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Physiological Responses of Adults with Sensory Over-Responsiveness

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Introduction

- Individuals with SOR, the most common sensory modulation disorder, describe daily life experiences as irritating, overwhelming, disorganizing and distracting (Kinnealey, Koenig & Smith, 2011)
- Stimulation from the environment is interpreted through our body's senses and causes automatic, unconscious changes in our physiological responses

Purpose

- To compare typically functioning adults who self-report as low or high in sensory over responsivity (SOR)
- To validate the sensory experiences of these adults and assist practitioners in properly addressing them

Research Design

- **n=17*** → Experimental Group (high SOR) = 8, Control Group (low SOR) = 9
- **Inclusion:** Typical, English speaking adults 18-64 years old and AASP scores
- **Exclusion:** Cognitive or mental diagnoses and medications that influence the autonomic nervous system



* Researchers originally recruited n= 22, however, five participants were removed due to not meeting re-qualification criteria

Measures and Methods

- **Group Determination:** Adolescent/Adult Sensory Processing (AASP) and Sensory Response Questionnaire (SRQ) scores
- **Outcome:** Electrical Dermal Response (EDR) to 12 different sensory stimuli across three different modalities

Sensory Challenge Protocol

Auditory

Crickets
Lawnmower
Baby crying
Pure Tones

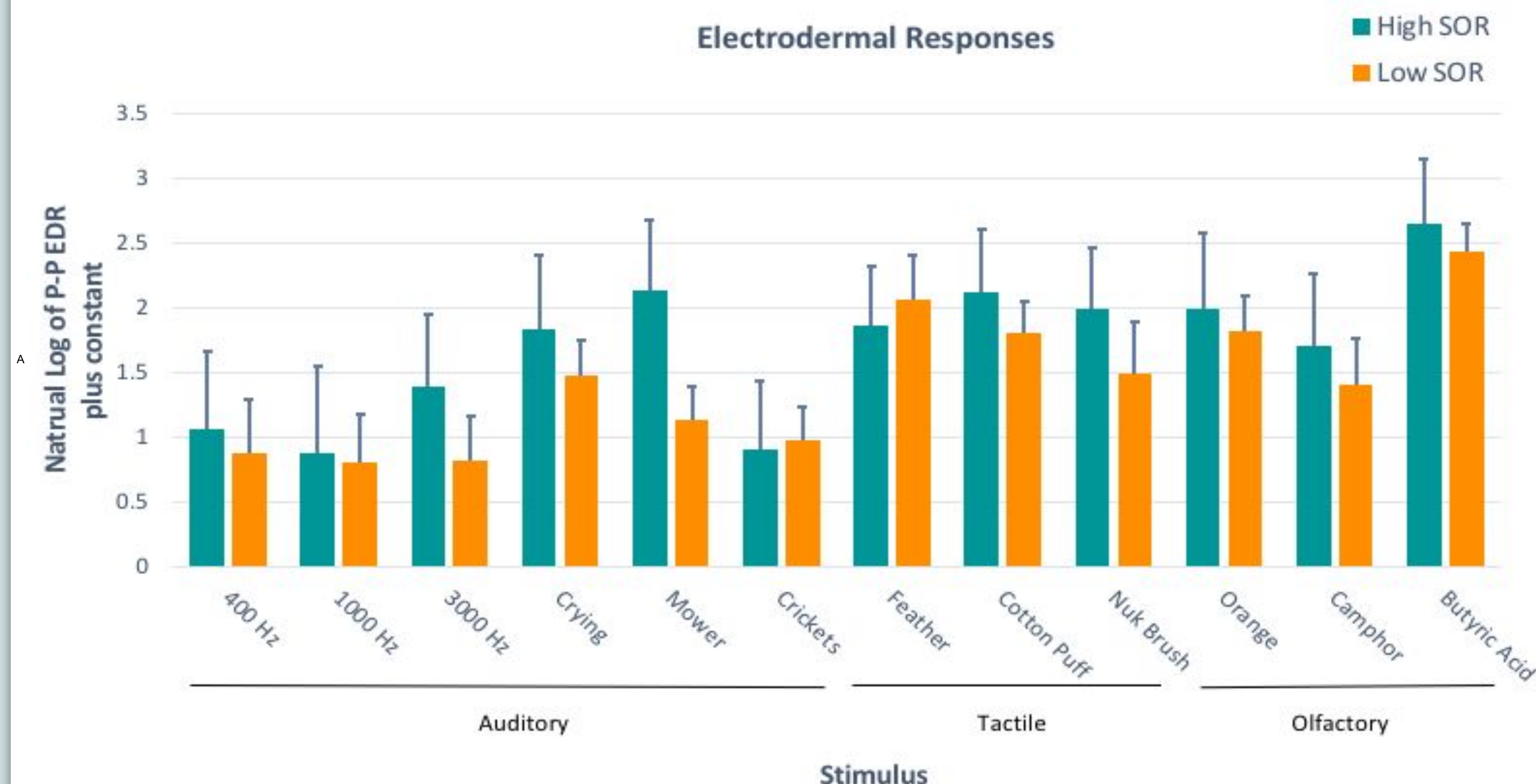
Tactile

Cotton Puff
Nuk Brush
Feather

Olfactory

Camphor
Orange
Butyric Acid

Results



Conclusion

- Groups differed significantly on the AASP and SRQ at $P < 0.001$
- High SOR group had a larger EDR; however, this difference was not significant
- EDR to the lawn mower trended towards significant group differences, EDR to 3000 Hz and Nuk Brush had moderate effect sizes
- There are strong correlations for inter-stimuli EDR, the way an individual responds to one or a few stimuli is predictive of how that individual will respond to other stimuli

Limitations

- Small sample size, limited geographic sampling
- Inadequate inclusions/exclusion sampling
- The use of EDR as an objective measure for SOR is neither strongly supported or denied

Implications for Practice

- The AASP & SRQ can be used in conjunction to determine a client's SOR status
- EDR can be a useful tool to justify the experiences of these adults for other practitioners in future studies
- The way an individual responds to one stimuli can be generalized to how they will respond to all stimuli
- Occupational therapists are best suited to work with individuals with high SOR through task analysis and education of coping strategies

Acknowledgements

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