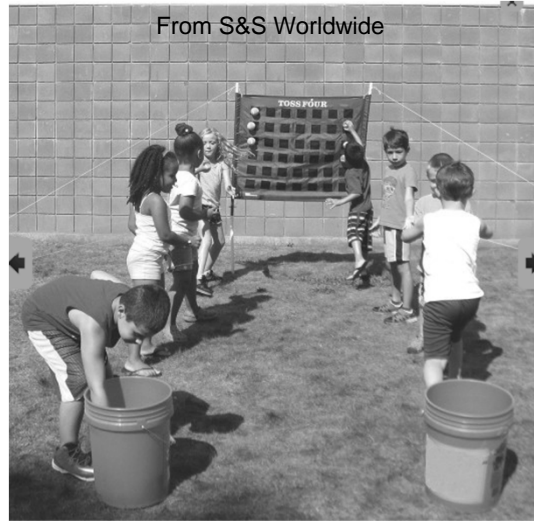
Proprioception

Where am I?

How do I control my force?

Muscle stretch

Joint position



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A Dose of Proprioception

► Epic fail of Proprioception:



<https://www.youtube.com/watch?v=6Vp5wnYCoWo>

► Epic Win of Proprioception



<https://www.youtube.com/watch?v=u7HJ9T6XGTY>

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We're protecting against the following risks:

- ▶ Depression
- ▶ Anxiety
- ▶ Headaches
- ▶ Fatigue
- ▶ Susceptibility to infection, illness
- ▶ Immune disorders
- ▶ Gastrointestinal problems
- ▶ Eating problems
- ▶ Sleep problems
- ▶ Sexual and reproductive problems

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continuedTM

We all cope - here are some less than positive Coping

Using **alcohol, tobacco, over-eating/coffee/sugar or drugs** leave the body in a MORE stressed state and prevent it from returning to homeostatis, causing more problems in the long run.

Tantrums, withdrawal from social opportunities....

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Praxis
(not a sense but part of the somatosensory system)

Praxis is the ability to use our hands and our bodies to do skilled tasks.

Praxis consists of

Ideation (having the initial concept of how to do something),

Motor planning the movement, and

Executing the movement.

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Dosing praxis



**ROCK
THE
TEST**

Walk backwards
Use your other hand
Praxis only develops with NOVELTY!



Learning Objective 2

Identify how sensory strategies can support function within family routines and enhance the flow of daily occupations

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Protections

- ▶ Good stress
- ▶ Balance the scales (just enough)
- ▶ 90 minute doses



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Note: Not all stress is bad...

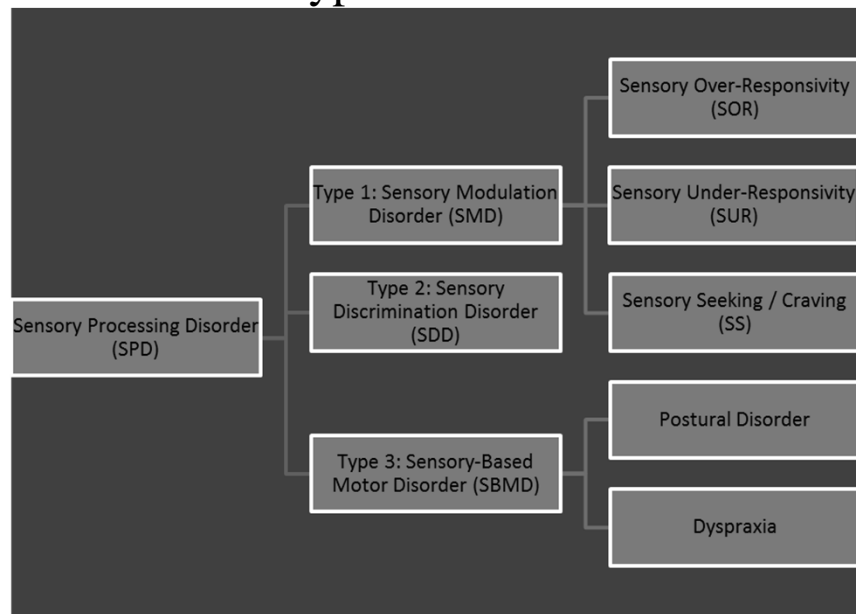


- ▶ **Eustress** is positive stress because it stimulates, motivates, helps us channel our energy into performance and achievements
- ▶ **Distress** is negative stress and causes anxiety, tension, feeling "burnt out"

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Image from <https://rrandj.wordpress.com/>

Recall the types of SPD



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SPD Type II: Sensory discrimination

- ▶ Individual's ability to interpret and differentiate between the spatial and temporal aspects of sensory information
 - ▶ Where is it?
 - ▶ What is it?
 - ▶ When did it occur?

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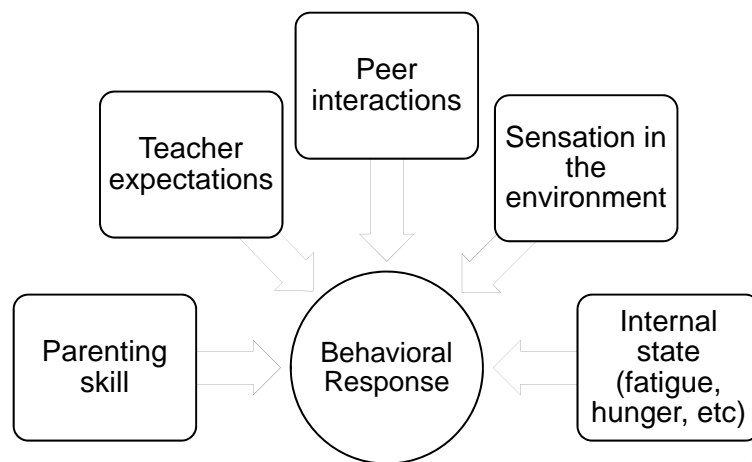


Balance Type II: Discrimination

- ▶ Morning routines
- ▶ Mealtimes routines
- ▶ School routines
- ▶ Bedtime routines
- ▶ Holidays
- ▶ Social participation
- ▶ Can't hear alarm clock
- ▶ Can't discriminate taste of foods (over-salts)
- ▶ Fails to notice materials left on desk (frequents lost and found)
- ▶ Scared in the dark (what's that noise?)
- ▶ Hates to have furniture moved to accommodate decorations (trips), new smells in the home are distracting (What is THAT?)
- ▶ Fails to discriminate between faces in crowds, can't find friends on playground

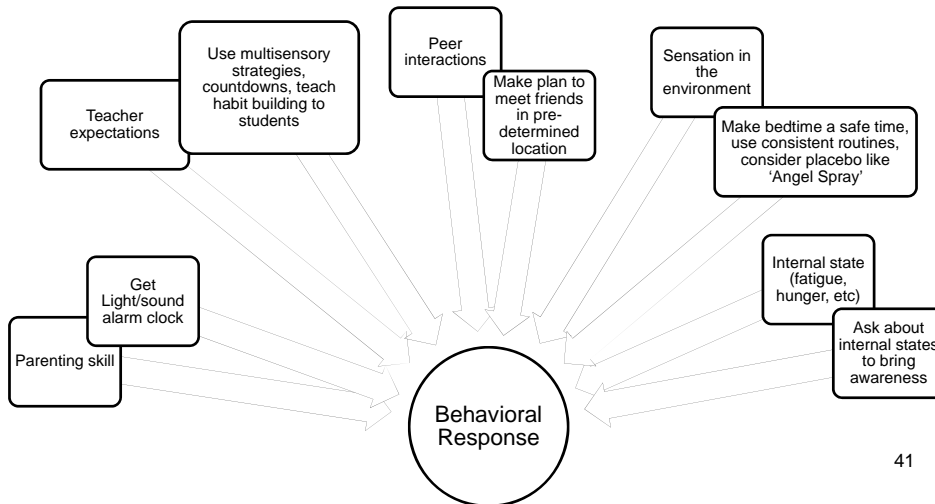
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Sensory processing and behavior responses do not happen in isolation



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Sensory processing and behavior responses do not happen in isolation

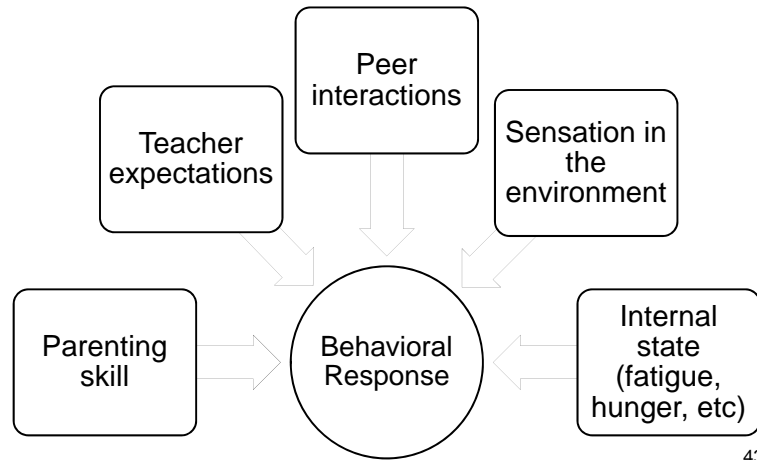


Balance Type III: Sensory Based Motor

- ▶ Morning routines
- ▶ Mealtimes routines
- ▶ School routines
- ▶ Bedtime routines
- ▶ Holidays
- ▶ Social participation
- ▶ Takes forever to tie shoes, dress
- ▶ Hard time opening packages at lunch table
- ▶ Difficulty with opening binder, putting away pages in proper organizational areas, hard to move pencil for paper / pencil tasks
- ▶ At bedtime, challenges with night time grooming and hygiene activities
- ▶ Making crafts/ gift wrapping/ new foods to eat and open are stressors
- ▶ Visiting others in their homes require new skills, frequently exhausted and lowered frustration tolerance.

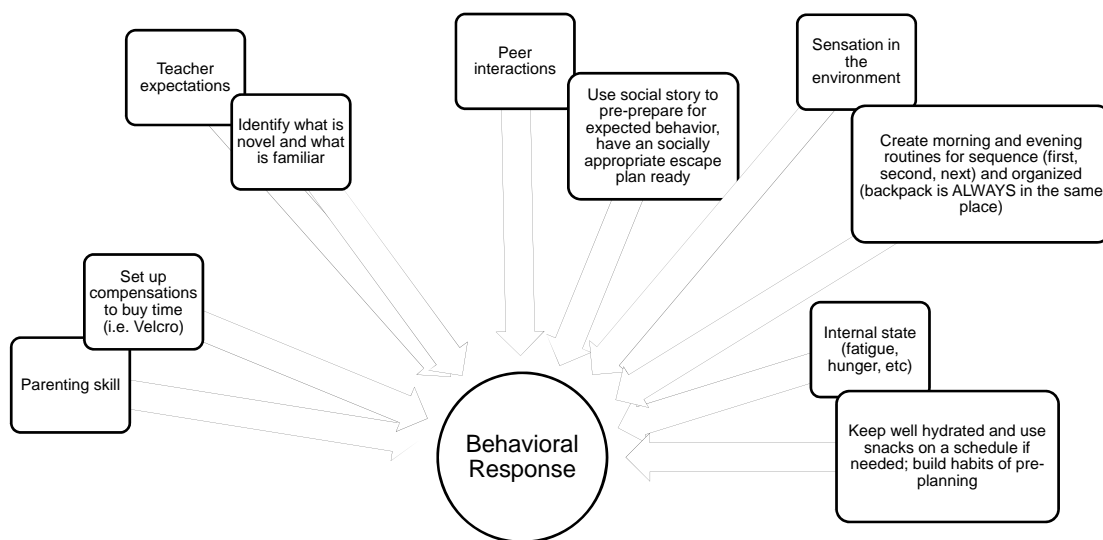
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Sensory processing and behavior responses do not happen in isolation



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Sensory processing and behavior responses do not happen in isolation



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continued™

Sensory modulation

- ▶ Individual's ability to respond adaptively to sensation over a broad range of intensity and duration
- ▶ Supports optimal arousal, attention, and activity level to meet the demands of the environment
- ▶ modulation appears to be altered by experience. The long-term neuronal function and behavioral response are synaptically mediated, though genetically encoded.

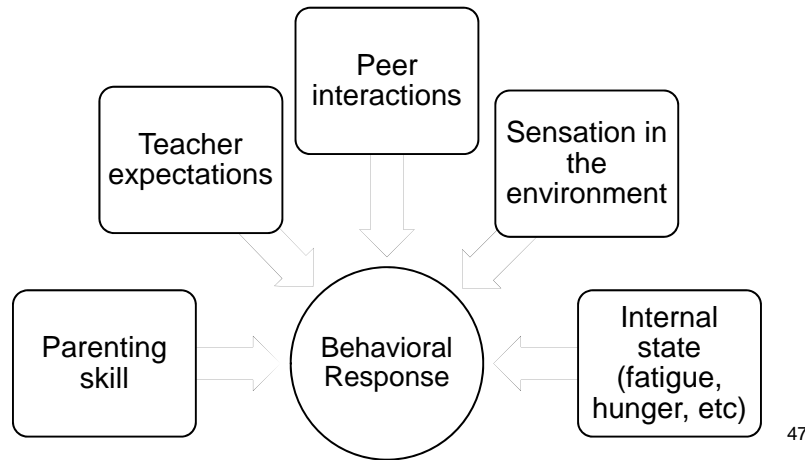
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Balance Type I: Modulation

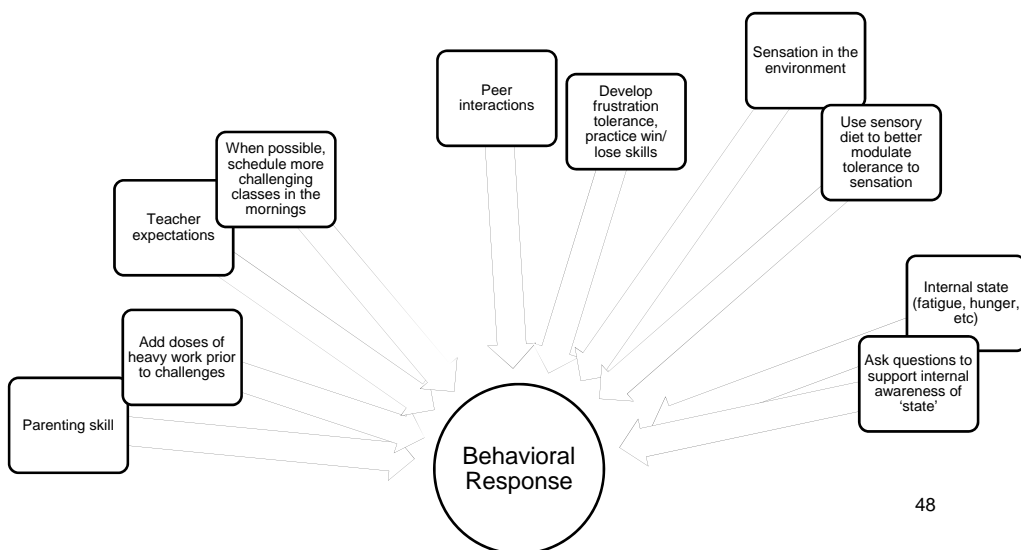
- | | |
|---|---|
| <ul style="list-style-type: none"> ▶ Morning routines ▶ Mealtimes routines ▶ School routines ▶ Bedtime routines ▶ Holidays ▶ Social participation | <ul style="list-style-type: none"> ▶ Overwhelmed by change in temperature (getting out of pjs) ▶ Over-aroused by smells of dad's salmon ▶ Unable to modulate noise and uninvited touch when seated close at lunch table ▶ By the time evening comes, threshold is overwhelmed by the day, tantrums/ unable to calm ▶ Holidays bring too many novel experiences, sensory seekers might just have to touch everything! ▶ Better to stay home and avoid input that is hard to modulate |
|---|---|

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Sensory processing and behavior responses do not happen in isolation



Sensory processing and behavior responses do not happen in isolation



Remember:

There strong relationship between sensory sensitivity/avoidance and anxiety as well as between hypo-responsiveness and depression (Green & Ben-Sasson, 2010; Pfeiffer et al 2005) with sensory over responsivity predicting later onset of anxiety.

Approximately 25% of children with ADHD also have anxiety disorders (Reynolds & Lane, 2009) [that's 7% of the children in our lives]

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Prevalence

- ▶ Developmental disabilities affect approximately 10 million children in the United States alone (twice as many are males), or about 15% of the school-aged population—a 17% increase over the last decade.
- ▶ Two diagnoses with socially disruptive behaviors, attention-deficit/hyperactivity disorder (ADHD; 7% of the population) and autism spectrum disorder (ASD; 1.1% of the population), account for a significant shift in the reported prevalence.
- ▶ Additionally—or perhaps co-morbidly—about 16% of children in early elementary years present with symptoms of sensory over-responsivity, a form of sensory modulation disorder (Ben-Sasson, Carter, & Briggs Gowan, 2009), raising the prevalence of children with childhood disorders impacting success to upwards of 30% of the U.S. school-aged population

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- ▶ Researchers estimate 5% to 15% of children, within the general population, show signs of sensory modulation difficulties. (Ahn, Miller, Milberger, & McIntosh, 2004) impacting social participation, academic success, activities of daily living and family quality of life (Whitney, 2011).
- ▶ There is a much higher prevalence of atypical sensory processing in clinical populations.
- ▶ In addition to core features of ASD, 95% of children with ASD also report atypical sensory processing (Tomchek & Dunn, 2007).
- ▶ Sensory overresponsivity and ADHD are estimated at 69% (Parush, Sohmer, Steinbert, & Kaitz (2007)

Each of these children live within and impact a family.

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Parents, teachers, peers –
we are ALL sensory beings interacting with the child's
sensory system [and we're talking about a lot of kids!]

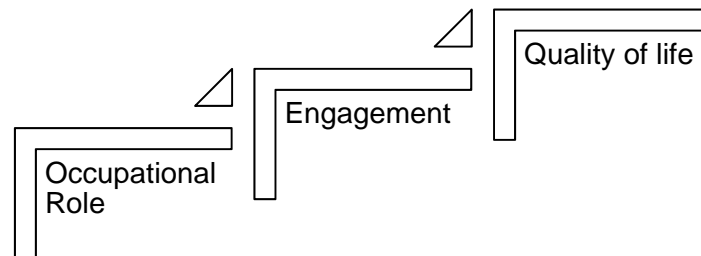
- ▶ The long term wear and tear of the stress response on the body
- ▶ High allostatic loads are linked with hypertension, obesity, heart disease, and reduced brain and immune system functioning. Is it an accident many mothers complain of weight gain???
- ▶ Look at the interaction of the child within the environment, not just the child

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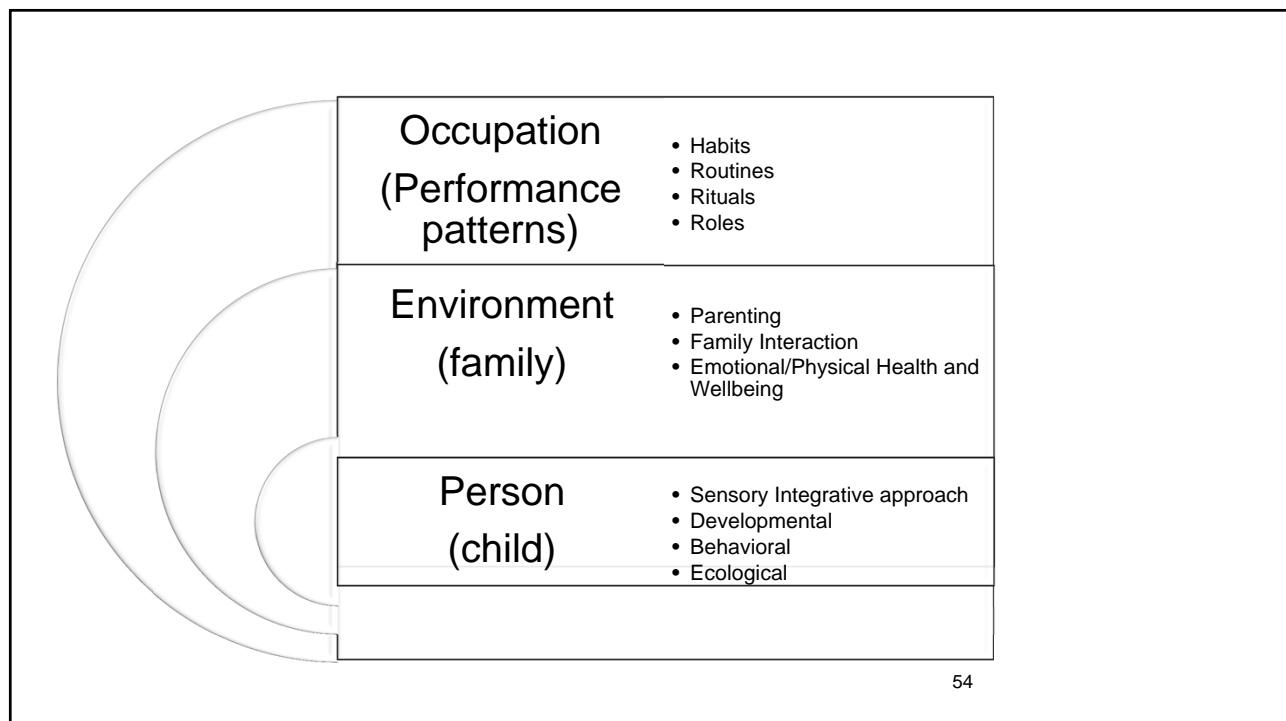


There is a dynamic relationship between people, their occupations and roles and the environments in which they live, work and play

We need to be detectives to identify and solve the right problem(s) and create an onramp to quality of life



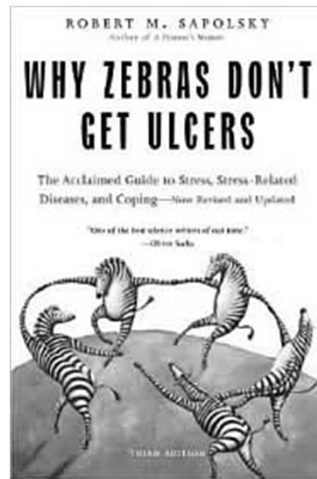
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Why Zebras Don't Get Ulcers

by **Dr. Robert Sapolsky** is a Professor of Neurology at Stanford University



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Learning Objective 3

Identify the primary areas of family life impacted by sensory based behaviors

Six areas of family life in need of *sane-itization*

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In addition to the six times of the day that are potential crazy making ... and potential opportunities for growth (and FUN)

Morning routines
 Mealtime routines
 School routines
 Bedtime routines
 Holiday routines
 Social participation

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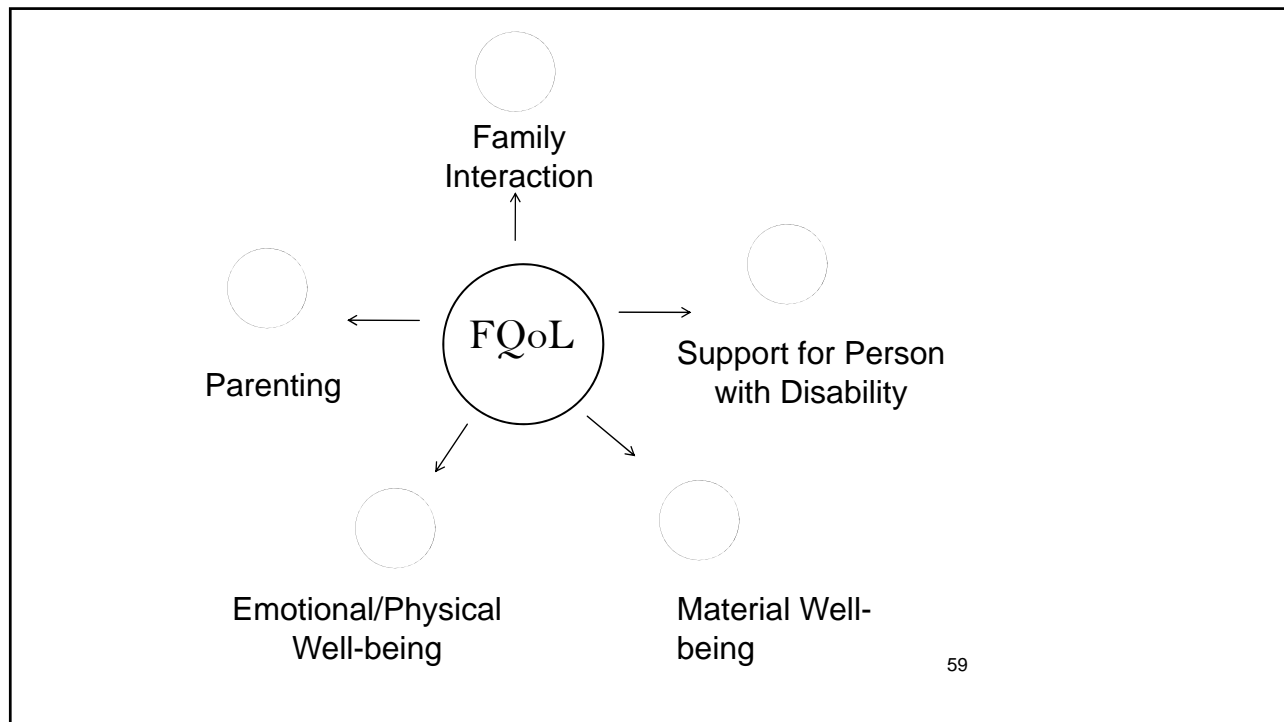
FQoL



The following are five factors of FQoL that become highlighted when a family is raising a child with a disability:

- ▶ Family interactions (i.e., marital satisfaction, being together at mealtime)
- ▶ Parenting (i.e., ability to assist the child)
- ▶ Support for the person with a disability (i.e., child treatments)
- ▶ Financial well-being (i.e., monetary resources)
- ▶ Physical and emotional well-being (i.e., coping with parental stress, caring for one's own health and social needs.

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“Consideration of co-occupation supports an integrated view of the client’s engagement in relationship to significant others within context” (AOTA, 2008, p. 269) and is an essential role of the occupational therapy intervention.

Families who are able to participate in meaningful occupations with friends and one another within their community have higher states of well-being (Lee et al., 2008).

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Learning Objective 4

Describe how sensory based strategies support adaptation in family life

Performance patterns in family life: Habits, routines, rituals and roles

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Sample areas to consider for treatment....	Family Interaction	Parenting	*Support for person w/ DA	Material wellbeing	Emotional/ Physical wellbeing
	Establish social activities families can attend together Support family to have meals together Provide suggestions re games and activities to promote sharing (two truths & a lie; fill in the blank; bedtime routines; talking sticks; etc)	Establish organizing routines Understand caregiver burden Support exploration and participation in leisure interests Provide family education as part of your service (offer childcare)	Assure cultural competency Provide in-service training to education, community and other social outlets Facilitate successful attendance of religious / spiritual activities *we're best at this as a society	Provide resources for long term planning Identify and share community resources Help families maximize therapies (more is not always better)	Work simplification/ energy conserv for parents De-stress activities Education re import of time for self Support smoking cessation Support self-regulation of sleep (child and parents) Support understanding at schools

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FQ_oL

- ▶ Engagement in occupations....it all has to work
 - ▶ Going to the store
 - ▶ Attending church or meeting
 - ▶ Going to a movie or out to dinner
 - ▶ Having a sleep over
 - ▶ Having a meal together
 - ▶ Going to school, doing homework
 - ▶ Getting dressed, taking a bath, helping carrying in groceries

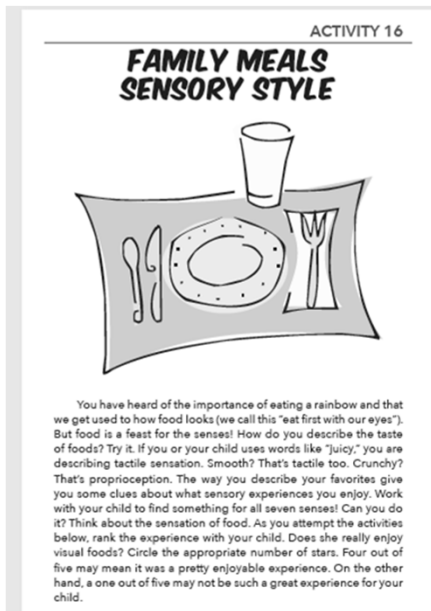
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Case 1: Dean



- ▶ Primary problem –
 - ▶ Will not sit at table for family meals
 - ▶ Parents report child takes a bite, walks around talking, takes a bite...
 - ▶ Child reports family meals are boring, vegetables stink, he sat all day at school

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Consider a walk around meal

Consider a game night meal

What are the goals of your family's dinner?

What compromises can you make?

What sensory strategies can be helpful
(what is Dean telling you with his behavior?)

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Reminder:

Sensory Defensiveness:
connection with the Sympathetic Nervous system
[The Fight, Flight, Freeze response is triggered.]

Noxious response to non-noxious input

SNS = physiological responses:
muscles tense, pupil dilation, muscles of the ear
are hypotonic (ouch!)

The stimulus may actually HURT!

Limbic system holds onto memories
related to sensory stimuli.

Response to the POTENTIAL of
stimulation

Some examples of intervention strategies might include:

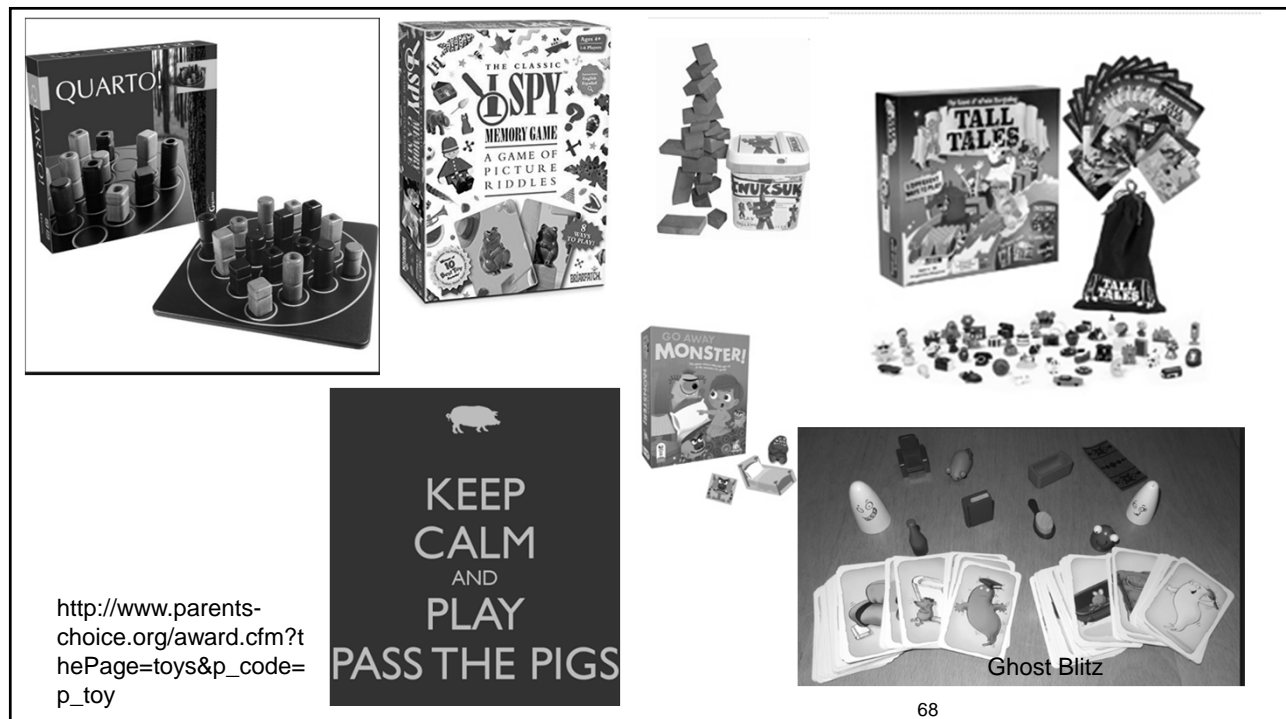
Family Interaction

Identify social activities families wish to attend together and remove barriers to participation, such as walks or hikes, family potlucks, going to the local pool, church or meeting participation.

Help family establish routine of having meals together at least 3 times a week.

Recommend games and activities that will promote sharing and family cohesion such as bedtime story times and routines; make and use a talking stick, Two Truths and A Lie (Whitney & Gibbs, 2013)

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continued™

What is your favorite game to play at dinner with your friends or family?

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Parenting

Understand (and don't underestimate) caregiver burden

Make parent education part of your intervention plan and provide education in parenting strategies. For example, adding 15 minutes to a therapeutic social skills group that is supervised by a student intern and use this time to work with parents to problem solve various barriers to quality of life.

When gathering data for the occupational profile, listen for key sensory words that give emphasis to the caregiver's lived experience

CONSIDER: PARENTS ARE IN FIGHT FLIGHT AND FRIGHT AS WELL

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ACTIVITY 10

ONE-MINUTE SENSATIONAL CHORES



Consider a 27 fling boogie (adapted from Fly Lady, see <http://www.flylady.com>) to help your household chores get accomplished.

DIRECTIONS

Turn on some music (high energy music works best). Give each member of your family a trash bag and send him or her through the house to collect 27 items of trash.

Once each person is done, he or she tosses the bag in the trash can and is free to move on to his next choice of activity. This works well for other chores also. For example, you can substitute a laundry bag for a trash bag and get dirty clothes collected or take the activity outside and pick up yard debris.



POWER UP!

Make a chores chart of all of the tasks a family member can do in 1-2 minutes. Assign one each day to each family member. Your goal is family well-being and quality of life. If the family achieves 90% of the Power Up!, then everyone gets a family reward like dessert first or extra free time. Consider setting up a Chore Wars account (a free online positive game for community well-being as related to the accomplishment of chores; check it out at <http://www.chorewars.com>).

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Emotional / Physical wellbeing

Provide strategies that help parents conserve their energy.
For example: create a website of cook once use twice meals

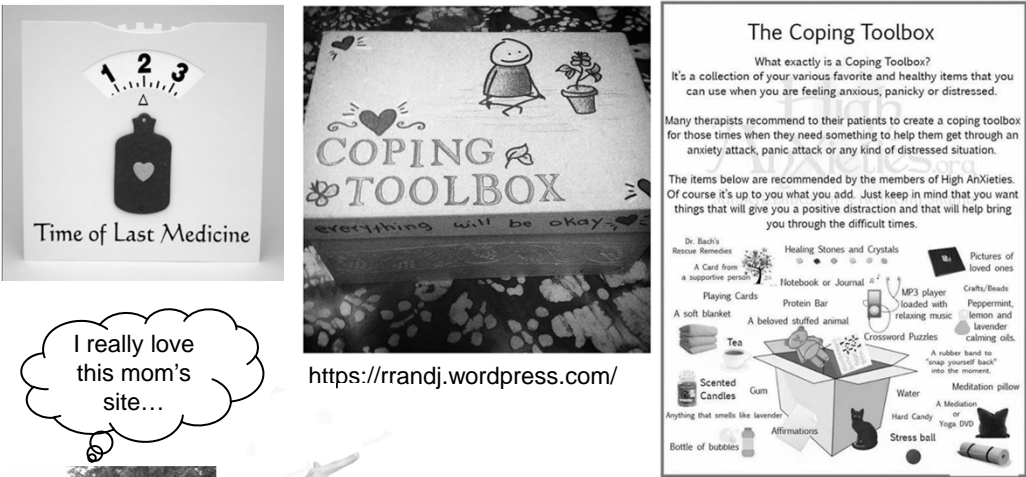
Provide de-stress activities families can do at home

Support smoking cessation

Support self-regulation of sleep (child and parents)

Encourage and enable participation

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<https://rrandj.wordpress.com/>

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Predictors of family's ability to be healthy

Meaning

Resources to manage

Ability to understand

Drivers of having a sense of wellbeing can be learned, habituated, and routinized

Families need support to develop the skills of a positive life

We must be concerned with both the strengths and the needs of the family

Take an interest in building the best parts of lives as well as helping to repair or rehabilitate the parts of lives that are not adaptive

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Support for the person with a disability

Identify and share resources for respite in the community with families such as Friday "Parents Night Out" drop off at Laser Tag or host a parents night out at your facility

Create a webinar, blog or use social media that families can readily access to inform their community about their experiences as a family

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Kids day off

Hooky days

Wellness days

Learn at home day

Slug night

Read in bed

Dinner and a movie...

*Dinner &
a Movie*



continued™

Afraid of setting a bad example?

Need permission?

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Financial Wellbeing

Create a webinar, blog or social media on tips for financial resilience (living wills, etc)

Teach parents how to optimize your therapeutic intervention through community resources (karate, rock climbing, scouts, Magic the Gathering drop-in events)

Encourage and facilitate sharing of resources (create a bulletin board for swapping resources, materials, etc).

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Let's review...

1. Recognize how sensory information is critical to brain development (including the development of emotional regulation).
2. Identify how sensory strategies can support function within family routines and enhance the flow of daily occupations
3. Identify the primary areas of family life impacted by sensory based behaviors
4. Describe how sensory based strategies support adaptation in family life

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Part III

► Focus on Intervention Strategies

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references

- ▶ All references provided upon request

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Questions?

- ▶ Email: www.whitneyrondalyn@gmail.com

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