Face processing in 22q11.2 deletion syndrome: atypical development and visual scanpath strategies

Individuals with 22q11.2 deletion syndrome (22q11.2DS) show difficulties in social interactions and abnormal scanpaths in face exploration.

Clinical populations with social impairments show atypical development of configural processing and eye contact avoidance.

**Method & Results**

**SAMPLE**

Typically developed 22q11.2DS

- 84 (42 females) 75 (40 females)
- M_{age} = 12.88 (3.9)  M_{age} = 12.81 (3.57)

Typically developed 22q11.2DS

- 30 (17 females) 36 (19 females)
- M_{age} = 16.40 (3.43) M_{age} = 16.45 (3.09)

**MATERIAL**

- Facial stimuli: 1 original portrait + 8 modified portraits
- Conditions: Configural different, Featural different, Same

**RESULTS**

Across all conditions:
Typically developed > 22q11.2DS

The hardest trials in both groups: Configural Different

**1a) Visual scanpath strategies in Typically developed group (TD)**

- Specific visual scanpath strategies distinguishing configural from featural face processing were observed only in TD group.

**1b) Developmental trajectory of configural face processing**

- Only TD individuals showed improved accuracy over time and a different developmental trajectory compared to 22q11.2DS group (p = .0028).

**2) Eye contact avoidance**

- TD group showed a significant increased number of fixations on the Eyes, from First to Second, whereas the 22q11.2DS group significantly increased the number of fixations on the Mouth from First to Second. (p < .001)

**Discussion**

- In 22q11.2DS individuals, Configural face processing remains constant over time, whereas in TD individuals it improves with age.
- Only TD group shows specific visual scanpath strategies depending on the type of processing: Configural vs. Featural.
- The present study highlights an impairment in eye-contact engagement in the 22q11.2DS group.
- Possible intervention: Vis à Vis program (visavis.unige.ch)

**REFERENCE**


Shower cap

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( p < .001)