Attentional biases to positive and negative information in depression:

Are there really related to rumination and interpersonal problems?

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Introduction

Research has shown that depression is associated with attentional biases toward negatively and positively-valenced stimuli (Duque & Vazquez, 2015). Yet, symptoms of depression as well as cognitive mechanisms of depression are characterized by a **huge heterogeneity** in their expression (Rush et al., 2007). Results regarding attentional biases are sometimes incongruent and this may be explained by this heterogeneity.

As a consequence, this study investigates the association between attentional biases to positive and negative information with two often reported mechanisms involved in the maintenance of depression : rumination (Moberly & Watkins, 2006) and interpersonal problems (Locke et al. 2016). Three different kind of material were used for that : pictures, faces and words.

Hypotheses:

Attentional biases toward negatively and away from positively-valenced stimuli in both groups with depressive symptomatology (1) and (2).

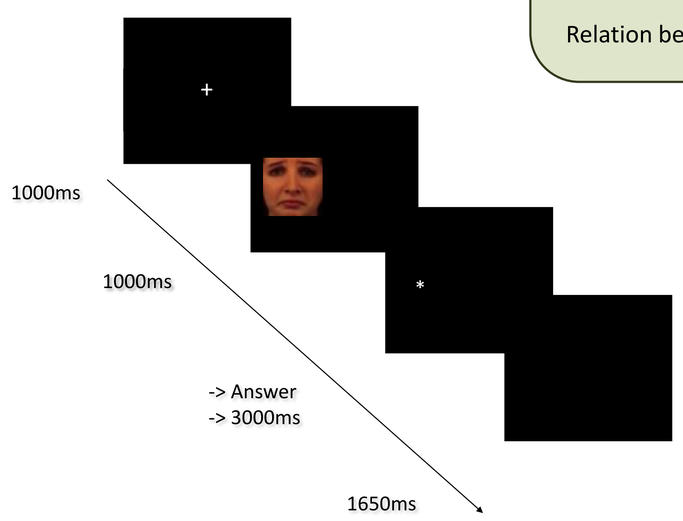
Relation between attentional bias for sad material and rumination especially with words material .

Relation between attentional bias and interpersonal problems especially with faces material. .

Method

Three groups (n=69)
(1) with major depressive disorder (MDD) ;
(2) with dysphoric mood (dysphoric) ;
(3) without dysphoric mood or past MDD (Control).

- Semi-structured diagnostic interview (M.I.N.I.) (Lecrubier et al., 1998)
- Self-report scales based on :
  - Depressive symptoms (BDI-II) (Beck, 1996)
  - Anxiety (STAI-T) (Bruchon-Schweitzer & Paulhan 1993)
  - Interpersonal problems (IIP-32) (Barkham & Hardy, 1996)
  - Rumination (RRS) (Nolen-Hoeksema et al., 1991)
- Three modified version of the exogenous cueing paradigm (i.e. faces, pictures, and words) with three emotions (neutral, sad and happy). *validation



Results

Preliminary analysis

Suppression of « *Outliers* » :
<200 ms , > 2000ms

Suppression of « *deviated* » :
1,96 ET > or < mean of reaction time

Calculation of « *cue validity effect* » (CV) / « *inhibition of return effect* »

	MDD	Dysphoric	Control
n	24	15	30
Age	40 (11)	37 (12)	37 (12)
Ratio (M/F)	8/16	6/9	12/18
Level of education (in years)	12.5 (3.22)	14 (2.71)	14 (2.75)
% in relationship	58%	67%	53%
% unable to work	68%	20%	0%
% with past MDD	63%	53%	0%
% antidepressant medication	46%	20%	0%

	MDD	Dysphoric	Control
BDI-II*	30 (12.14)	19 (5.31)	4 (3.74)
STAI-T*	57 (11.15)	48 (7.67)	36 (9.11)
IIP-32	51 (16.98)	44 (17.08)	30 (14.02)
RRS*	57 (13.27)	47 (9.79)	39 (12.06)

* p < .05

Results

- *T- tests* to check the « *enhanced cue validity eff*ect » , all *p > .05*
- ANOVA 3 groups (MDD, dysphoric, control) X 3 emotions (neutral, sad, happy) on CV scores in all three tasks, all *p > . 05*

Pictures
F(4,132) = .22 ; p=.93

Faces
F(4,132) = 1.77 ; p=.14

Words
F(4,132) = 1,16 ; p=.33

No significant *Group* x *Emotion* effect

- Correlations analysis between attentional biases and Interpersonal problems
- Corrélation analysis between attentional biases and Rumination

Irrespective of the group, relation between attentional biases and other variables were globally inconsistent in each task

Discussion

No attentional biases toward sad and happy materials in depressed individuals were reported. These results are not in line with our hypotheses (Koster et al. 2005) but are in line with others studies using the same exogenuous cuing paradigm (Ellenbogen et al., 2006).

No consistent relations were observed between interpersonal problems and attentional bias toward sad stimuli or between rumination and attentional bias toward sad stimuli. These results may be explained by the absence of this bias reported in our sample.

Limitation & perspectives

Extreme Sensitivity of the paradigm chosen (Chica et al., 2010a)

Length of the experimentation - Fatigability

Focusing on depressive symptomatology severity but less on heterogeneity of symptoms (Hybels et al., 2013)

Remove anxiety in comorbidity but what about clinical reality?

Collect further data to enhance the statistical power

Focused on anhedonia, attentional control,…

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