

SENSORY REGULATION FOR REAL LIFE

Cassie Fraser-Ball, OTR/L

A LITTLE ABOUT ME...



Occupational Therapy
Empowering Everyday Living
#OTMonth
aota.org



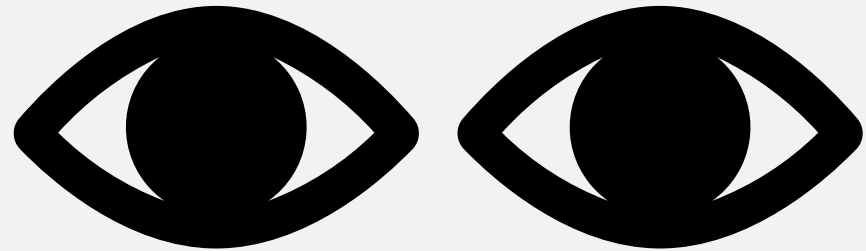
TALKING POINTS

- What are the sensory systems?
- What is sensory processing?
- What is sensory regulation?
- What are sensory networks?

SENSORY SYSTEMS

VISION

- Input received through the eyes and is related to seeing
- Visual information includes:
 - Color
 - Shape
 - Orientation
 - Motion
 - Brightness



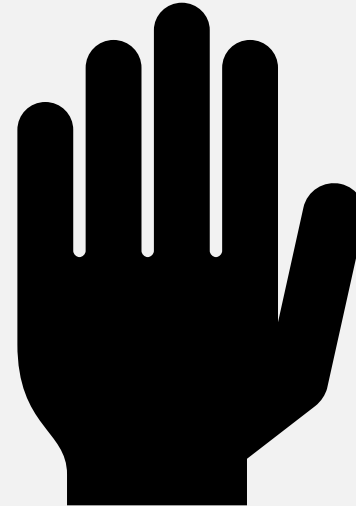
HEARING (AUDITORY)

- Input received through the ears and is related to hearing
- Auditory information includes:
 - Pitch
 - Tone
 - Amplitude (volume)



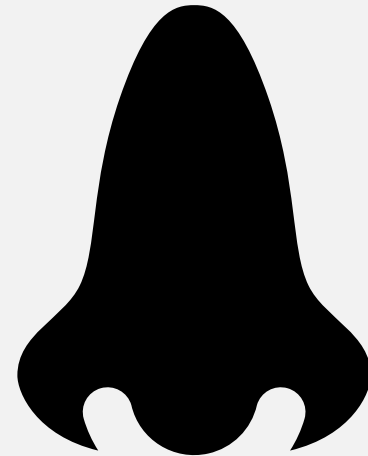
TOUCH (TACTILE)

- Input received through receptors in the skin and is related to touch.
- Tactile information includes:
 - Touch
 - Pressure
 - Flutter
 - Vibration
 - Temperature and pain sensations are also integrated with tactile sensations within the brain



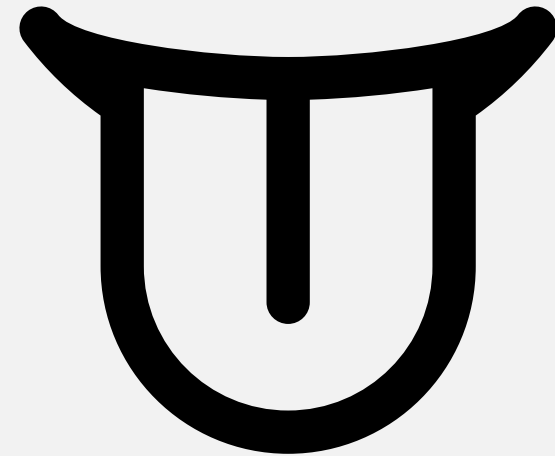
SMELL (OLFACTORY)

- Input received through receptors in the nose and is related to smell
- Allows for identification of odors
- Contributes to perception of flavor



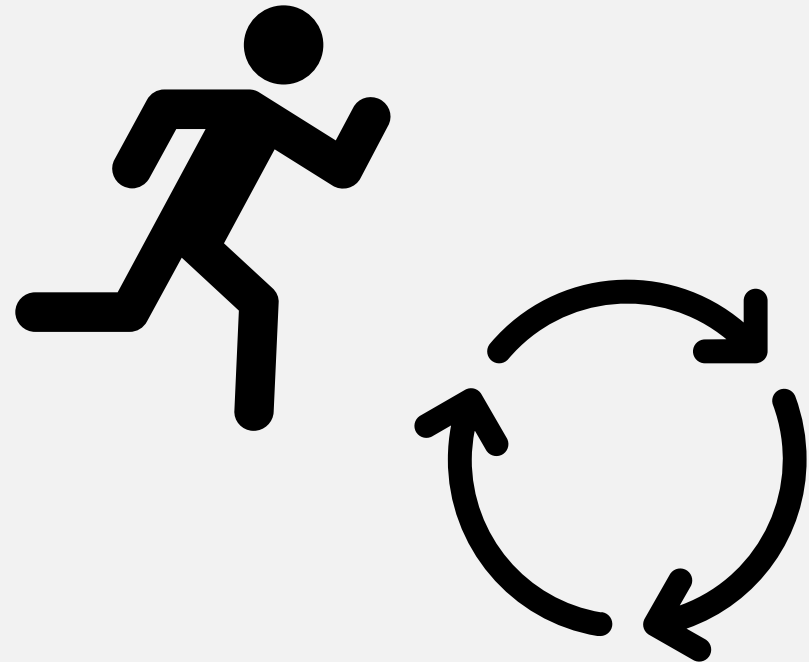
TASTE (GUSTATORY)

- Input received through receptors in the mouth and throat and is related to taste
- We can detect 5 basic tastes:
 - Sweet
 - Salty
 - Bitter
 - Sour
 - Umami (savory)



VESTIBULAR

- Input received through receptors in the inner ear and is related to movement and balance
- Vestibular information includes:
 - Rotation
 - Linear movement (side to side, up and down, front and back)
 - Position of our head relative to gravity
- We get input through this sense when we do things like swing, rock, spin, and jump.



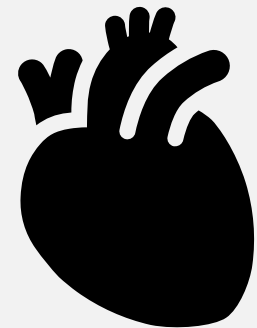
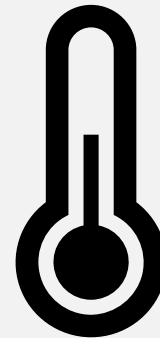
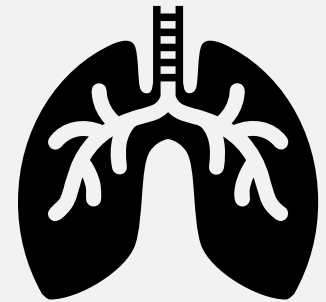
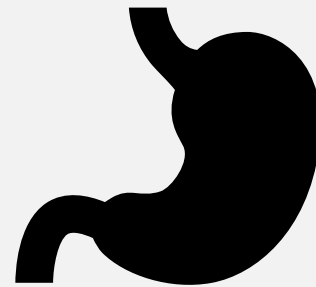
PROPRIOCEPTION

- Input received through receptors in the muscles and joints and is related to movement and body position
- Proprioceptive information includes:
 - Muscle length
 - Muscle tension
 - Joint pressure
 - Joint angle
- Proprioceptive input comes from:
 - Moving our bodies into different positions
 - Using our muscles to push, pull, stretch, squeeze, bump, and otherwise exert force
 - Having external force exerted upon us



INTEROCEPTION

- Input received through receptors in internal organs and membranes and is related to internal sensations
- Allows us to detect:
 - Hunger
 - Thirst
 - Heart rate
 - Breathing rate
 - When we need to use the bathroom
- Related to experience of emotions



SENSORY SYSTEMS



SENSORY PROCESSING

WHO HAS SENSORY PROCESSING NEEDS?

You!

You!

You!



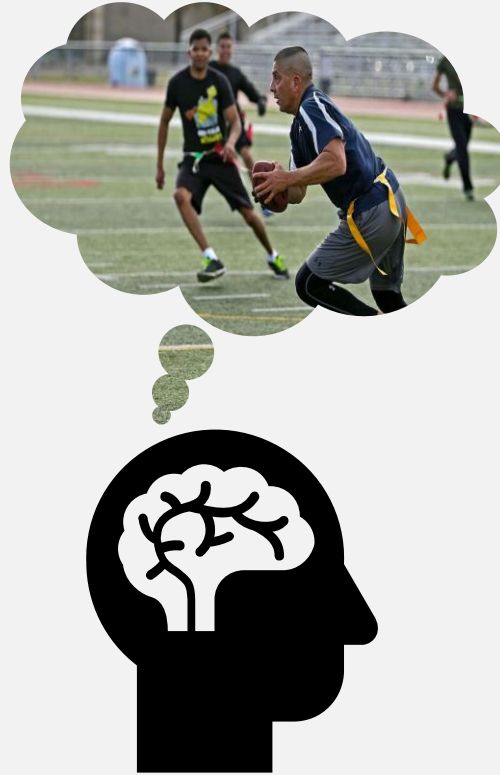
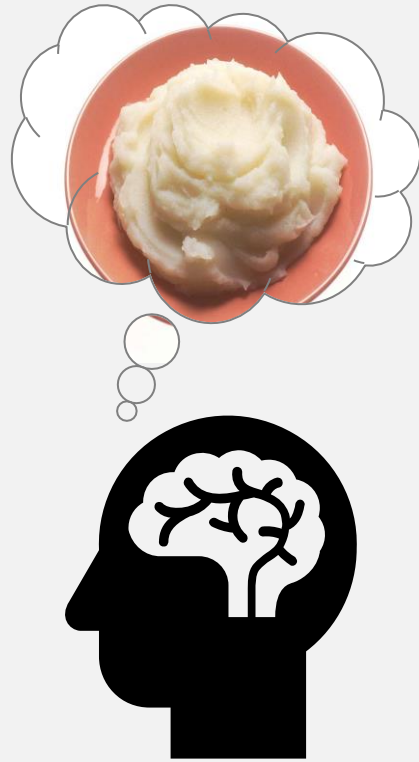
You!

You!

You!

Image credit: [Oprah Daily](#)

WHO HAS SENSORY PROCESSING NEEDS?



DUNN'S SENSORY PROCESSING MODEL



Image credit: [University of Missouri](#)

Winnie Dunn, OTR, FAOTA

Winnie Dunn is a Distinguished Professor in the Department of Occupational Therapy Education at the University of Missouri.

She has been a pioneer in the study of sensory processing, and her model of sensory processing has had a profound impact on the field of occupational therapy.

Continuum I: Neurological Threshold

More Sensory Input
Needed to Perceive

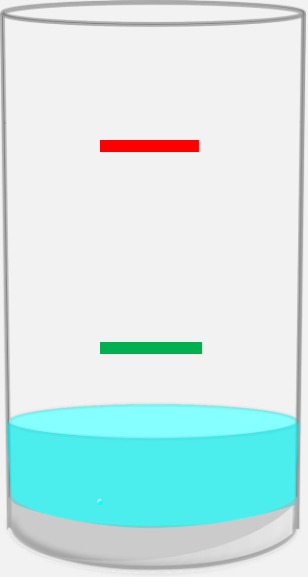
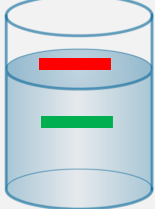
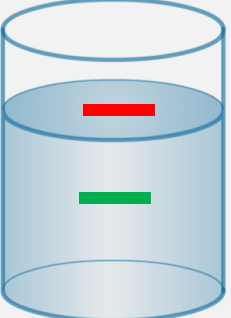
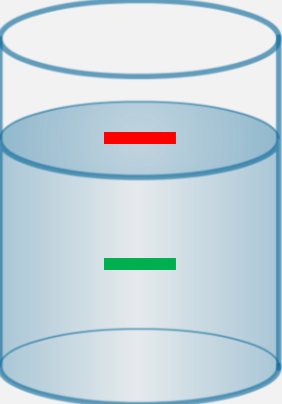


Less Sensory Input
Needed to Perceive

More Sensory Input
Needed to Perceive



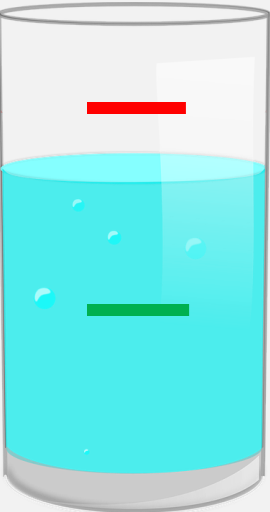
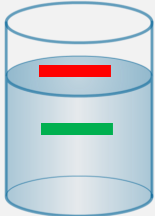
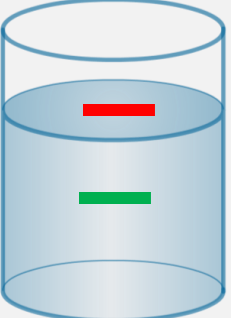
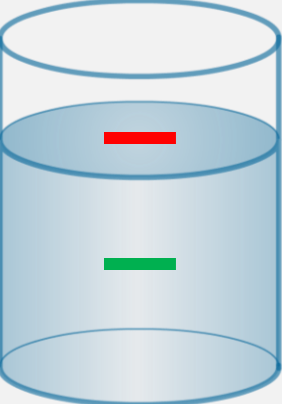
Less Sensory Input
Needed to Perceive



More Sensory Input
Needed to Perceive



Less Sensory Input
Needed to Perceive



Continuum 2: Self Regulation

More Passive
Response Style



More Active
Response Style



More Sensory Input
Needed to Perceive

More Passive
Response Style

More Active
Response Style

**Sensory
Avoiding**

Less Sensory Input
Needed to Perceive



Image credit: [Irawanthea92](#)



Image credit: [Monstera Production from Pexels](#)

Sensory Avoiding



Image credit: [Lars Plougmann](#)



Image credit: [Ralph](#)

More Sensory Input
Needed to Perceive

More Passive
Response Style

More Active
Response Style

**Sensory
Sensitivity**

Less Sensory Input
Needed to Perceive

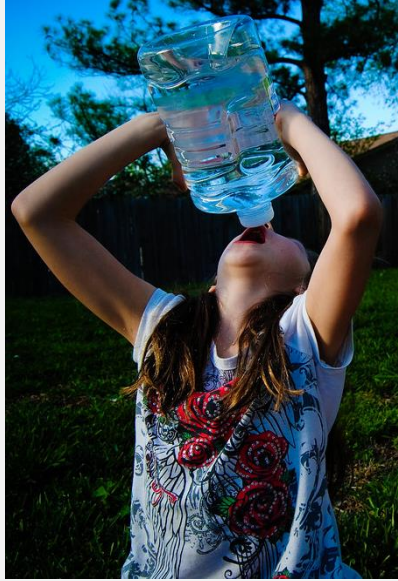


Image credit: [Elizabeth Albert](#)

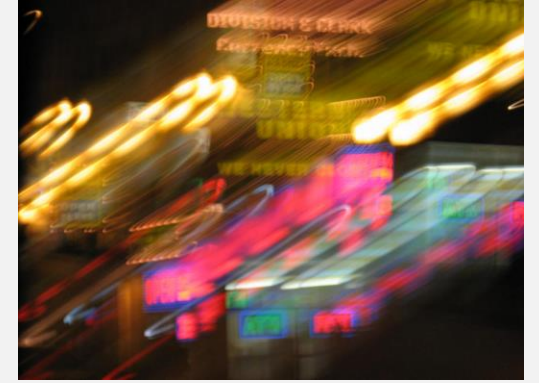


Image credit: [broken-art-attack](#)

Sensory Sensitivity



Image credit: [timtjim](#)



Image credit: [Pixel.la](#)

More Sensory Input
Needed to Perceive

**Sensory
Seeking**

More Passive
Response Style

More Active
Response Style

Less Sensory Input
Needed to Perceive



Image credit: [RonLach](#)



Image credit: [Morgan](#)



Image credit: [Marco Verch](#)

Sensory Seeking



Image credit: [DVIDS](#)



Image credit: [M.Graham](#)

More Sensory Input
Needed to Perceive

**Low
Registration**

More Passive
Response Style

More Active
Response Style

Less Sensory Input
Needed to Perceive



Image credit: [Pablo Stanley](#)



Image credit: [Lynda Giddens](#)

Low Registration



Image credit: [cottonbro](#)



Image credit: [Timur Weber](#)

More Sensory Input
Needed to Perceive

**Low
Registration**

**Sensory
Seeking**

More Passive
Response Style

More Active
Response Style

**Sensory
Sensitivity**

**Sensory
Avoiding**

Less Sensory Input
Needed to Perceive

More Sensory Input
Needed to Perceive

**Low
Registration**

**Sensory
Seeking**

More Passive
Response Style

More Active
Response Style



**Sensory
Sensitivity**

**Sensory
Avoiding**

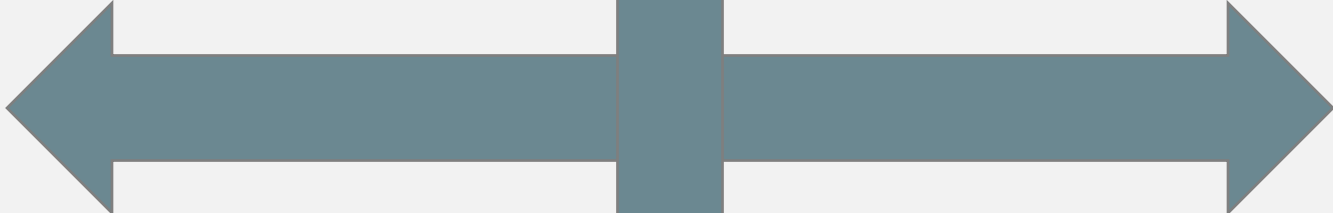
Less Sensory Input
Needed to Perceive

More Sensory Input
Needed to Perceive

**Low
Registration**

**Sensory
Seeking**

More Passive
Response Style



More Active
Response Style

**Sensory
Sensitivity**

**Sensory
Avoiding**



Less Sensory Input
Needed to Perceive

SENSORY REGULATION

REGULATION

the chemical and nerve processes that allow people to adjust to changes in themselves and their environment so that they can continue to live

(Cambridge Dictionary)

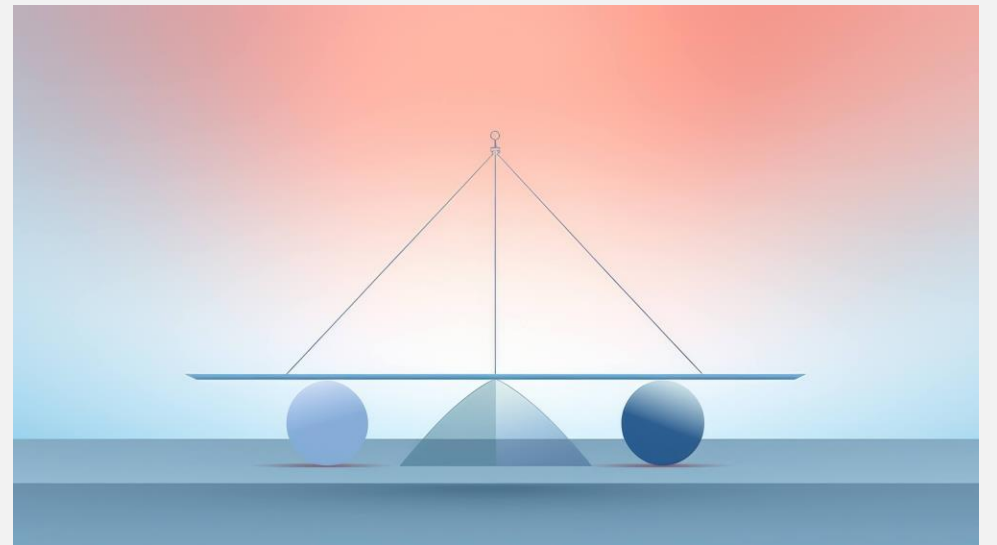


Image credit: [Ralph](#)

SENSORY NEED VS. SENSORY STRATEGY



the
occuplay tional
therapist

HOME > BY LOCATION > AT HOME > Sensory Mismatch Key: Need Isn't Behavior

Sensory Mismatch Key: Need Isn't Behavior

🕒 December 11, 2023 👤 The Occuplaytional Therapist 📁 At Home, At School, Elementary, Personal, Philosophy, Preschoolers, Preteens, Regulation, Self/Adult, Sensory, Siblings, Social/Emotional, Teens, Toddlers 💬 Comments Off



SENSORY REGULATION STRATEGIES

Initial
Self-
Directed
Strategy



Image Credit:
[pxhere](#)

SENSORY REGULATION STRATEGIES



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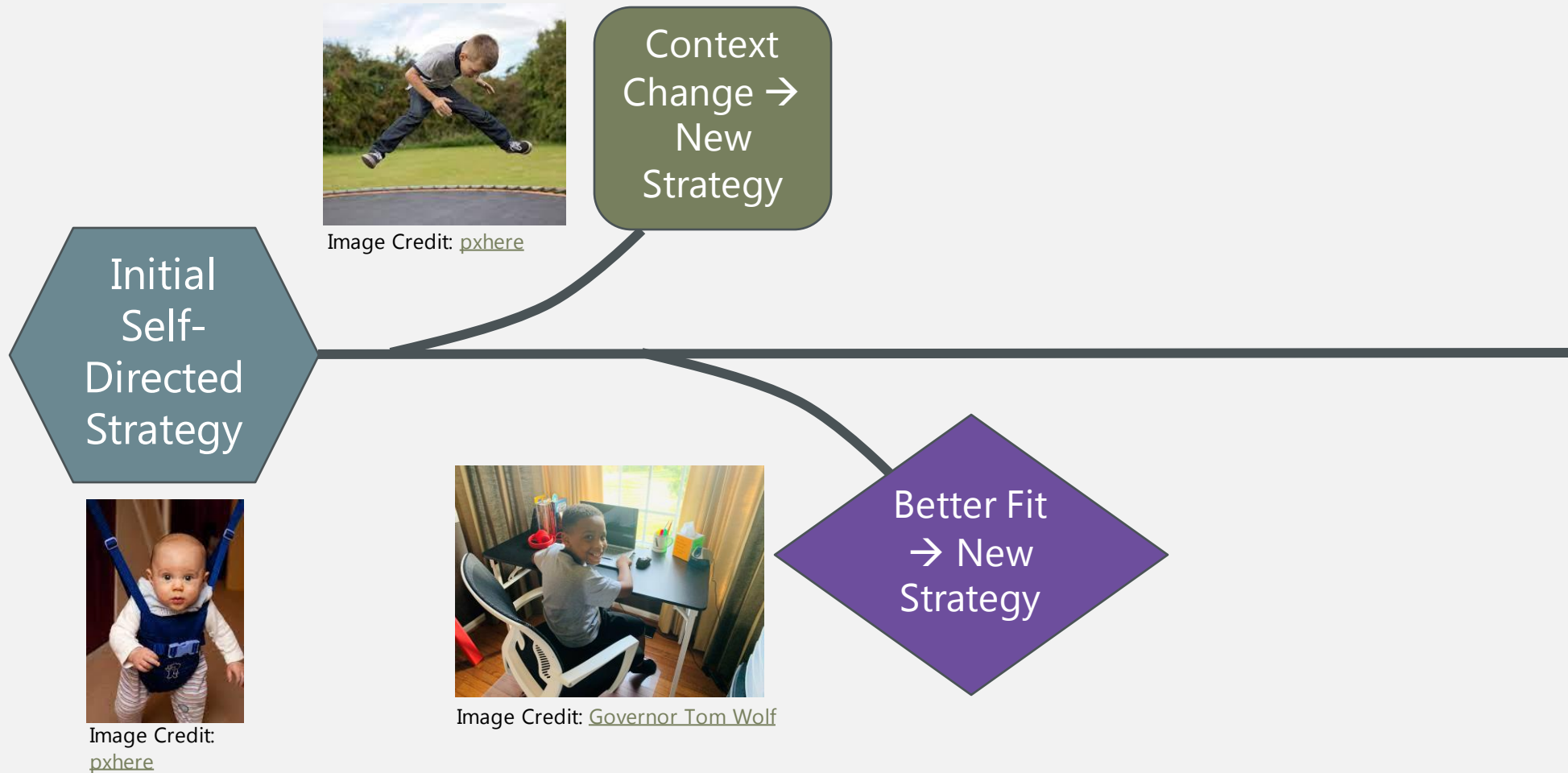
Context
Change →
New
Strategy

Initial
Self-
Directed
Strategy

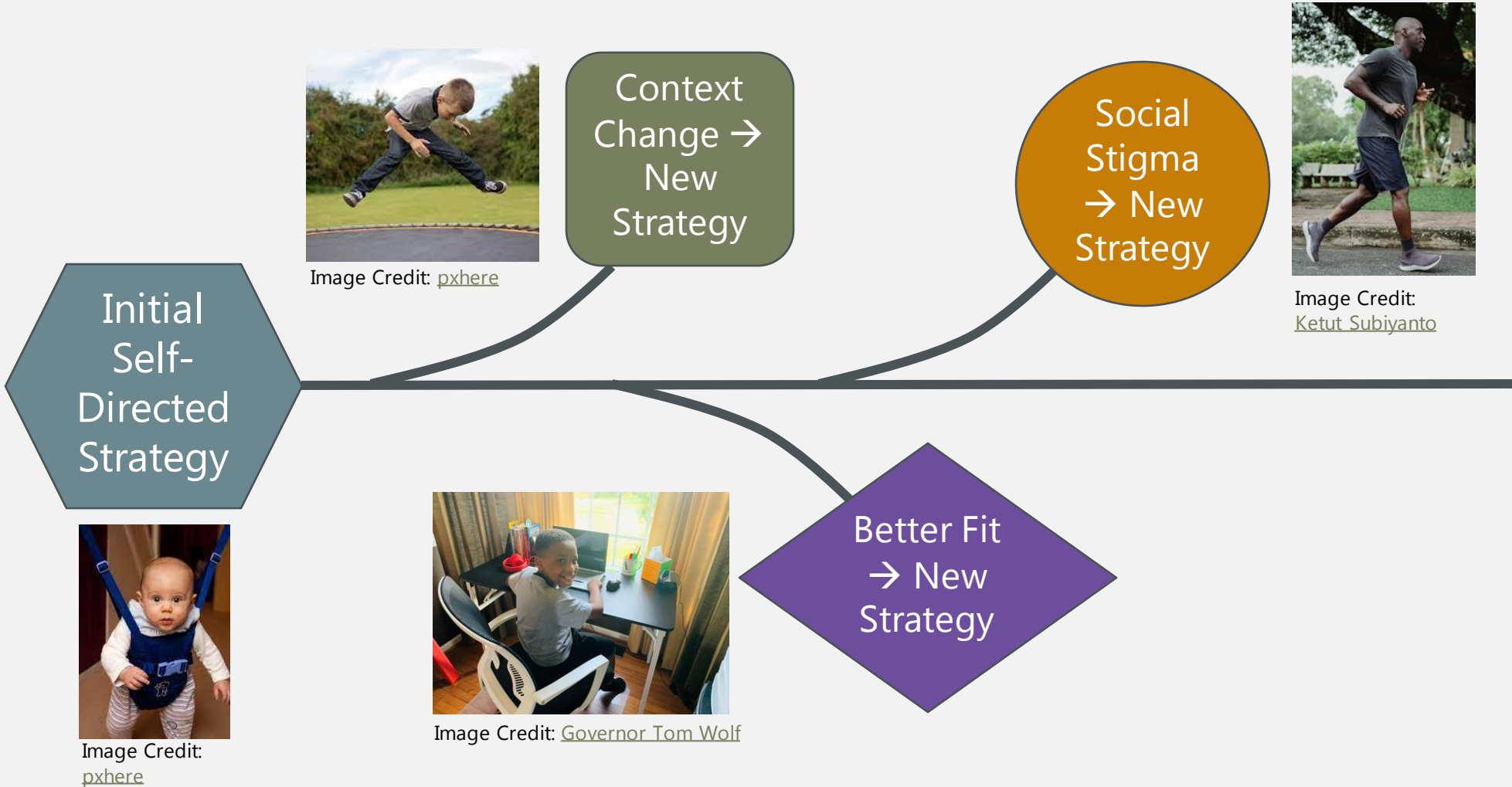


Image Credit:
[pxhere](#)

SENSORY REGULATION STRATEGIES



SENSORY REGULATION STRATEGIES



SENSORY REGULATION STRATEGIES

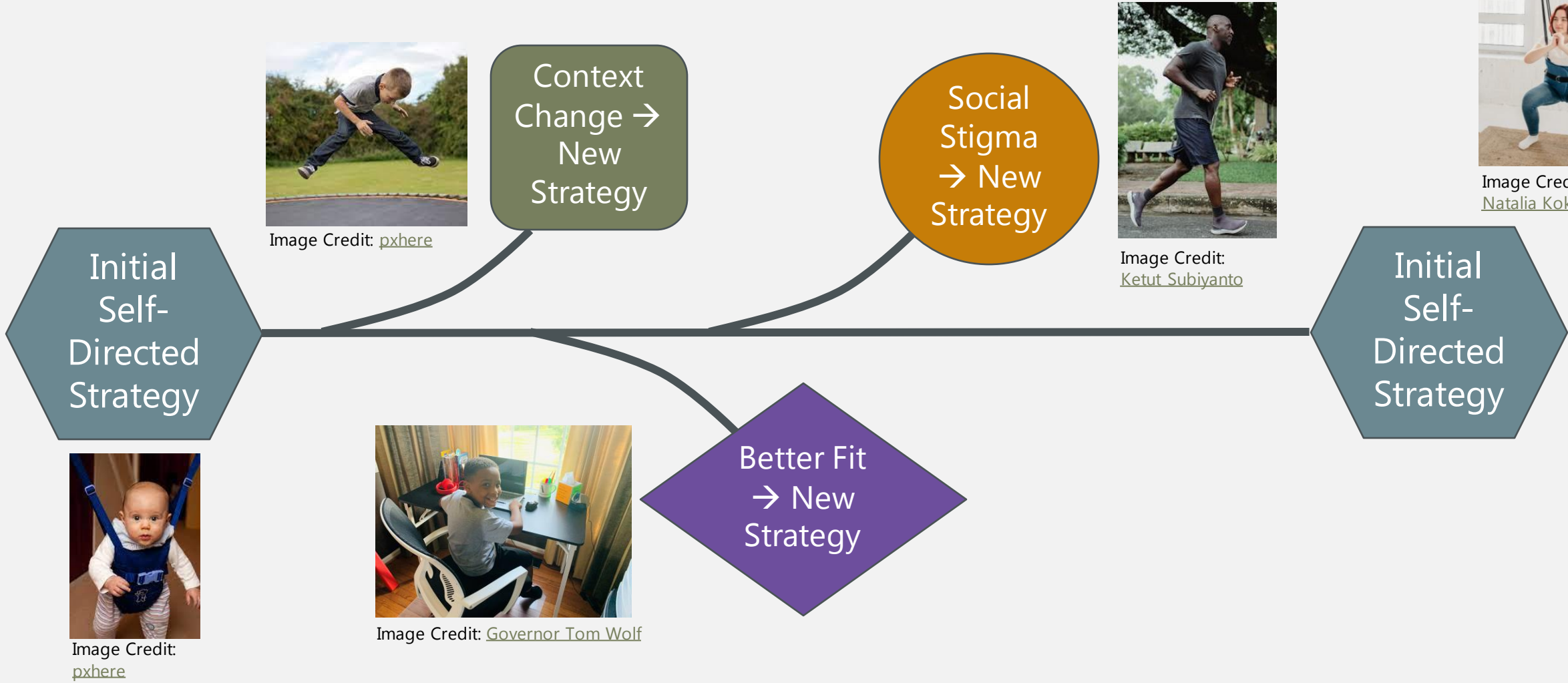


Image Credit: [pxhere](#)

Context Change → New Strategy

Social Stigma → New Strategy



Image Credit: [Ketut Subiyanto](#)

Better Fit → New Strategy



Image Credit: [Governor Tom Wolf](#)



Image Credit: [Natalia Kokhana](#)

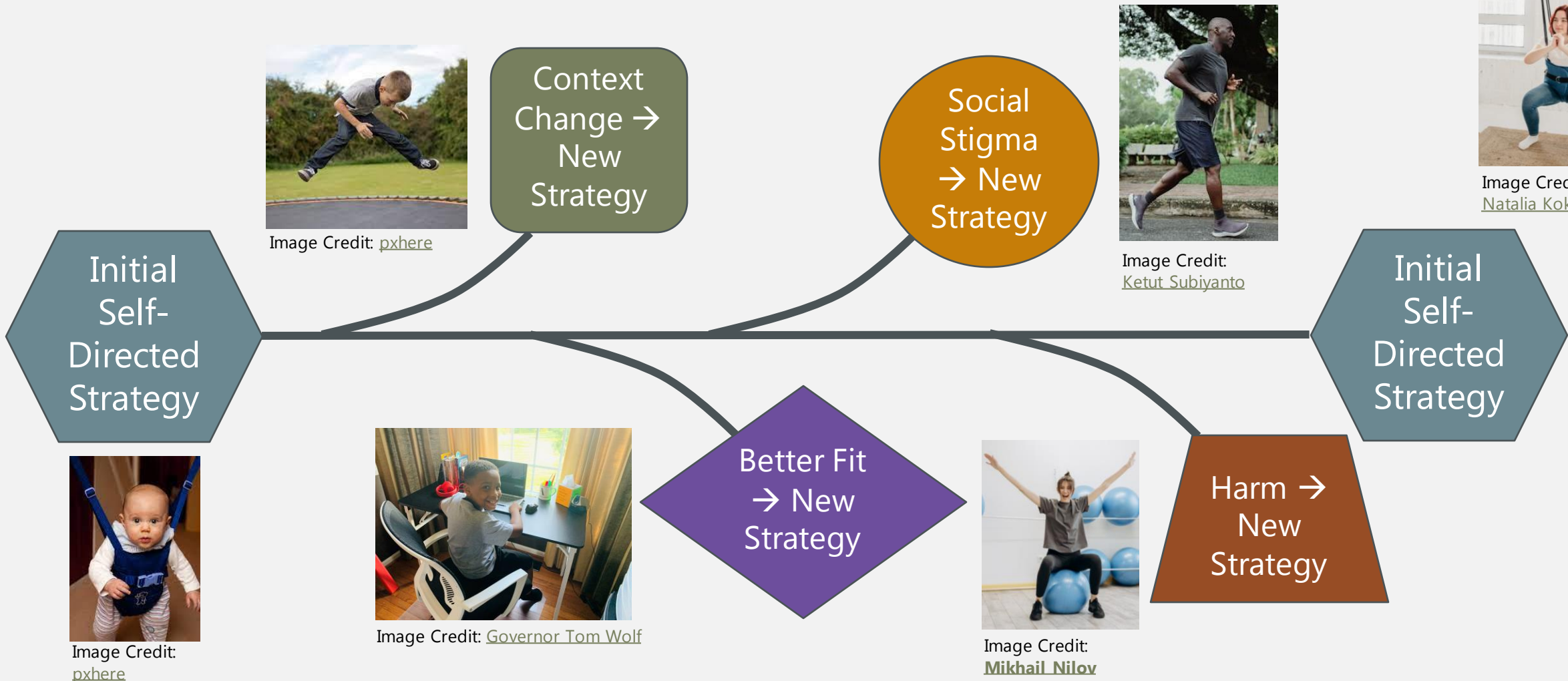


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Initial Self-Directed Strategy

Initial Self-Directed Strategy

WHEN IT'S NOT WORKING



SPECIALIZED EQUIPMENT NOT REQUIRED



Image credit: [Andrew Forgrave](#)

SPECIALIZED EQUIPMENT NOT REQUIRED



Image credit: [Sensory Kid Store](#)



Image credit: [USACE](#)

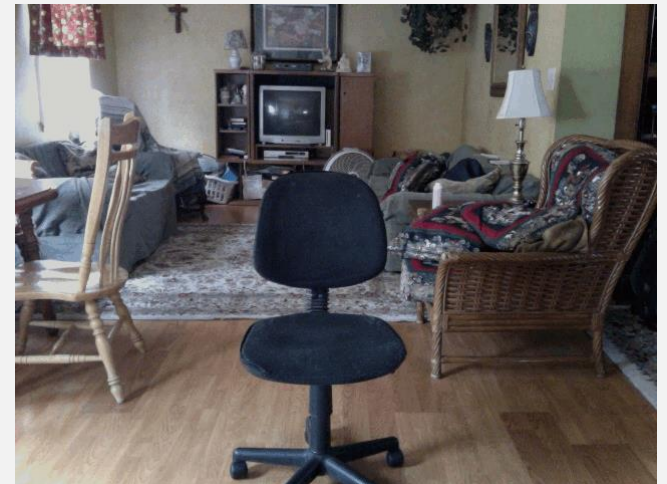


Image credit: [Erock23432](#)

SPECIALIZED EQUIPMENT NOT REQUIRED



Image credit: [pixabay](#)



Image credit: [Easy-Peasy.ai](#)



Image credit: [Cade Martin](#)



Image credit: [Amanda Mills](#)



Image credit: [Peace Corps](#)



Image credit: [Ian D. Keating](#)

SPECIALIZED EQUIPMENT NOT REQUIRED



Image credit: [Klaus Nielsen](#)



Image credit: [mikky k](#)



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Image credit: [Adnan Yahya Abdo Alward](#)



Image credit: [Jennifer Marshall](#)



Image credit: [ph](#)






































Image credit: [Ekaterina Belinskaya](#)

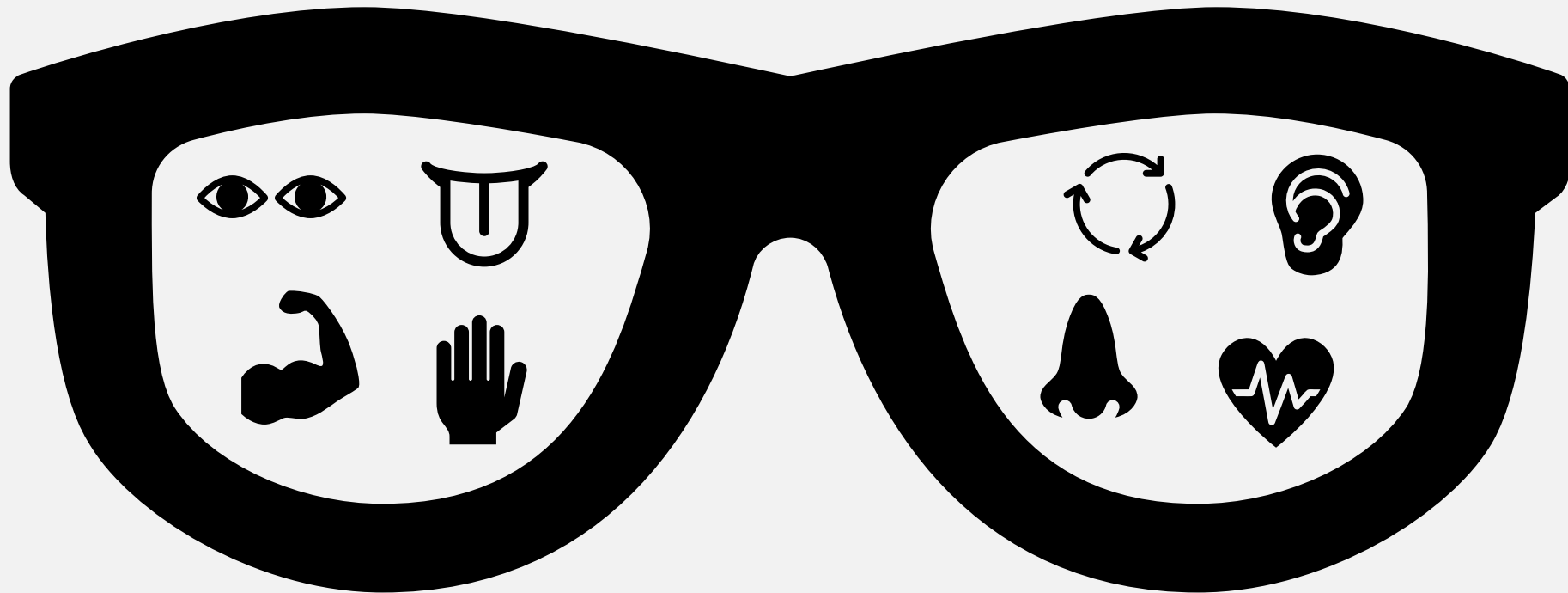


Image credit: [Kyle Strickland](#)

SPECIALIZED EQUIPMENT NOT REQUIRED

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morning							
Midday							
Afternoon							
Evening							
Night							

SENSORY IS NOT JUST SENSORY



SENSORY IS NOT JUST SENSORY

Sensory responses are influenced by...

- Physiological states



Image Credit: [Jose Luis Navarro](#)



Image Credit: [SHVETS_production](#)

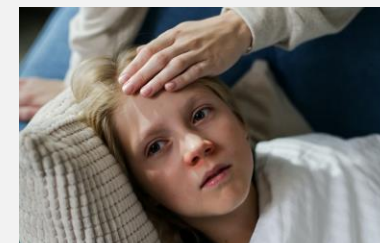


Image Credit: [cottonbro_studio](#)

- Emotional states



Image Credit: [Victoruler](#)



Image Credit: [Gan Khoon Lay](#)

Sensory can be...

- Play
- Social
- Joy!



Image Credit: [Chesapeake Bay Program](#)



Image Credit: [Kampus Production](#)



Image Credit: [PickPik](#)



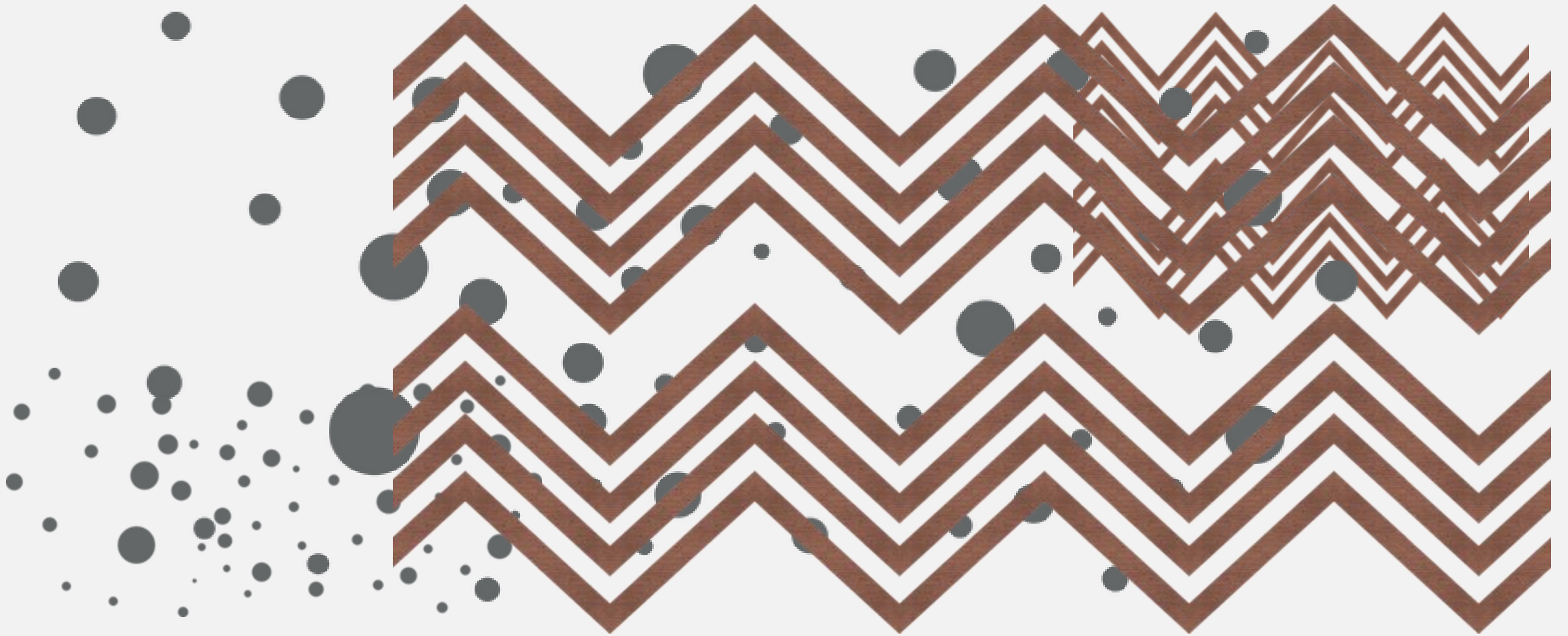
Image Credit: [Andrea Piacquadio](#)



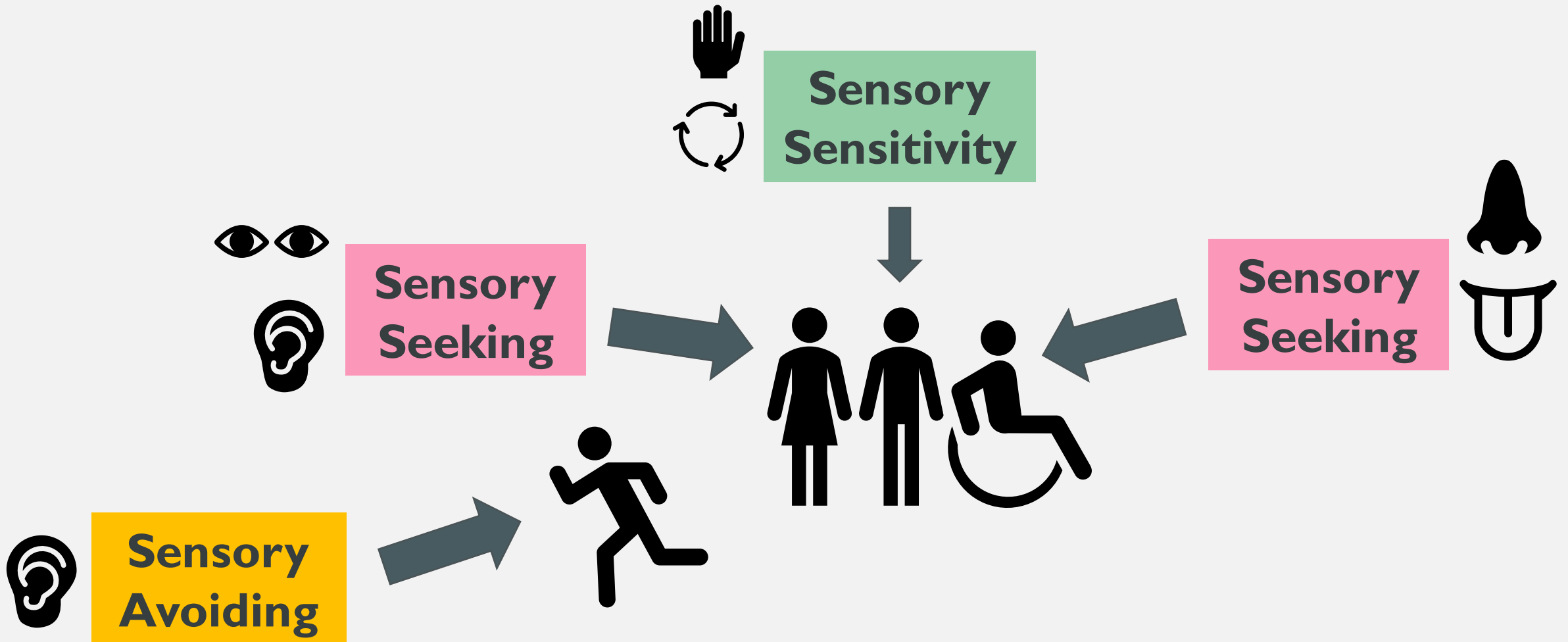
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SENSORY NETWORKS

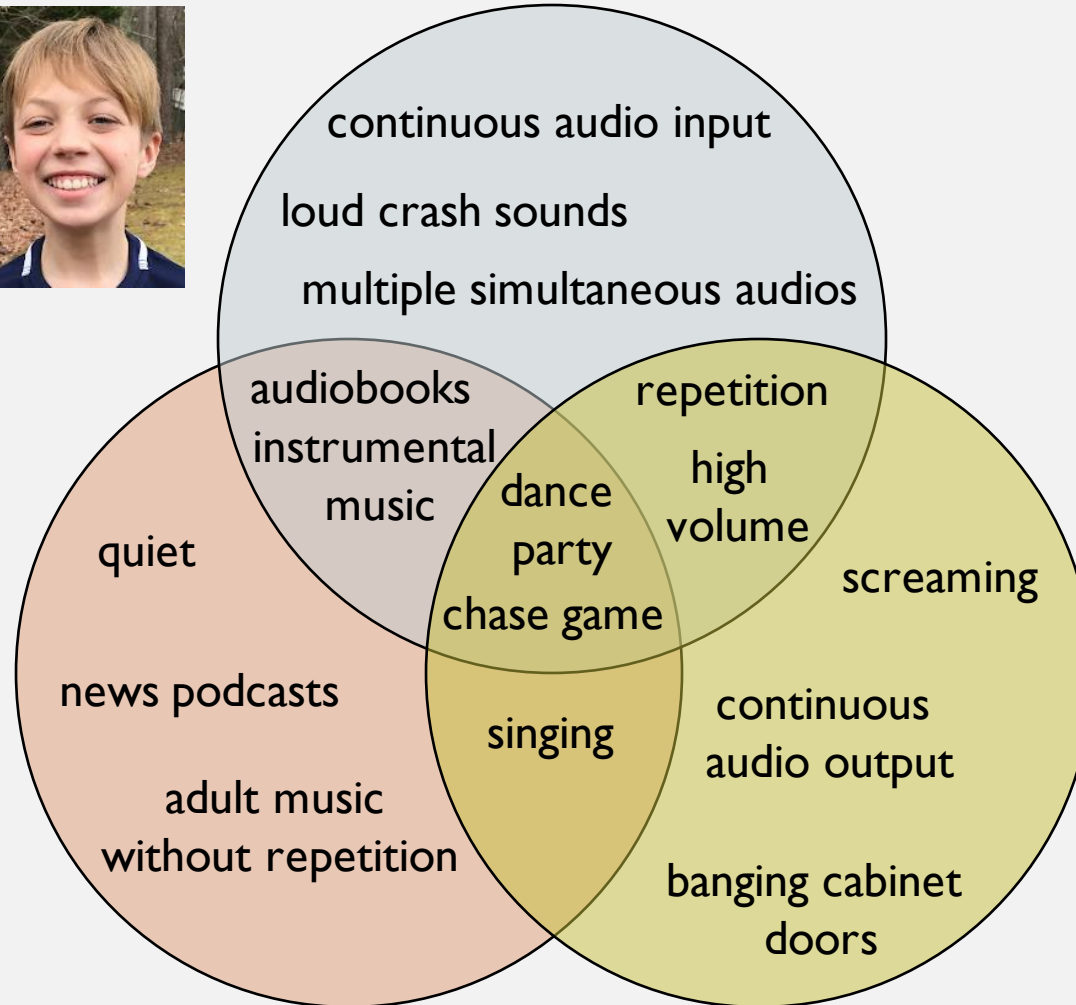
INTERCONNECTED SENSORY EXPERIENCE



INTERCONNECTED SENSORY EXPERIENCE



INTERCONNECTED SENSORY EXPERIENCE



INTERCONNECTED SENSORY EXPERIENCE



Making Sense of Our World Together

System	Responses		Things to Think About
Tactile <ul style="list-style-type: none"> • Touch • Protective • Discriminatory 	Me: <input type="checkbox"/> Like/Seek <input type="checkbox"/> Dislike/ Avoid <input type="checkbox"/> Neutral My Partner: <input type="checkbox"/> Like/Seek <input type="checkbox"/> Dislike/ Avoid <input type="checkbox"/> Neutral	Similar Different	Activities to Enjoy Together: Ways to Help / Accommodations for when on person's stim is another person's trigger:
Proprioceptive <ul style="list-style-type: none"> • Muscle and Joint Position • Deep Touch • Pressure 	Me: <input type="checkbox"/> Like/Seek <input type="checkbox"/> Dislike/ Avoid <input type="checkbox"/> Neutral My Partner: <input type="checkbox"/> Like/Seek <input type="checkbox"/> Dislike/ Avoid <input type="checkbox"/> Neutral	Similar Different	Activities to Enjoy Together: Ways to Help / Accommodations for when one person's stim is another person's trigger:
Vestibular <ul style="list-style-type: none"> • Movement • Balance 	Me: <input type="checkbox"/> Like/Seek <input type="checkbox"/> Dislike/ Avoid <input type="checkbox"/> Neutral My Partner: <input type="checkbox"/> Like/Seek <input type="checkbox"/> Dislike/ Avoid <input type="checkbox"/> Neutral	Similar Different	Activities to Enjoy Together: Ways to Help / Accommodations for when one person's stim is another person's trigger:

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INTERCONNECTED SENSORY EXPERIENCE

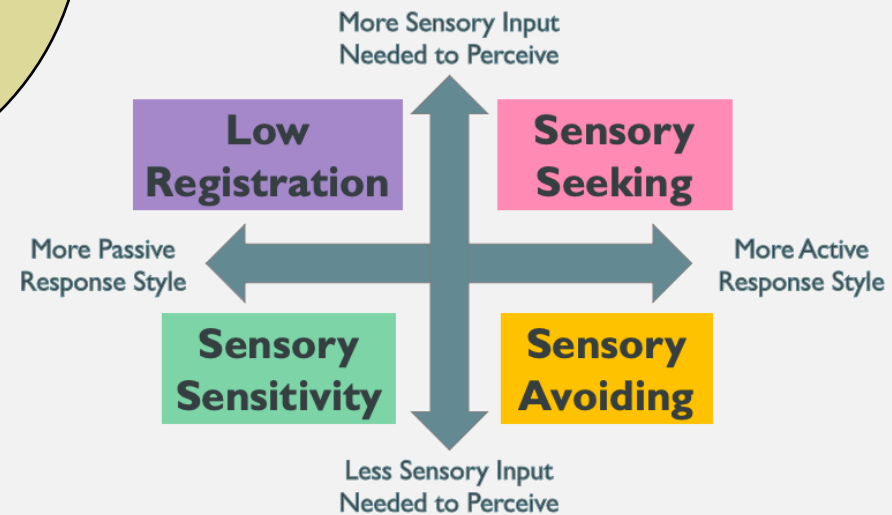
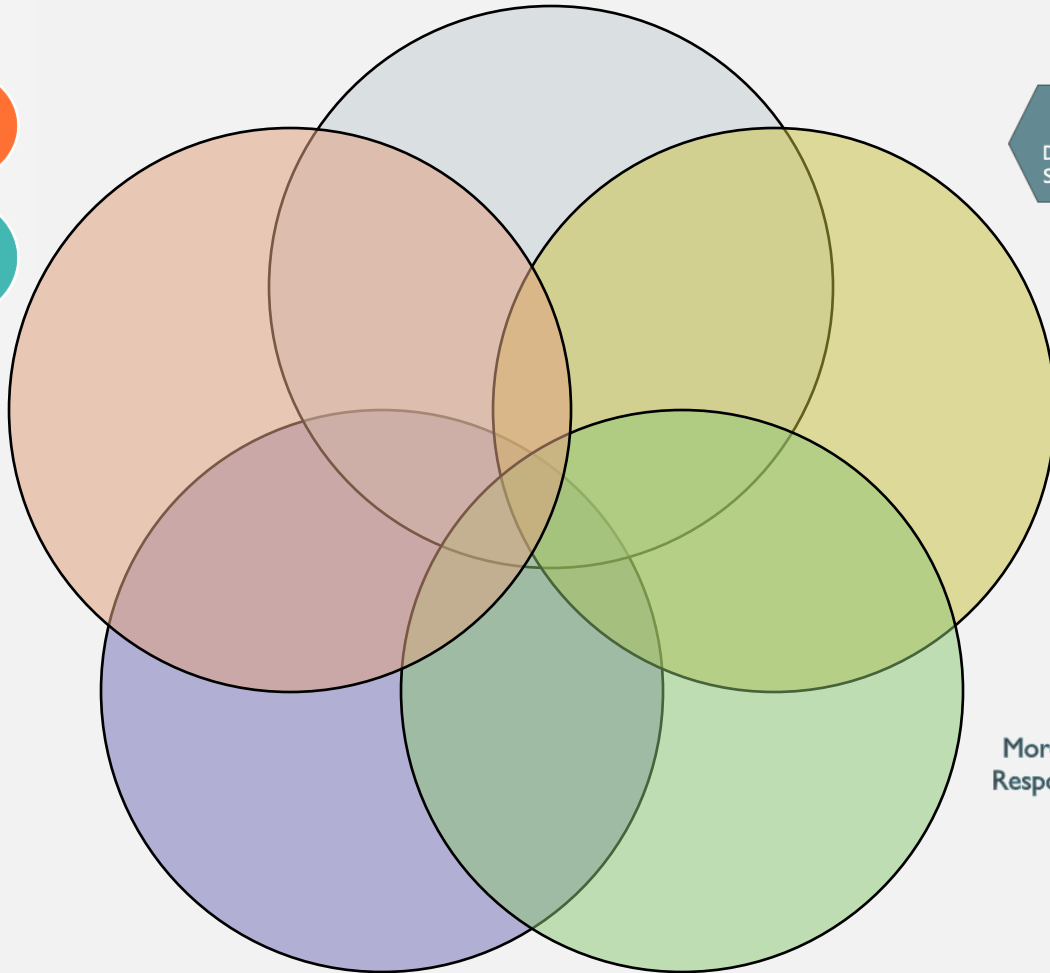


Image Credit: [MissLunaRose](#)

SOURCES AND RESOURCES

Dunn, Winnie PhD, OTR, FAOTA. The Impact of Sensory Processing Abilities on the Daily Lives of Young Children and Their Families: A Conceptual Model. *Infants & Young Children* 9(4):p 23-35, April 1997.

Olds, K. (2023, December 11). Sensory Mismatch Key: Need Isn't Behavior. *The Occupational Therapist*. February 15, 2024, <https://www.occuplaytional.com/2023/12/11/sensory-mismatch-key-need-isnt-behavior/>

Laurent, A., & Fede, J. (2020). Autism Level UP! <https://www.autismlevelup.com/#home>