

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

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INTRODUCTION

The core characteristic of social anxiety, the fear of being negatively evaluated by others, may be based, among others, on problems with the decoding of other persons' EFE. Studies show that socially anxious adults exhibit distinctive attentional responses to emotional faces (e.g., Bögels & Mansell, 2004), identify angry faces at lower levels of emotional intensity (Joomann & Gotlib, 2006), and interpret ambiguous facial expressions as threatening (Yoon & Zinbarg, 2007). Up to now, the research on EFE recognition in socially anxious children has produced mixed results. Whereas some studies reported differences between anxious and healthy children in EFE recognition (Battaglia et al., 2004; Simonian, Beidel, Turner, Berkes, & Long, 2001), others didn't find such differences (Melfsen & Florin, 2002).

In this study, we addressed two new issues in the investigation of EFE recognition in socially anxious children:

- 1. Self-esteem:** Socially anxious children show low confidence in one's cognitive and social abilities. Furthermore, high self-esteem is related to high capacities of EFE recognition (Garfield, Rogoff, & Steinberg, 1987), and more generally to high level of social functioning (Serretti et al., 1999; Shapira et al., 1999). Indeed, the perception of ourselves depends on the way we think others people perceive us.
- 2. Anxious social situation:** past researches have investigated this issue in low anxious situations and thus, not in situations in which social anxious individuals feel threatened. The originality of the present study is that it addresses the relationship 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 or they will show a response bias for negative facial expressions.
- 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 induced 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 by the experimenter who urged the child to hurry. The contact with an interaction partner creates an evaluative (i.e., particularly self-threatening) situation.

Before and after this task, children assessed their emotional feeling state on a french version of the Differential Emotions Scale (Philippot, 1993). 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. We considered this measure as a measure of social anxiety: the more the child reported an increased of anxiety after the manipulation, the more he/she is considered to be anxious in social situations.

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

•Manipulation check: Does the induction of emotions induced anxiety?

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

YES

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

NO

•Does an increased level of anxiety after the anxious situation is correlated with responses bias for negative facial expressions?

No correlation emerged between the increased of anxiety after the situation and the recognition of negative emotions in the different EFE.

NO

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

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

YES

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

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, $r(70) = -.33, p < .01$

YES

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 in an anxious social situation. This result is similar to the one of Melfsen et Florin (2002). However, in their study, socially anxious children compared to socially non-anxious children needed more time to classify facial expressions. This last variable should be investigated in the futur.

Low level of self-esteem in children appears to be associated with deficits and interpretative bias in EFE recognition in an anxious social situation. The recognition of the expression of anger, an emotion socially threatening, seems particularly biased in children with low level of self-esteem.

→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.

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