

# Interpersonal implications of individual differences in terms of emotional abilities

Alexithymia and perspective taking: mediation by  
attention and executive processes

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## Plan

- General Introduction:
  - I. Alexithymia
  - II. Perspective taking
  - III. Alexithymia and perspective taking
  - IV. How explain those relations?
  - V. First hypothesis of the research
- Procedure
- Results
- Future studies

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## General Introduction

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## I. Alexithymia

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## Alexithymia (Sifneos, 1973)

- a = lack ; lexis = words ; thymos = emotion : Multi-dimensional construct
- DIF: Difficulty identifying and differentiating feelings « when I am upset, I don't know if I am sad, frighten, or angry »
- DDF: Difficulty describing feelings « I find it hard to describe how I feel about people »
- EOT: Externally oriented thinking « I prefer talking to people about their daily activities rather than their feelings »
- TAS 20: Toronto Alexithymia Scale (Bagby, Parker, Taylor, 1994)

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## II. Perspective Taking

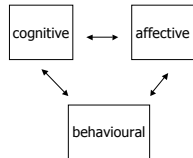
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## Perspective Taking

- Empathy represents a multi-dimensional concept which integrates cognitive and emotional factors (Davis, 1994)

- Cognitive components  
Perspective taking

« Je crois qu'il y a deux côtés à toute question et j'essaie de les regarder tous les deux »



- Affective components

- Physiological: feeling emotions (autonomic, neurophysiological)

- Subjective :

- Feeling, identify our own emotions

- Empathic concern

- « J'ai souvent des sentiments de tendresse, de compassion pour les personnes moins favorisées que moi »

- Expressive :

- Express our emotional state

- Behavioural components

- Avoidance / Approach

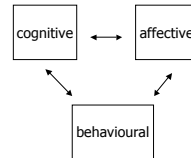
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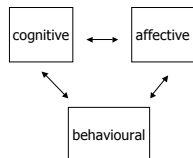
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\* refers to cognitively taking the perspective of another. Here, in terms of beliefs, intentions, emotions

\* similar Theory of Mind, Mentalizing : Understanding that others have beliefs, desires, and intentions different from the self

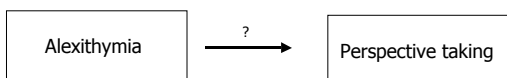
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## III. Alexithymia and perspective taking

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## Emotional abilities and perspective taking

- In Inter-personal situation : In which way alexithymia predicts deficits in perspective taking?



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## Emotional abilities and perspective taking

- Correlations auto-évaluation questionnaire**

° Alexithymia (TAS 20) ° Empathy (IRI) Four factors (Interpersonal Reactive Index , Davis, 1983)

IRI : Interpersonal Reactive Index ( Davis, 1983)

Fantasy :

« Après avoir vu une pièce de théâtre ou un film, il m'est arrivé de me sentir comme si j'étais un des personnages »

Perspective taking :

« En cas de désaccord, j'essaie de voir le point de vue de chacun avant de prendre une décision »

Empathic concern:

« Lorsque je vois une personne se faire exploiter, j'éprouve un certain sentiment de protection envers elle/à son égard »

Personal distress :

« Me trouver dans une situation de tension émotionnelle me fait peur »

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## Emotional abilities and perspective taking

- **Auto-evaluation questionnaire**
  - ° Alexithymia (TAS 20) ° Empathy (IRI) Four factors (Interpersonal Reactive Index , Davis, 1983)
- \* **Braun et al., submitted: corrélations** (n=1383)
  - Fantasy Tot: (r= -.213)
  - Perspective taking DIF (r=.157): EOT (r= -.208)
  - Empathic concern Tot: (r= -.077)
  - Personal distress Tot (r= .322)
- \* **Guttman et Laporte, 2002** : lowest and highest third (n=204)
  - Perspective taking: p <.0001
  - Empathic concern: p<.001
  - Personal distress p <.0001

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## Emotional abilities and perspective taking

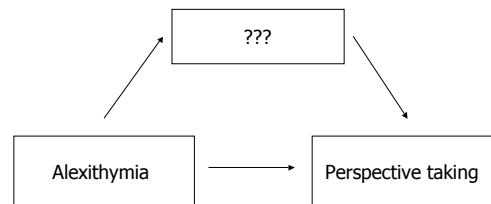
- **Tasks performances**
  - Perspective taking** : Opposite results
- \* **Wastell et al., 2002**
  - False belief Picture Sequencing Task (Langdon and Coltheart, 1999).  
Four types of story: social script, mechanical, capture and false belief
- \* **Moriguchi et al., 2006**
  - Triangles animations (intentionality- appropriateness)

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## IV. How explain those relations?

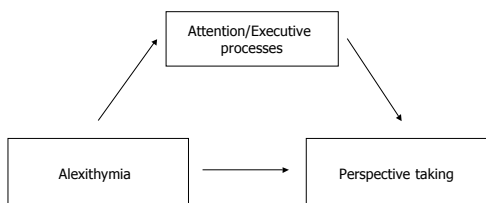
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## How explain those relations?



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## How explain those relations?



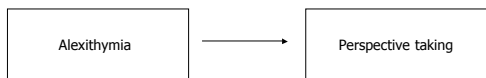
- **Hypothesis: Emotional abilities and perspective taking: mediation by attention and executive processes**

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## First hypothesis

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## First hypothesis of the research



- Hypothesis: low emotional abilities would predict low perspective taking abilities

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## Procedure

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## Procedure

- Emotional abilities
  - TAS-20
- Perspective taking
  - « Reading the Mind in the Eyes » from Baron-Cohen et al. (2001) : which is the mental states expressed by the eyes gaze



- Auto evaluation questionnaires
  - IRI: (Davis, 1983)

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## Reading the Mind in the Eyes

- Eye gaze
  - Innate capacity to process gaze information → critical role and precursor of Theory of Mind
  - Essential communicative cue, enhance closeness
- Reading mind in the Eyes Task
  - attribution of a mental state (not his content)

- \*jaloux
- \*paniqué
- \*arrogant
- \*haineux



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## Results

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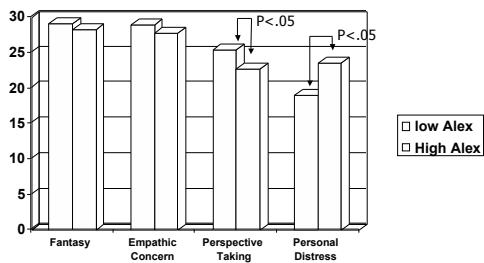
## Descriptive

- Participants : n= 84 (f=74)
- Alexithymia :
  - Mean= 48.21 SD=8.91
  - Two groups: first (<42) and last quartile (>54)
    - High n= 18 M= 60.03 SD=2.87
    - Low: n= 21 M= 36.10 SD= 3.67

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## Auto-evaluative questionnaires

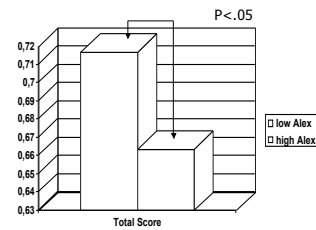
### ■ TAS et IRI:



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## Task performance

### ■ TAS et Reading mind in the Eyes:



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## Conclusion

- Indication of an Perspective taking deficit in the low emotional abilities population
  - Auto questionnaire evaluation (perspective taking-personal distress)
  - ToM task

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## Suggestions

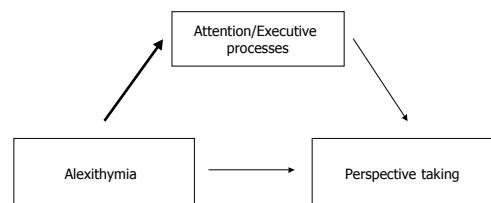
- Auto-Evaluation Questionnaires
  - EQ: Empathy Quotient (Baron-Cohen et Wheelwright, 2004)
  - LEAS (Lane, Quinland, Schwartz & Walker 1990): Emotional Awareness

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## Future studies

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## A. Emotional abilities and attention/executive processes



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## Executive functions

- Definition:
- cognitive abilities that control and modulate other abilities and behaviors
- adapt to changing situation
  - Shifting
  - Updating
  - Inhibition

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## A. Emotional abilities and attention/executive processes

- Alexithymia and attention processes
  - ERP studies (Vermeulen et al., 2008)  
N2b : attention focus switching on novel information - -
  - Automatic attention process disturbed (Vermeulen et al., 2006)
- Alexithymia and executive functions
  - Negative correlations between DIF (from TAS-20) and verbal fluency (flexibility, inhibition) in a brain damaged population (Henry et al., 2006)

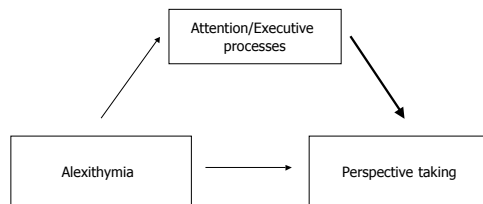
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## Executive processes

- Spontaneous flexibility and inhibition
  - Emotional Verbal fluency (number of words, errors)
- Inhibition: adapted Hayling Test with emotional material
  - 15 sentences to complete
  - Correctly (good emotion)
  - With an inappropriate emotional words

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## B. Perspective taking and attention/executive abilities



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## B. Perspective taking and attention/executive abilities

- Bull et al. (2007)
  - dual task : Theory of Mind performances are diminished when executive task is processed in parallel
- Grattan et al. (1989; 1994) ; Shamay-Tsoory et al. (2003) :
  - verbal fluency (inhibition) and flexibility (wisconsin card sorting task) related to cognitive empathy in a brain damaged population

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