

# Impact of an anxious social situation on emotional facial expressions (EFE) recognition in children

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## INTRODUCTION

The present study aims to explore the relations between EFE recognition performance and self-esteem in children placed in an anxious social situation.

### Hypotheses:

- In an anxious social situation, social anxious children will have a lower capacity to decode accurately EFE than non social-anxious-children.
- low self-esteem in children is related to difficulties to decode accurately EFE in an anxious social situation.

## METHODS

### Participants

Seventy healthy children (8 – 12 years) were recruited for this study.

### Social Anxious situation

We induce social anxiety in submitting children to a temporal constraint task. Children were asked to count aloud backwards, beginning at 200 in increments of 13. Every mistake was corrected systematically.

Before and after this task, children assessed their emotional feeling state on the Differential Emotions Scale (DES; McHugo, Smith, & Lanzetta, 1982). This questionnaire is made up 10 emotions, including anxiety. Children had to evaluate on a 5-points likert scale the intensity of their feeling about the 10 emotions.

### Measures

#### •Self-esteem

Before the temporal constraint task, children completed the Self-Perception Profile for Children (Harter, 1985). This 30-items questionnaire evaluates self-esteem in children between 8 and 13 years. This questionnaire is multidimensional and evaluates self-esteem in 6 domains (school, social, physical, behaviour, and values)

#### •EFE decoding accuracy

Children were assessed on an EFE decoding test consisting of 16 photographs of males and females depicting EFE of happiness, anger, disgust, and sadness (from the material of Hess and Blairy, 1995). Children had to evaluate on a 7-point likert scale the intensity of sadness, disgust, fear, joy, anger, surprise, contempt, and embarrassment expressed by each faces. An answer was considered as accurate if the child gave the higher evaluation of intensity to the right emotion.

## RESULTS

### •Does the induction of emotions (DES) induced anxiety?

YES

The children feel globally less amused, less happy and more anxious after than before the task.

### •Does an increased level of anxiety after the anxious situation is correlated to deficits in EFE recognition?

NO

### •Does low self-esteem is correlated to deficits in EFE recognition?

YES

A high level of self-esteem is related to high capacity to decode EFE, and more particularly, EFE of joy.

### •Is low-self-esteem related to interpretative bias ?

YES

The lower the child's level of self-esteem was, the more he/she perceived negative emotions (fear, anger, disgust, and shame) in EFE of anger,  $r(70) = -.33, p < .01$

Emotions	Before	After
Attentive	3.98 (0.92)	3.94 (1.21)
Amused*	3.98 (1.21)	3.02 (1.27)
Sad	1.77 (1.27)	1.85 (1.10)
Angry	1.75 (1.36)	1.51 (0.98)
Afraid	1.75 (1.24)	2.04 (1.22)
Anxious*	2.52 (1.51)	3.21 (1.39)
Disgusted	1.40 (1.00)	1.69 (1.08)
Disdainful	1.91 (1.26)	1.81 (1.24)
Surprised	2.7 (1.52)	2.78 (1.41)
Happy*	3.93 (1.25)	3.28 (1.39)

Decoding accuracy	Increased level of anxiety	Self-esteem
Anger	-.16	.11
Disgust	.03	.11
Joy	-.11	.41*
Sadness	-.04	.19
Total	-.11	.33*

\* $p < .01$ .

## CONCLUSIONS

Social anxiety doesn't seem to interfere with EFE recognition performance. However, low level of self-esteem in children appears to be associated with deficits and interpretative bias in EFE recognition in an anxious social situation.

→ A low self-esteem in children could be associated to difficulties to interact with others, in particular in social situation of performance, via EFE decoding problems.