

Title: The development of facial emotion recognition in Williams syndrome: Delayed and interrupted

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Abstract:

The few studies that have tested facial emotion recognition in Williams syndrome (WS) suggest that individuals with WS are functionally similar to their mental-age matched controls. Some of their results (eg., Gagliardi et al., 2003) also suggest that the performance of individual with WS on the expression task simply reflects delayed development. Not only the study by Gagliardi et al. (2003) suggests that the development of facial emotion recognition is delayed, but also that it ends before achieving an adult level.

We investigated the ability of 12 adults with Williams Syndrome (WS) to recognize the emotion displayed by upright and upside-down faces with a protocol already used with normally developing children by Durand et al. (2007). Participants were told that they would see upright faces of different persons expressing various emotions. They were informed about the emotional categories and were given a sheet of paper with the name of each category followed by a sentence describing the emotional state. The sentences were derived from Ekman and Friesen (1971). The experimenter read the names and sentences with the participants to ensure that they understood the emotional states described. The participants were told to name the facial emotion depicted on each photograph. After this first session, participants were informed that they would have to do the same task, but this time they would be presented with inverted faces. Adults with WS were compared to two groups of chronological- and mental-age-matched controls, as well as to the curves depicting typical developmental course reported by Durand et al. (2007).

The results indicated that, overall, adults with WS performed at a similar level to children matched for non-verbal mental age. They also showed a similar pattern of response bias to children, i.e., they tended to adopt a more conservative criterion for neutrality (they avoided 'neutral' response) by comparison to adults, in a similar extend to children.

We concluded that facial emotion recognition is not only delayed in WS, but also its development is stopped at a level corresponding to the non-verbal cognitive abilities of people with WS.

Durand, K., Gallay, M., Seigneuric, A., Robichon, F., & Baudouin, J.-Y. (2007). The development of facial emotion recognition : the role of configural information. *Journal of Experimental Child Psychology*, 97, 14-27.

Gagliardi, C., Frigerio, E., Burt, D. M., Cazzaniga, H., Perrett, D. I., & Borgatti, R. (2003). Facial expression recognition in Williams syndrome. *Neuropsychologia*, 41, 733-738.