



OUR SENSORY WORLDS: INTEROCEPTION

Presented by: Rachael Thompson (MSc Occupational Therapy)

INTRODUCTION

Cairn Education

RACHAEL THOMPSON
HEAD OF THERAPY

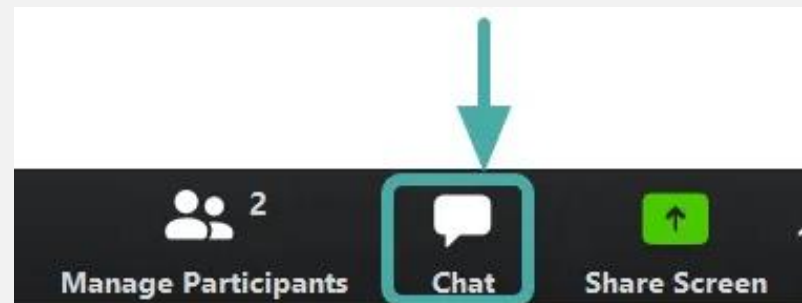
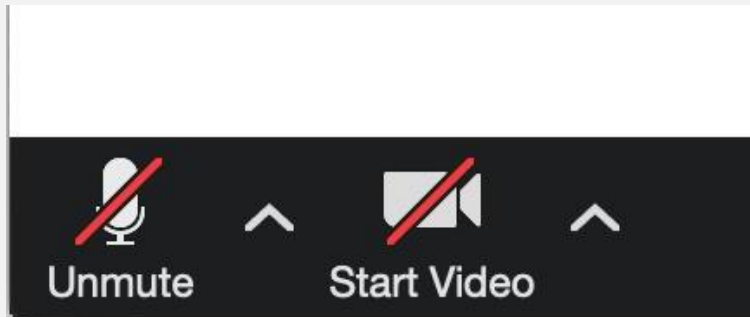


LUCIE KELLY
HEAD OF EDUCATION



POINTS TO KEEP IN MIND

- Please keep yourself on mute.
- Videos are optional
- Use the chat function to ask questions



POINTS TO KEEP IN MIND

Discussion will include:

- Mental Health
- Anxiety
- Eating Disorders

If you find any of the discussions difficult or you need to leave for any reason please do so.



CONTENT

WHAT IS INTEROCEPTION?

INTEROCEPTION - AUTISM

INTEROCEPTION – ALEXITHYMIA

INTEROCEPTION - SELF AWARENESS, SOCIAL INTERACTION AND CONNECTEDNESS

INTEROCEPTION – ANXIETY

INTEROCEPTION - EATING DISORDERS

WHAT CAN HELP?

QUESTIONS/ DISCUSSION



The background image shows a collection of anatomical models in a museum or laboratory setting. On the left, a torso model displays internal organs like the heart and lungs. To its right, a headless mannequin is dressed in a patterned garment. In the foreground, a shelf holds various smaller models, including a heart, a brain, and a face. To the right, a glass-fronted cabinet contains papers and other items. The text "WHAT IS INTEROCEPTION?" is centered over the image in a white, bold, sans-serif font, enclosed within a thin white rectangular border.

WHAT IS INTEROCEPTION?

WHAT IS INTEROCEPTION?

Perception and interpretation of the signals from the organs and tissues within our bodies.

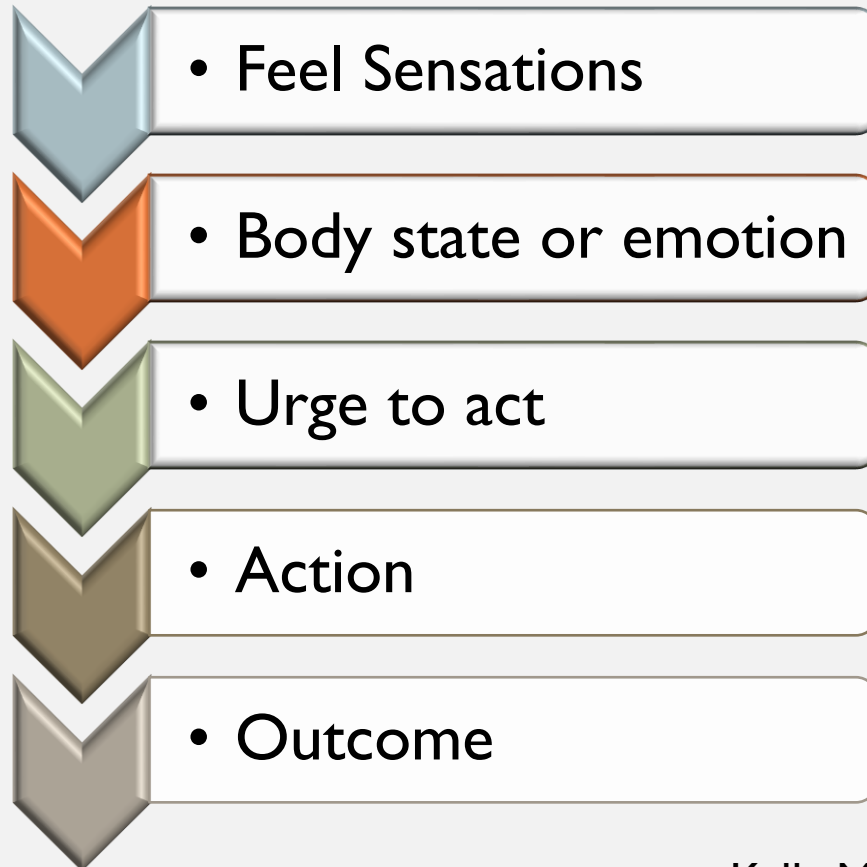
Physical state

- Fatigue
- Nausea
- Hunger
- Thirst
- Need to urinate
- Need to defecate
- Internal pain and discomfort
- Increased heart rate
- Internal temperature

Emotions

- Anger
- Excitement
- Frustration
- Anxiety
- Fear
- Sexual arousal
- Physical attraction
- Love
- Sadness
- Trust

INTEROCEPTION AND SELF-REGULATION



WHAT IS INTEROCEPTION

Interoceptive Accuracy

Objective ability to perceive
bodily sensations

Interoceptive Awareness

Ability to accurately perceive
and interpret bodily sensations

Interoceptive Sensibility

Subjective perception of bodily
sensations

Interoceptive Emotional Evaluation

Ability to make sense of the
sensations and determine
emotional meaning.

(Garfinkel et al, 2016., Herbert and Pollatos, 2018.)

HOW MIGHT WE IDENTIFY IF SOMEONE HAS DIFFICULTY WITH INTEROCEPTIVE AWARENESS?

- Difficulty getting to sleep –irregular sleep patterns
- Feeling sick all the time or never reporting or presenting with any sign of illness.
- Overeating or only eating when prompted to do so.
- Drinking all the time or only when prompted to do so.
- Episodes of incontinence
- Not noticing or seeming to be very sensitive to physical exertion
- Does not seem to notice when feeling hot or cold.

HOW MIGHT WE IDENTIFY IF SOMEONE HAS DIFFICULTY WITH INTEROCEPTIVE EMOTIONAL EVALUATION?

- Difficulties identifying and communicating feelings
- Fail to notice the early signs of distress and fails to seek support or help when becoming distressed.
- Appears to be in a constant state of flux between various emotions.
- Gives factual reports of experience rather than how they felt about an experience.
- Struggles with the questions “how do you feel about.....?” or “how did that make you feel?”
- Confuses sensation associated with emotions (such as being nervous) with physical states (such as hunger). Or physical states with emotional states.
- May not notice an emotion until it becomes very intense- meltdowns and shutdowns.

The image is a composite. The upper portion shows a detailed anatomical model of a human brain in a reddish-brown hue, with a semi-transparent section revealing internal structures like the corpus callosum and brainstem. The lower right corner features a white, stylized neuron with multiple branching dendrites and an axon, marked with a small purple circular logo. The background is a dark, textured grey.

INTEROCEPTION AND AUTISM

INTEROCEPTION AND AUTISM

- **74%** of adults with autism reported interoceptive confusion. (Fiene et al, 2018).
- Dysfunctional interoceptive awareness is consistent with impairments in connectivity between **insula, amygdala and somatosensory cortices** which is commonly identified in Autistic individuals. (Hatfield et al, 2019)
- Reduced interoceptive accuracy ; emotion sensitivity and occurrence of anxiety symptoms. (Garfinkel et al, 2016)
- Research suggests that interoceptive difficulties experienced by autistic people is thought to contribute to **emotion regulation and recognition difficulties, social interaction difficulties and mental health problems.** (Hatfield et al, 2019)
- Qualitative studies of autobiographical accounts report high incidence of autistic individuals that report **hypo-sensitivity to interoceptive cues and difficulty detecting internal sensations** such as pain. (Elwin et al, 2012)

MY EXPERIENCE

- **External** stimuli is **intense** and can at times be overwhelming:
 - Touch (including also when I observe others being touched)
 - Noise
 - Visual stimuli
 - Movement
 - Other peoples emotional states
- **Internal** stimuli is **muted**.
 - Muted sensation of: hunger and satiety, thirst, pain, nausea
 - Found it difficult to work out if a sensation is linked to a physical need such as hunger or if it is linked to an emotion such as being nervous.

MY EXPERIENCE

In the past the resulting presentations have included:

- Have a tendency to think rather than feel- can't do both at the same time.
- Cognitive reliance to work things out rather than an 'intuitive sense'
- Not recognise increasing levels of anxiety which in the past has resulted in difficulties with mental health
- Difficulties with social interaction, communication and attachment (apart from with people of a similar neuro-type)
- Objectification of my body which has meant that I have not looked after it.

An anatomical model of a human heart, showing the major blood vessels. The heart is primarily pinkish-red. The major arteries are colored red, and the major veins are colored blue. The coronary arteries are colored yellow and red. The heart is positioned centrally, with the text overlaying it.

INTEROCEPTION AND ALEXITHYMIA

INTEROCEPTION AND ALEXITHYMIA

Alexithymia

“an inability to recognise, understand, and describe emotions”. (Collins dictionary).

- Higher prevalence of alexithymia within the autistic population compared to neuro-typical population (50% compared to 5%). (Kinnaird et al 2019).
- Is characterised by both affective (physical state) and non-affective (relating to emotion) interoceptive processing difficulties. (Brewer et al, 2016., Murphy et al, 2018)
- Increased perceived similarity between non-affective (physical) and affective (emotional) states. (Brewer et al, 2016)

A woman is shown from the chest up, looking down at a smartphone she is holding in her right hand. The image is heavily overlaid with a dark red, semi-transparent filter. The text is centered within a white rectangular border.

INTEROCEPTION SELF AWARENESS, SOCIAL INTERACTION AND CONNECTEDNESS

INTEROCEPTION SELF AWARENESS, SOCIAL INTERACTION AND CONNECTEDNESS

- Human experience is based on the embodied experience of sensations- the way an experience or interaction 'feels'. Being able to sense the feelings arising from our body dictates our awareness of self, the world and others. (Allen and Tsakiris, 2018)
- Self-awareness also relies on the processing of interoceptive signals. Distinguishing self from other is necessary for self-awareness and social interactions. (Tajadura-Jiménez et al, 2013)
 - I listen to my body to inform me about what to do.
 - I am at home in my body
 - I feel my body is a safe place
 - I trust my body sensations.

(Mehling, 2018)

- Double empathy theory (Milton, 2012)

VIDEO WARNING

Photosensitivity

- Fast moving images
- White background with black text

D

INTEROCEPTION SELF AWARENESS, SOCIAL INTERACTION AND CONNECTEDNESS

Gender identity and Gender dysphoria

- Studies found differences in the areas of the brain associated with self- referential thinking, and body perception (Feusner et al, 2016)

Love and Connectedness

- Inability to identify, interpret and understand the sensation of love.

An anatomical model of the human respiratory system, showing two lungs with a reddish, honeycomb-like texture. The trachea is a white, ribbed tube in the center. Various colored vessels (red and blue) are visible branching into the lungs. A white rectangular box with a thin black border is centered over the image, containing the text "INTEROCEPTION AND ANXIETY" in white, bold, sans-serif capital letters.

INTEROCEPTION AND ANXIETY

INTEROCEPTION AND ANXIETY.

- Subjective experience of sensations from the body are intense and fluctuate all the time. May present in individuals as being highly sensitive and in an almost constant state of shifting emotions, commonly present outwardly with indicators and behaviours consistent with high levels of anxiety.
 - Degree of difference between Interoceptive Accuracy and Interoceptive Sensitivity is associated with anxiety. (Garfinkel et al, 2016).
- Poor interoceptive accuracy and low sensitivity may present in individuals that do not seem to respond to anxiety states until they become very intense.
 - Qualitative studies of autobiographical accounts report high incidence of autistic individuals that report hypo-sensitivity to interoceptive cues and difficulty detecting internal sensations such as pain. (Elwin et al, 2012)

A wooden mannequin, likely used for art or design studies, is shown from the waist up. The mannequin has a smooth, light-brown wood finish. Its arms are extended downwards, and its torso is visible. The background is a solid, light blue color. A dark grey rectangular box with a white border is superimposed over the center of the image, containing the text "INTEROCEPTION AND EATING DISORDERS" in white, uppercase, sans-serif font.

INTEROCEPTION AND EATING DISORDERS

INTEROCEPTION AND EATING DISORDERS

- Emerging evidence would suggest that **interoceptive deficits** are major clinical characteristics in Anorexia Nervosa and Bulimia Nervosa. (Herbet et al, 2019)
- Eating behaviour in individuals of a healthy weight is characterised by the ability to **respond appropriately to the sensation and accurate processing of hunger, satiety and bodily needs** (interoceptive information). (Herbet et al, 2019)
- Individuals with difficulties with interoceptive awareness may crave sensations (Elwin et al, 2012).
- Learning during development that the information from the body is not reliable resulting in **dysfunction of the sense of self and objectification of the body**. The body becomes something subject to external control. (Herbet et al, 2019)



WHAT CAN HELP?



WHAT CAN HELP?

Understand

Adapt and Support

Develop

Understand

Listen, Assess

Occupational Therapy assessment

Full sensory processing assessment

Multidimensional Assessment of Interoceptive Awareness Version 2 (MAIA-2) (Mehling, 2018)

The Comprehensive Assessment of Interoceptive awareness (Mahler, 2016)

WHAT CAN HELP?

Understand

Adapt and Support

Develop

Adapt and Support

Environment and activities to meet sensory needs.

Support identification of physical or emotional states through questioning or check lists

Keep a diary.

Develop

Use activities to encourage greater understanding and awareness of the body.

Working from the outside in.

- Physical activities swimming/ climbing that encourage active engagement with the body.
- Yoga, Breathing , Mindfulness
- **Communication**

CAUTIONARY NOTE

Developing interoceptive understanding can be both exciting and overwhelming. To become aware means that we have to quickly learn and adapt to these new sensations and new perceptions of emotion that are arising. Individuals may also experience a sense of grief for a life that could have been different and relationships that may have been possible had they had greater insight.

Interoception is only one part of the puzzle. Exteroception, life experiences, physical health and illness, genetic conditions and communication skills may also impact on every aspect outlined in this presentation.

MDT working is essential

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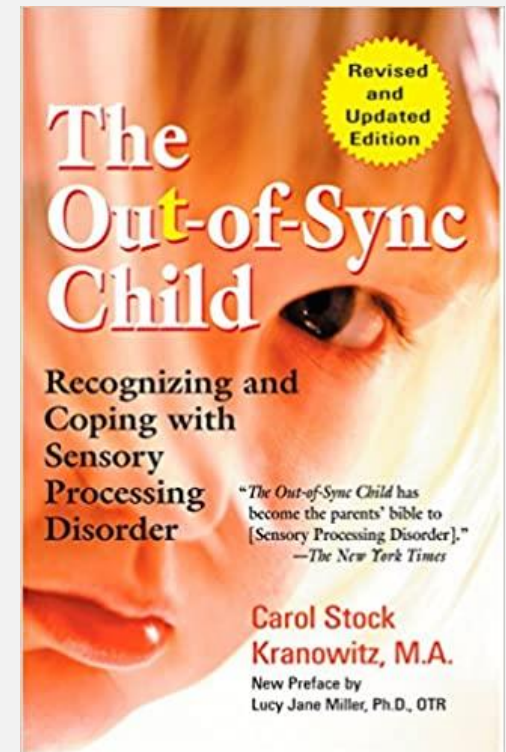
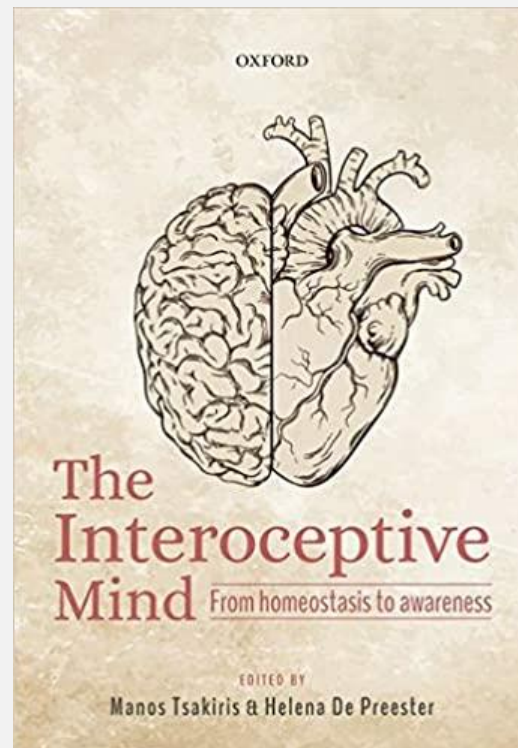
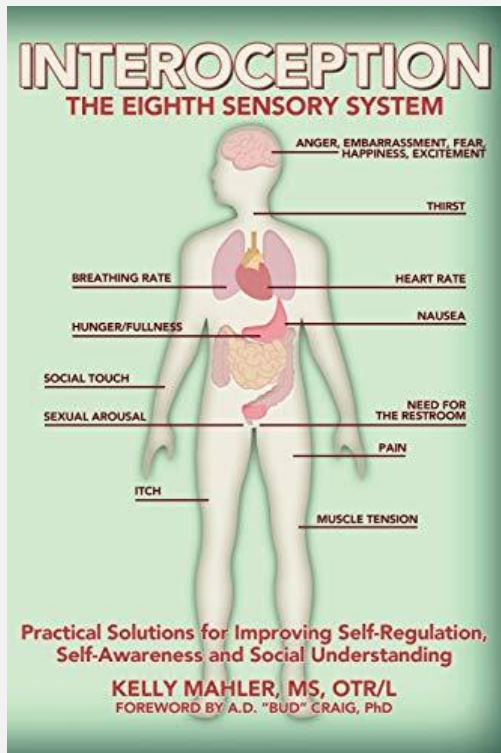
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FURTHER READING



UPCOMING EVENTS

Repeat event Wednesday 24th February at 11:00am

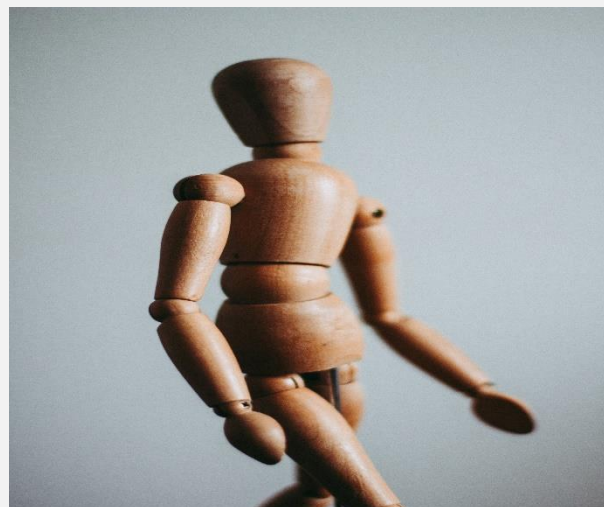
24TH OF MARCH

OUR SENSORY WORLDS:
TOUCH



21ST OF APRIL

OUR SENSORY WORLDS:
PROPRIOCEPTION



www.cairneducation.co.uk

PHOTOGRAPH CREDITS

www.unsplash.com

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Kira auf der Heide

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THANK YOU



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QUESTIONS



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