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Exploring the relation between anxiety and a visual cognitive style: are involuntary thoughts the key ?

INTRODUCTION

- In the framework of the verbalizing/visualizing dichotomy (and with the distinction of object and spatial imagery) **a visual cognitive style has been described in anxious individuals** (Moriya, 2018)
- Involuntary distressing mental images and thoughts are common in anxiety disorders**, and play an important role in the maintenance of the disorder (Hirsch & Holmes, 2007 ; Brewin et al. 2010)
- High visualizers are also found to generate more involuntary thoughts** than low visualizers (Vanucci et al., 2016)
- Objective** : To investigate the relation between a visual cognitive style and the anxious symptomatology and the mediating effect of involuntary and intrusive thoughts

METHOD

- Participants** : 479 participants (232 females, 247 males)
Mean age : 41,1 years



- Method** : online questionnaire

➤ Generalized anxiety disorder (GAD-7) : (Spitzer et al. 2006)

7-item self report questionnaire that measures the presence and the frequency of 7 symptoms of general anxiety in the last 2 weeks. Each item is scored from 1 to 4 (from "never" to "almost everyday").

Example of items : "Over the last two weeks, how often have you been bothered by the following problems ? Feeling nervous, anxious, or on edge"

➤ Object Spatial Imagery Verbal Questionnaire (OSIVQ) (Blazhenkova & Kozhevnikov; 2009)

34-item self-report questionnaire designed to assess separately an individual's propensities for three different cognitive style dimensions (object imagery, spatial processing and verbal processing). Each item is scored from 1 to 5 (from "totally disagree" to "totally agree").

Example of items : "My images are very colourful and bright" "I was very good in 3D geometry as a student" "My verbal skills are excellent"

➤ Frequency of Involuntary thoughts scale (FITS) (Hyman et al., 2015)

8-item self-report questionnaire that measures the presence and the frequency of involuntary thoughts, Each item is scored from 1 to 6 (from "never" to "constantly").

Example of items : "How often do the following types of involuntary thoughts happen to you? Music (a song stuck in your head) ; Visual images ; Memories »

➤ White Bear Suppression Inventory – intrusion index (WBSI) (Wegner & Zanakos, 1994 ; Schmidt et al., 2009)

6-item self-report questionnaire that measures thought intrusion. Each item is scored from 1 to 5 (from "strongly disagree" to "strongly agree")

Example of items : "There are thoughts that keep jumping into my head"

DISCUSSION

- Results suggest that **a more visual cognitive style leads to more involuntary and intrusive thoughts which in turn leads to more reported anxious symptoms.**
- Results are also congruent with studies suggesting that mental image, rather than the verbal thinking, enhances emotional processing (Holmes & Matthews, 2010).
- The results of this study will contribute to the understanding of the role of mental imagery in the emergence and maintenance of psychopathological disorders.

RESULTS

Pearson correlations

GAD-7		0.247***	0.300***	0.163***	-0.070	-0.167***
FITS	0.247***		0.347***	0.386***	0.016	0.114*
WBSI_I	0.399***	0.347***		0.247***	-0.07	-0.088
OSIVQ_O	0.163***	0.386***	0.247***		0.139**	0.223***
OSIVQ_S	-0.079	0.016	-0.07	0.139**		-0.031
OSIVQ_V	-0.167***	0.114*	-0.088	0.223***	-0.031	

Results indicate that :

- the more anxious are participants, the more they report a visual-object cognitive style and frequent involuntary and intrusive thoughts.
- Negative correlations are observed between anxiety and the OSIVQ verbal and visual-spatial scores.

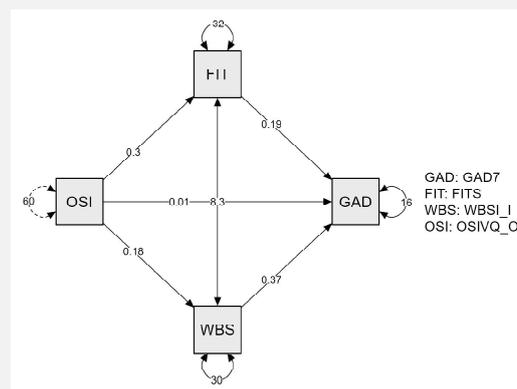
Mediation analysis

Direct effect

	Estimate	Std. Error	z-value	p	95% Confidence Interval	
					Lower	Upper
OSIVQ_O → GAD7	0.006	0.026	0.231	0.817	-0.045	0.057

Indirect effects

	Estimate	Std. Error	z-value	p	95% Confidence Interval	
					Lower	Upper
OSIVQ_O → FITS → GAD7	0.057	0.012	4.733	<.001	0.033	0.080
OSIVQ_O → WBSI_I → GAD7	0.068	0.014	5.026	<.001	0.041	0.094



The results indicate that the effect between the visual object cognitive style and anxiety is mediated by involuntary and intrusive thoughts

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