

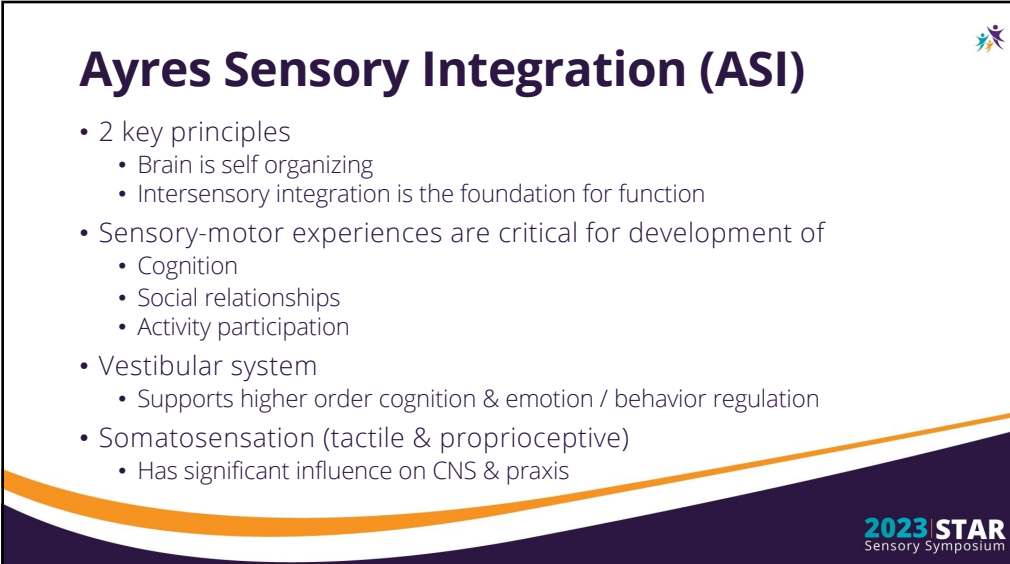


Reflection: Sensory Integration as Part of a Holistic Approach

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Ayres Sensory Integration (ASI)

- 2 key principles
 - Brain is self organizing
 - Intersensory integration is the foundation for function
- Sensory-motor experiences are critical for development of
 - Cognition
 - Social relationships
 - Activity participation
- Vestibular system
 - Supports higher order cognition & emotion / behavior regulation
- Somatosensation (tactile & proprioceptive)
 - Has significant influence on CNS & praxis


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Challenges with Sensory Integration

- Tactile defensiveness
 - Over-reactivity to tactile input
 - Behavioral hyperactivity
 - Distractibility
- Gravitational insecurity (i.e., disproportional fear of movement)
 - Over-reactivity to vestibular input
 - Challenges with vestibular system
 - Affect higher-level cognitive functions
 - Emotional regulation
 - Behavior regulation
- Sensory hypo- & hyper-reactivity



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Interventions supporting Sensory Integration

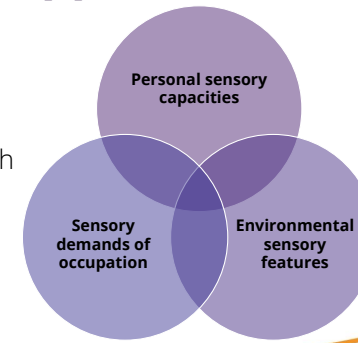
- Key concepts:
 - Neuroplasticity (i.e., nervous system changes in response to experiences)
 - Interventions targeting sensory processing
 - Support participation & emotional/behavior regulation
 - Key principles to ASI
 - Active engagement in sensorimotor activities
 - Just right challenge
 - Elicit adaptive motor responses



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SI as Part of a Holistic Approach

- Sensory processing plays a critical role in occupational performance (Bagatell et al., 2022; Ismael et al., 2018)
- Interventions aim to support sensory health & meaningful participation
- Sensory health is the fit between
 - Personal sensory capacities,
 - Sensory demands of an occupation
 - Environmental sensory features



(adapted from Law et al., 1996)

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Interventions: Strength-based, recovery-focused, trauma-informed

- Sensory processing patterns vary significantly across the general population (Dean et al., 2022)
 - Aversions & preferences naturally affect everyday living
 - Avoid pathologizing sensory processing patterns
 - They are not always the root barrier to function
 - Not always something 'to fix'
 - Don't try to normalize sensory processing patterns
- Focus on the promotion of positive sensory health & meaningful participation

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Interventions Targeting Personal Sensory Capacities



- Hardest to change
- Biological capacities at birth that are nurtured or inhibited
- Sensory habits that are informed by sociocultural practices
- Neuroplasticity
 - Takes time & repetition (fire together – wire together)
 - Natural contexts (polysensoriality) & sensory gyms
 - Embodiment (need to recruit & train natural social supports)
- Give person control over their sensory environment
 - Strategies to manage the environment / occupation
 - Strategies to manage self & sensory experiences

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Interventions Targeting Environmental Sensory Features



- Environmental sensory features
 - Stimuli that are available to the person in a situation
 - Abundance of stimuli appealing to all the sensory systems
 - Including stimuli emanating from the social environment (caregivers, friends, teachers, therapists, etc.)
- Environmental modifications are easy
 - Can be implemented quickly & lead to immediate change in participation & behavior
 - Strategies to modify environment can be taught to anyone
 - Strategies can be generalized across environments
 - Can influence neuroplasticity positively

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Interventions: Sensory Demands of Occupation



- Sensory demands of occupation
 - Stimuli that are experienced when performing the occupation
 - Must be considered in direct relation to environmental sensory features
 - Different sensory demands are accentuated by different environments
- Occupational modifications are easy
 - Can be implemented quickly & lead to immediate change in participation
 - Modify occupation to remove exposure to aversive stimuli
 - Modify occupation to increase exposure to preferred stimuli

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Ways of knowing - Epistemology



- Epistemic pluralism
- Different ways of knowing things
 - Helps discover knowledge that is missed by one epistemology
- Look at different ways for understanding sensory processing
 - Biomedical model
 - Ayres SI (1972)
 - Dunn's model of sensory processing (1997)
 - Dynamic model of sensory processing (Baranek et al., 2001)
 - Anthropology, sociology, cognitive psychology, geography

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Social and Cultural Aspects of Sensory Health



- Sensory habits & habitus
 - A taste for living & cultural practices
 - Basis of inclusion & exclusion in environments (Bourdieu, 1984, 1998, 2004)
- Living sensing body already thrown into the world
 - With a unique sensory orientation to the world (Merleau-Ponty, 1945, 1964, 1968; Rodaway, 1994)
 - Aesthetic (Dewey, 1934)
- Sensory anchors
 - Sensory signposts that indicate an occupation is going as planned
 - People learn to attune their bodies to sensory anchors through repeated engagement (Bailliard, 2015; Bailliard et al., 2023)

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Occupational Justice & Sensory Health



- Occupational justice
 - Right to sensorial & occupational expressions to experience dignity, inclusion, health & wellbeing in context of associated living
 - Requires more than a context that is free from obstruction, requires a *supportive context that enables the conversion & expression of skills in the real world*
- Moral responsibility to support sensory health

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Occupational Justice & Sensory Health

- Normative approaches to “sensory processing” can be oppressive
- Environmental adaptations
 - Many people experience impoverished environments with few opportunities for embodiment
 - Providing the opportunity to develop sensory capacities & useful sensory habits
- Advocacy
 - Sensory health: an invisible need
 - Neurodiversity of sensory orientations
- Intervention
 - Honor clients’ diverse histories of embodiment of sensory experiences
 - Incorporate sensory embodiment in learning & therapy

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Summary: Implications for Intervention

- Leverage clients’ natural environments to support neuroplasticity & development of effective praxis in those environments
- Consider clients’ sociocultural background & impact on their sensory capacities / preferences / aversions
- Interventions targeting sensory processing can support participation, but other interventions might be needed too
- Modifications to the sensory environment can lead to quick change
- Adapt occupations to match sensory preferences

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Summary: Implications for Intervention

- Modify sensory environments to improve inclusion, participation, & occupation
- Educate clients & their supports to understand themselves as sensory beings with sensory needs that affect health & socioemotional wellbeing
- Provide clients & their supports with tools & strategies to adapt daily occupational routines to provide sufficient sensory experiences to maintain an optimal level of sensory health

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References

- Ayres, A. J. (1972). Improving academic scores through sensory integration. *Journal of Learning Disabilities*, 5, 338-343.
- Bagatell, N., Chan, D. V., Syu, Y. C., Lamarche, E. M., & Klinger, L. G. (2022). Sensory processing and community participation in autistic adults. *Frontiers in Psychology*, 13, 876127. <https://doi.org/10.3389/fpsyg.2022.876127>
- Bailliard, A., Lee, B., & Bennett, J. (2023a). Polysensoriality, aesthetics, and agency: The lived sensory experiences of adults with serious mental illness. *Canadian Journal of Occupational Therapy*, 90(1), <https://doi.org/10.1177/00084174221145811>
- Bailliard, A. (2015). Habits of the sensory system and mental health: Understanding sensory dissonance. *American Journal of Occupational Therapy*, 69, 6904250020. <http://dx.doi.org/10.5014/ajot.2015.014977>.
- Baranek, G. T., Reinhartsen, D. B., & Wannamaker, S. W. (2001). Play: Engaging young children with autism. *Autism: A sensorimotor approach to management*, 313-351
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. New York: Routledge. (Original published in 1979)
- Bourdieu, P. (1998). *Practical reason: On the theory of action*. Stanford: Stanford University Press. (Original published in 1994)
- Bourdieu, P. (2004). The peasant and his body. *Ethnography*, 5(4), 579-599.
- Dean, E. E., Little, L., Tomchek, S., Wallisch, A., & Dunn, W. (2022). Prevalence models to support participation: Sensory patterns as a feature of all children's humanity. *Frontiers in Psychology*, 13, 875972. <https://doi.org/10.3389/fpsyg.2022.875972>.
- Dewey, J. (1934). *Art as experience*. New York: Capricorn Books.

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References

Dunn, W. (1997). The impact of sensory processing abilities on the daily lives of young children and families: A conceptual model. *Infants & Young Children, 9*(4), 23–35.

Ismael, N., Lawson, L. M., & Hartwell, J. (2018). Relationship between sensory processing and participation in daily occupations for children with autism spectrum disorder: A systematic review of studies that used Dunn's sensory processing framework. *American Journal of Occupational Therapy, 72*(3), 7203205030p1–7203205030p9. <https://doi.org/10.5014/ajot.2018.024075>

Lane, S. J., Mailloux, Z., Schoen, S., Bundy, A., May-Benson, T. A., Parham, L. D., Smith Roley, S., & Schaaf, R. C. (2019). Neural foundations of Ayres Sensory Integration®. *Brain Sciences, 9*(7), 153. <https://doi.org/10.3390/brainsci9070153>

Merleau-Ponty, M. (1964). *The primacy of perception* (J. M. Edie, Trans.). Evanston, IL: Northwestern University Press.

Merleau-Ponty, M. (1968). *The visible and the invisible* (A. Lingis, Trans., C. Lefort, Ed.). Evanston, IL: Northwestern University Press.

Merleau-Ponty, M. (1945/2012). *The phenomenology of perception* (D. A. Landes, Trans.). London, UK: Routledge. Original work published 1945.

Rodaway, P. (1994). *Sensuous geographies: Body, sense and place*. New York: Routledge.

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