

Exploring Patterns of Sensory Processing Behavior in Adults With & Without COVID-19 Experience in Taiwan

Ying-Chia Kao¹, Yun-An Tsai¹, Chia-Ying Liao¹, Chiao Yin Lin², Yong-Xin Liang¹, Megan C. C. Chang³

¹Kaohsiung Medical University, Kaohsiung, N/A, Taiwan; ²Kaohsiung Medical University N/A; ³San Jose State University, San Jose, CA, USA

DOI: [10.5014/ajot.2024.78S2-PO183](https://doi.org/10.5014/ajot.2024.78S2-PO183)

Date presented: March 23, 24

Primary Author and Speaker: Ying-Chia Kao, yckao@kmu.edu.tw

PURPOSE: Previous research has shown that adults who have recovered from COVID-19 often experience changes in gustatory, olfactory, and vestibular functions (Gervasoni et al., 2022; Ludwig et al., 2022). However, understanding of how these COVID-19-related sensory changes relate to sensory processing behaviors is limited. This exploratory study aims to (1) document sensory changes among adults who have recovered from COVID-19, and (2) compare the sensory processing patterns between adults with and without COVID-19 experience.

DESIGN: We used cross-sectional study to collect self-reported data from Taiwanese adults ages 18 to 65.

METHOD: A total of 990 adults [619 females, 366 males, 5 others; Mage= 33.28 (SD= 13.98)] completed the online survey via Qualtrics. Participants were asked to fill out the demographic information, their COVID-19 experience, and the Adult Sensory Processing Scale (ASPS) (Blanche et al., 2014). The ASPS, which has 40 items and provides 8-factor scores, is used to examine sensory processing patterns within distinct sensory systems. Descriptive analyses were performed to document the percentage of sensory change in each system within the COVID-19 group, and independent sample t-tests were performed to compare the COVID-19 and non-COVID-19 groups in the eight-factors.

RESULTS: Approximately 60% (n=588) of the participants reported having a positive COVID-19 experience. In the COVID-19 group, sensory changes were noted in olfactory (13.60%), gustatory (12.24%), and vestibular (8.67%) functions. However, we did not find a statistically significant difference in all sensory processing factors between the two groups.

CONCLUSIONS: This exploratory study contributes to the existing knowledge about the relationship between sensory processing patterns, and the COVID-19 related sensory changes. Preliminary analyses suggested no significant difference in sensory processing behavior patterns between COVID-19 and non-COVID-19 groups.

References

- Blanche, E. I., Parham, D., Chang, M., & Mallinson, T. (2014). Development of an Adult Sensory Processing Scale (ASPS). *The American Journal of Occupational Therapy*, 68(5), 531–538. <https://doi.org/10.5014/ajot.2014.012484>
- Ludwig, S., Schell, A., Berkemann, M., Jungbauer, F., Zaubitzer, L., Huber, L., Warken, C., Held, V., Kusnik, A., Teufel, A., Ebert, M., & Rotter, N. (2022). Post-COVID-19 Impairment of the Senses of Smell, Taste, Hearing, and Balance. *Viruses*, 14(5), 849. <https://doi.org/10.3390/v14050849>
- Gervasoni, F., LoMauro, A., Ricci, V., Salce, G., Andreoli, A., Visconti, A., & Pantoni, L. (2022). Balance and visual reliance in post-COVID syndrome patients assessed with a robotic system: a multi-sensory integration deficit. *Neurological Sciences*, 43(1), 85–88. <https://doi.org/10.1007/s10072-021-05647-8>