



Virginia Spielmann

*PhD, OTR/L
STAR Institute*

Precision is...



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Precision Is ...

- Using every tool at our disposal to deliver personalized therapeutic supports that optimize outcomes in the interest of the client
 - Contemporary practice
 - Evidence-based practice
 - Incorporating low-tech and high-tech tools
 - Integrating biochemical, genetic, genomic data
- Honoring the complexity of the client and avoiding reductive practice



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Precision Is ...

- Considering the interactions between [expressions of] psychological well-being and the social and environmental context of individuals
- Working towards sophisticated and scalable therapeutic interventions that have tangible public health impact




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Infrastructure & Practices

1. **Enhanced Data Collection:** Collect comprehensive data on clients' lifestyle, environment, and personal and family health history. This can be achieved through advanced health information systems and electronic health records.
2. **Training and Education:** Equip healthcare professionals with the skills and knowledge to interpret and apply complex health data in their practice. This could involve additional training or changes to existing education programs.



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Infrastructure & Practices

3. **Patient Engagement:** Develop systems and practices that encourage patients to actively participate in their healthcare decisions. This could involve improving health literacy and providing tools for patients to track and manage their health.
4. **Technology Integration:** Leverage technology, such as telehealth, wearable devices, and health apps, to collect and analyze health data, and deliver personalized interventions.

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Moving From: One Size Fits All



- Vague/semi-accurate diagnoses (e.g., it's all SOR)
- Grouped as SPD or SID with no further differentiation

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Moving From One Size Fits All

- Blanket application of protocols
- Obstacle courses as a splinter skill
- Systematic desensitization with the goal of decreasing responses
- Every kid on a swing
- Messy play without individualization



- Of course, none of these are 🙌🙌 actually Sensory Integration Therapy as conceptualized by Ayres

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Moving Through: Differentiated Clinical Reasoning



- Phenotypes
- Co-occurring neurodivergence
- Co-morbid conditions
- Genomic subtypes
- Digital biomarkers

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Stratification of Health Care Data



- ← Chronosystem
- ← Environment
- ← Medical history
- ← Expressions of well-being
- ← Performance patterns
- ← Client factors

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Stratification of Health Care Data



- ← Generational, cultural, temporal, systemic factors.
- ← Situational, ecological, socioeconomic, contextual, relational factors.
- ← Past illnesses, surgeries, injuries, etc.
- ← Externalized, internalized, AKA behavioral data.
- ← Habits, routines, roles, rituals.
- ← Physiological and psychological function, body structures, values.

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Stratification of Health Care Data



- ← Reflective and reflexive practice. Systems thinking.
- ← Record review, clinical interview, report measures, reasons for referral.
- ← Medical record review.
- ← Clinical observation, client report measures.
- ← Clinical interview, client report measures.
- ← Standardized testing. Developmental knowledge.

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Infrastructure & Practices

5. **Interdisciplinary Collaboration:** To provide a holistic view of a patient's healthcare needs precision healthcare requires a multidisciplinary approach, necessitating improved collaboration among healthcare professionals, researchers, and patients.
6. **Research:**
 - Increased investment in research is needed to further understand the human genome and the impact of individual variations on health and disease.
 - Invest in research to understand the impact of various non-genomic factors on health and to develop effective interventions based on these factors.

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Infrastructure & Practices

7. Ethical, Legal, and Social Implications:

- Policies need to be updated to protect the privacy and security of patients' genetic and health data, while still allowing for the sharing of information necessary for personalized care.
- Interoperability: Policies should encourage the development of systems that can effectively share and integrate patient data across different healthcare providers and platforms.
- Infrastructure should be developed to ensure all patients, regardless of their location or socioeconomic status, have access to precision healthcare.

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Infrastructure & Practices

7. Ethical, Legal, and Social Implications (cont):

- Data Management: Precision healthcare generates vast amounts of data, including genomic, lifestyle, and environmental data. Robust data management systems are needed to store, analyze, and protect this data.
- Reimbursement: Move from fee-for-service model to value-based reimbursement. Emphasis is on effectiveness of care versus speed and volume of care products. Precision medicine often involves higher upfront costs for diagnostic procedures, which may not be immediately offset by the cost savings from more effective treatments. This could lead to issues with coverage and reimbursement, particularly for patients with insurance plans that do not cover these types of services. All of this is at odds with current reimbursement systems.

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Precision Sensory Integration Therapy

- A transformative approach that unlocks the potential within each individual.
- A journey of discovery - therapists and clients work together to understand and harness sensory health, moving beyond surviving to thriving.
- Tailoring interventions to each person's unique sensory experiences,
- Empowering individuals to navigate their world with newfound confidence and capability.
- A pathway to a more engaged, fulfilling life.

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Marco Leão
MS, OT, PhD Student
Colorado State University



Anita Bundy
ScD, OT/L, FAOTA, FOTARA
Colorado State University




Shelly Lane
PhD, OTR/L, FAOTA
Colorado State University

An Introduction to Ayres Sensory Integration

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

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Ayres Sensory Integration Representing Function

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What is Ayres Sensory Integration?

- Theory
- Links sensory processing and integration
 - Learning
 - Behavior
 - Occupational Participation

A. Jean Ayres

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"The **neurological process** that organizes sensations from one's body and from the environment and makes it possible to **use the body effectively in the environment.**"


1972

A. Jean Ayres,

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Assumptions of Ayres SI



- The Central nervous system is plastic
- Sensory Integration follows a developmental sequence
- The brain functions as an integrated whole
- Adaptive interactions are critical to sensory integration
- People have an inner drive to develop sensory integration through participation in sensorimotor activities

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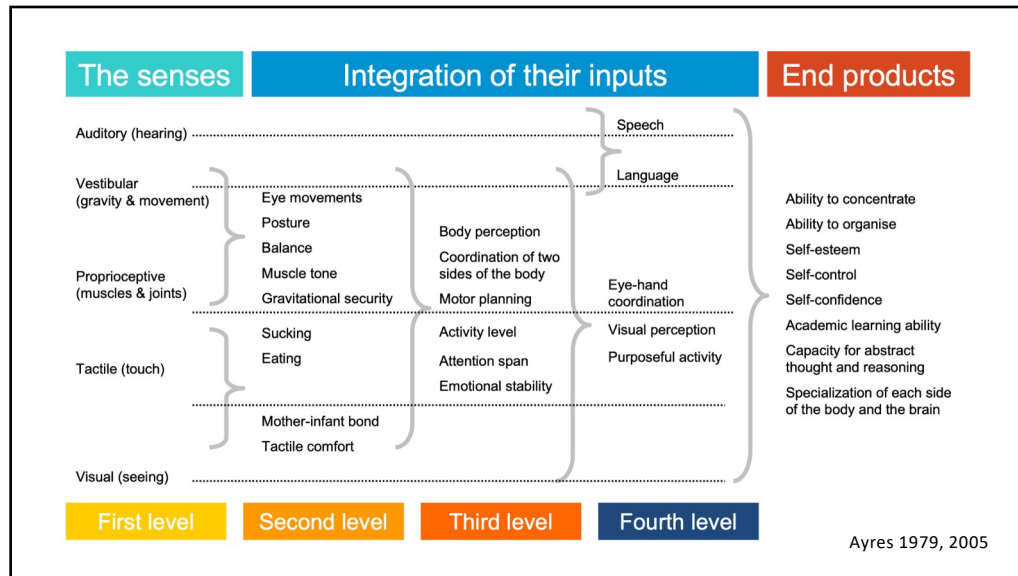


“Sensory Integration occurs automatically in most people, and so we tend to take it for granted - just as we take our heartbeat and digestion for granted.”

(Ayres, 1979, p.3)



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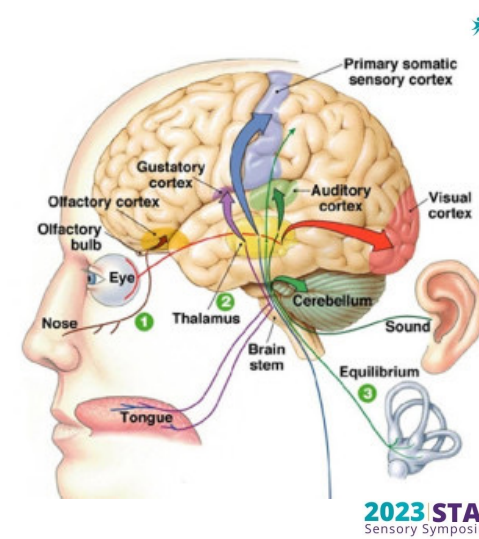
Some important components...

Sensory Systems
 Perception & Reactivity
 Praxis & Modulation
 Just-Right Challenge & Adaptive Response

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Sensory Systems



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Sensory Perception

Ability to distinguish and interpret sensory inputs

Where is my body?

What can I do with it?

How can I do it?



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Sensory Reactivity

Regulation of arousal/alertness and behavioral responses to sensory input

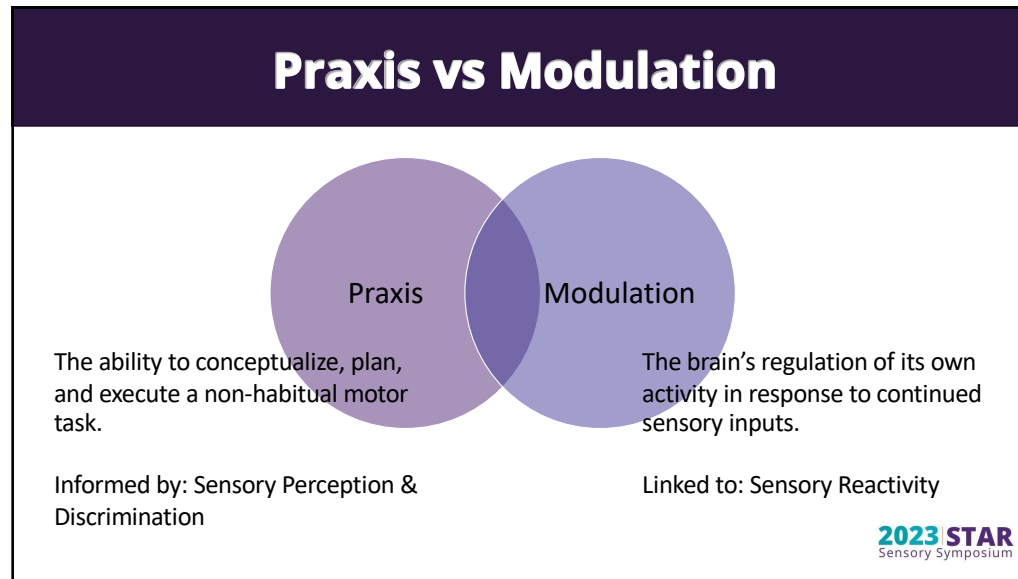
How relevant?

How importante?

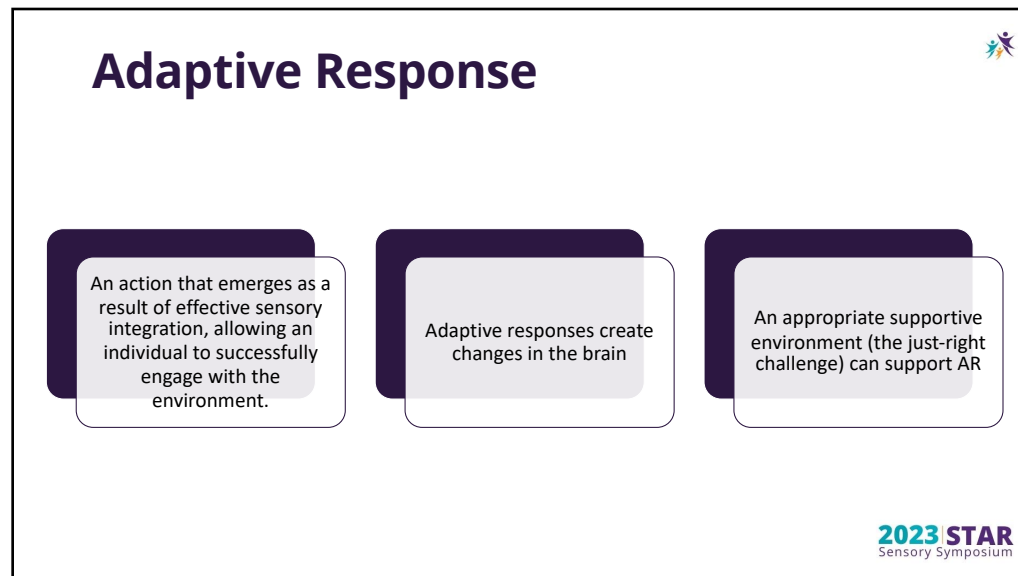
How safe?



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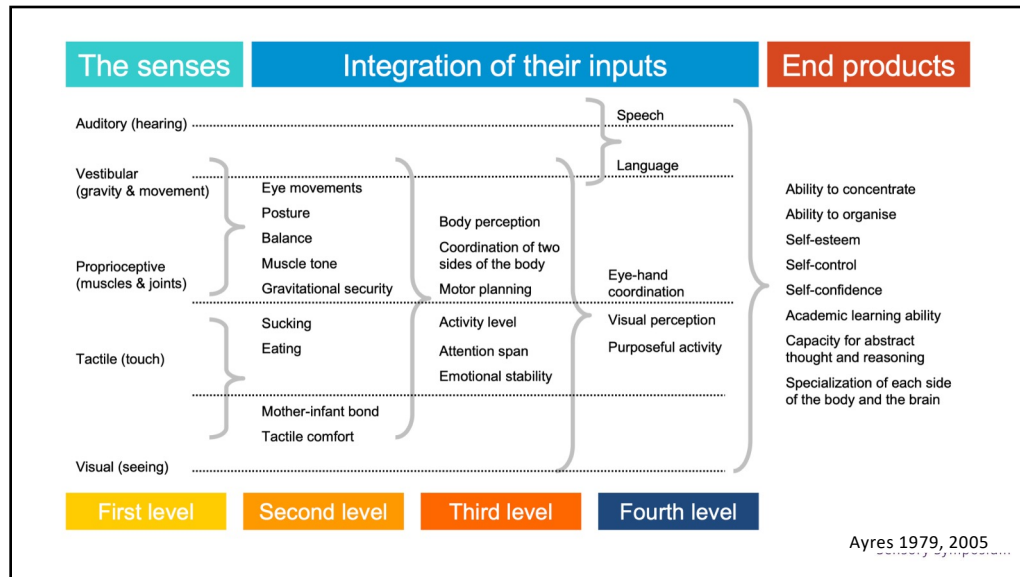
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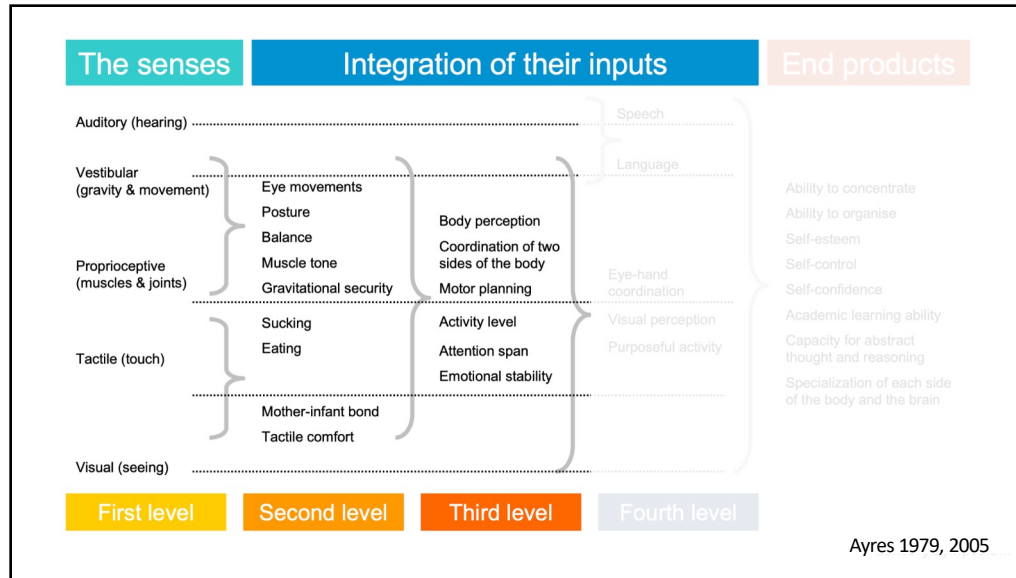
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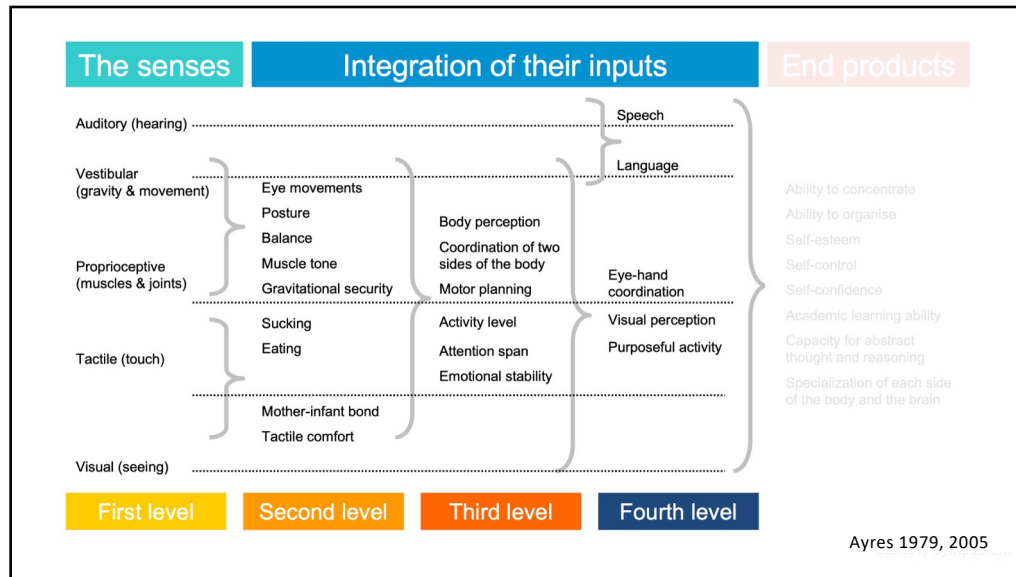
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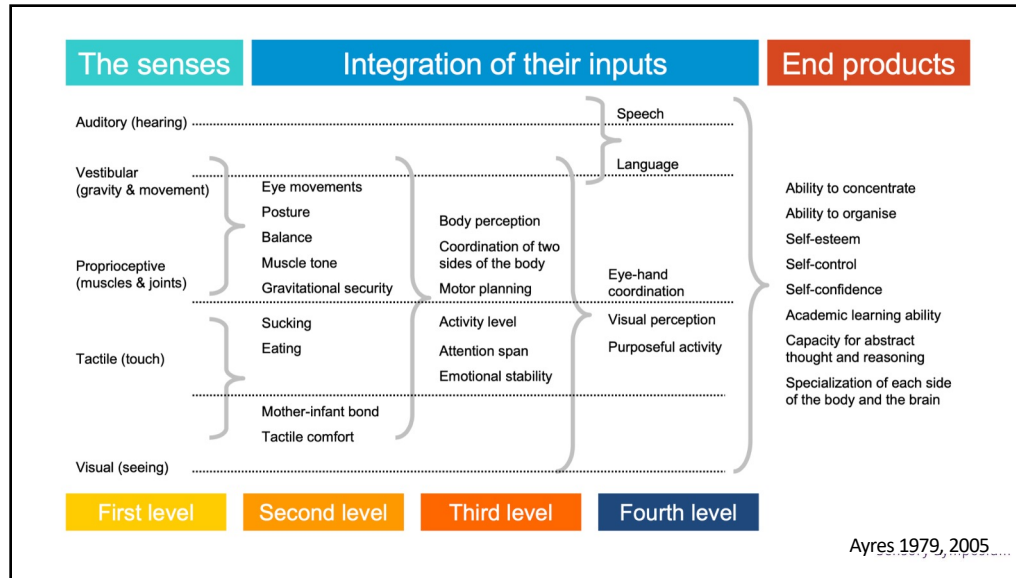
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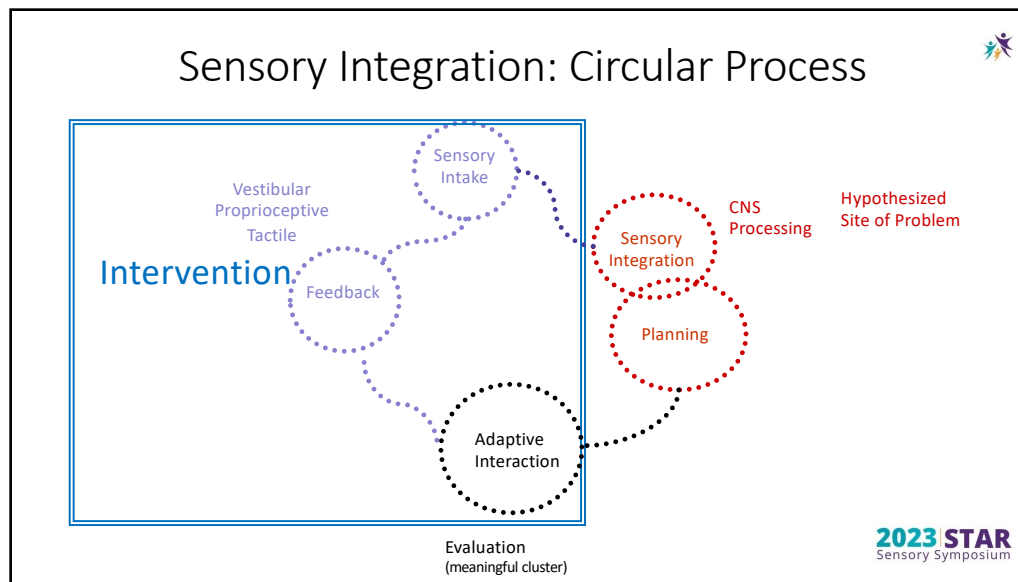


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Ayres Sensory Integration Representing Dysfunction

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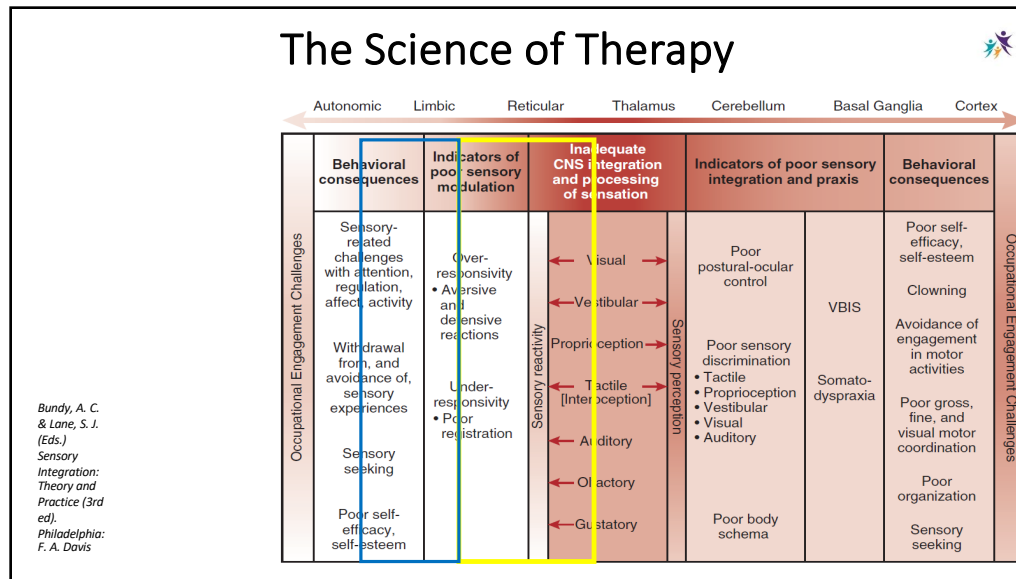
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The Science of Therapy

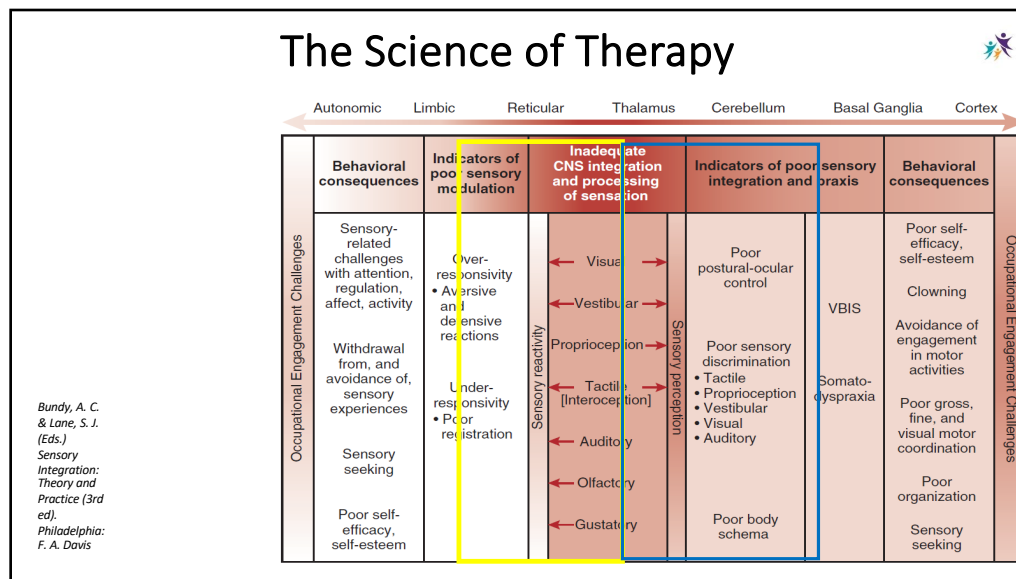
| | | Autonomic Limbic Reticular Thalamus Cerebellum Basal Ganglia Cortex | | | | | | | |
|------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------|--|-------------------------------------------------|------------------------------------|
| | | Behavioral consequences | Indicators of poor sensory modulation | Inadequate CNS integration and processing of sensation | Indicators of poor sensory integration and praxis | Behavioral consequences | | | |
| Occupational Engagement Challenges | Sensory-related challenges with attention, regulation, affect activity | Over-responsivity • Aversive and defensive reactions | ← Visual → | ← Vestibular → | Poor postural-ocular control | VBIS | | Poor self-efficacy, self-esteem | Occupational Engagement Challenges |
| | Withdrawal from, and avoidance of, sensory experiences | Under-responsivity • Poor registration | ← Proprioception → | ← Tactile (Interception) → | Poor sensory discrimination • Tactile • Proprioception • Vestibular • Visual • Auditory | Somato-dyspraxia | | Avoidance of engagement in motor activities | |
| | Sensory seeking | | ← Auditory → | | | | | Poor gross, fine, and visual motor coordination | |
| | Poor self-efficacy, self-esteem | | ← Olfactory → | | | | | Poor organization | |
| | | | ← Gustatory → | | Poor body schema | | | Sensory seeking | |

Bundy, A. C. & Lane, S. J. (Eds.) Sensory Integration: Theory and Practice (3rd ed). Philadelphia: F. A. Davis

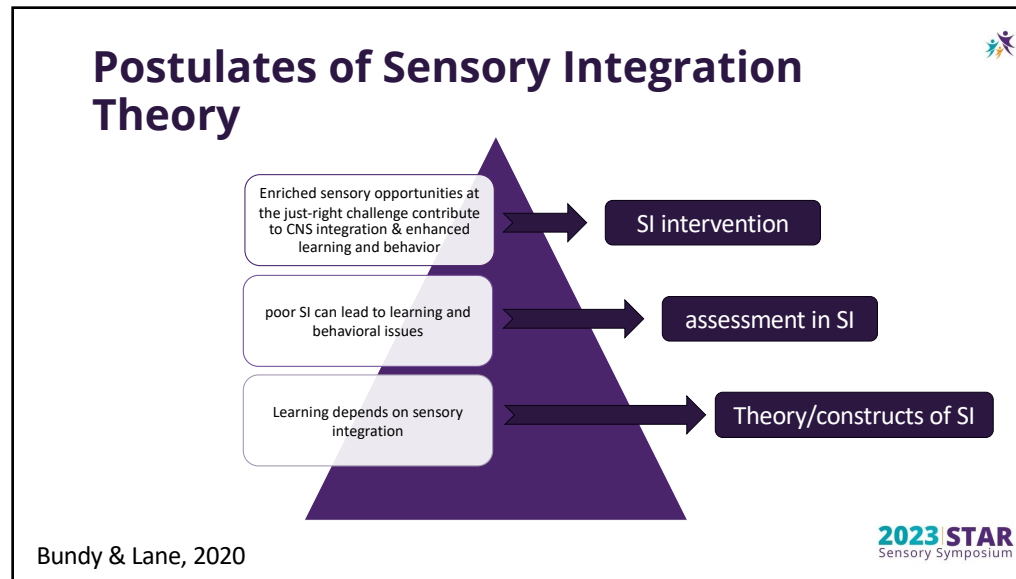
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