

POSTER

## FACIAL EXPRESSIVITY OF TWINS IN A STANDARDIZED SITUATION

Thays Machado da Cruz<sup>1\*</sup>, Rosana Suemi Tokumaru<sup>1</sup>, Julia Gomes Freitas<sup>2</sup>, Tania Kiehl Lucci<sup>2</sup>

<sup>1</sup>Federal University of Espírito Santo, Vitória, Brazil

<sup>2</sup>University of São Paulo, São Paulo, Brazil

\*[thaysmachado15@gmail.com](mailto:thaysmachado15@gmail.com)

### ABSTRACT

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Twin studies offer a unique opportunity to investigate the contribution of genetic and environmental factors to facial emotion expression (FEE). This naturalistic study included 28 pairs of twins ( $n = 56$ ), aged 6 to 15 years, of whom 16 pairs were monozygotic (57.1%) and 53.6% were female. Among monozygotic pairs, 68.8% were female and 31.2% male. Data collection took place at the dental clinic of the University of São Paulo, under a standardized experimental condition during routine appointments. To ensure consistency, each co-twin was exposed to the same procedure: after sitting in the dentist's chair, the child received a dental bib and remained alone for one minute while a camera recorded their facial expressions. The recordings were analyzed using FaceReader 8.1 software, based on the Facial Action Coding System (FACS), assessing the percentage composition of six basic emotions and a neutral expression over the one-minute period. Additionally, emotional reactivity (valence and arousal) and the intensity of Action Units (AUs) were measured. Three repeated measures ANOVAs were conducted, with the following within-subject variables: emotions (six basic emotions and neutral face), emotional reactivity (valence and arousal), and AUs. The twin pair was treated as a between-subjects factor. The results revealed significant differences between twin pairs across all analyzed aspects, including facial expression composition, emotional reactivity, and AU activation. These findings suggest that even under standardized conditions, FEEs vary between twins, highlighting the interplay of genetic and environmental influences on emotional expression.