

Attentional variability and memory bias in subclinical post-traumatic stress disorder.

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1. Introduction

- Almost 20% of individuals confronted to a traumatic event will maintain post-traumatic stress symptoms (PTSS), which are included into PTSD diagnosis¹
- Attentional Biases (AB) and Memory Biases (MB) seem to be a key factor for the maintenance of (PTSS)²
- AB variability (ABV), which is defined as an oscillation between AB toward and away threatening information beneath time seem to characterize PTSS
- Attentional control (AC) could be the responsible for the development of PTSS and/or ABV³.

2. Hypotheses

- ABV**: ABV might occur in greater rates in high PTSS group for later stages of information processing.
- MB**: Retrieval mechanisms would be less elaborated in high PTSS group.
- AC**: In low AC scores, PTSS would be higher and retrieval mechanisms poorer.

3. Population

Inventories : LEC-5, PCL-5, Attentional control scale (ACS), BDI-13, STAI.

50 subjects from general population:
 37 women and 13 men
 30.5 years old

6 control
 (PCL-5 = 0)

34 low PTSS (PTSS-)
 (PCL-5 = 2 to 32)

8 high PTSS (PTSS+)
 (PCL-5 ≥ 33)

4. Methodology

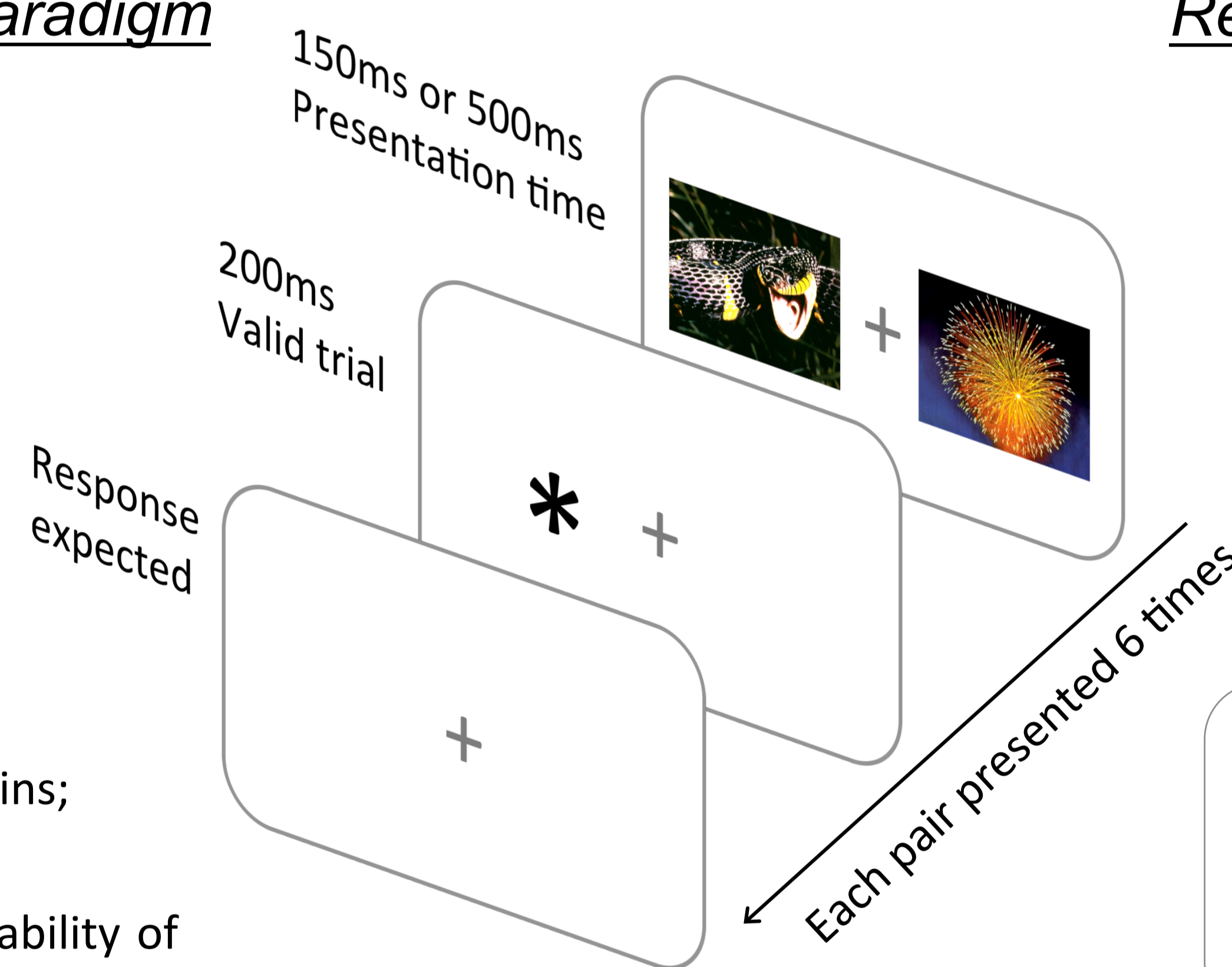
Spatial attention task : Dot-probe paradigm

Images :

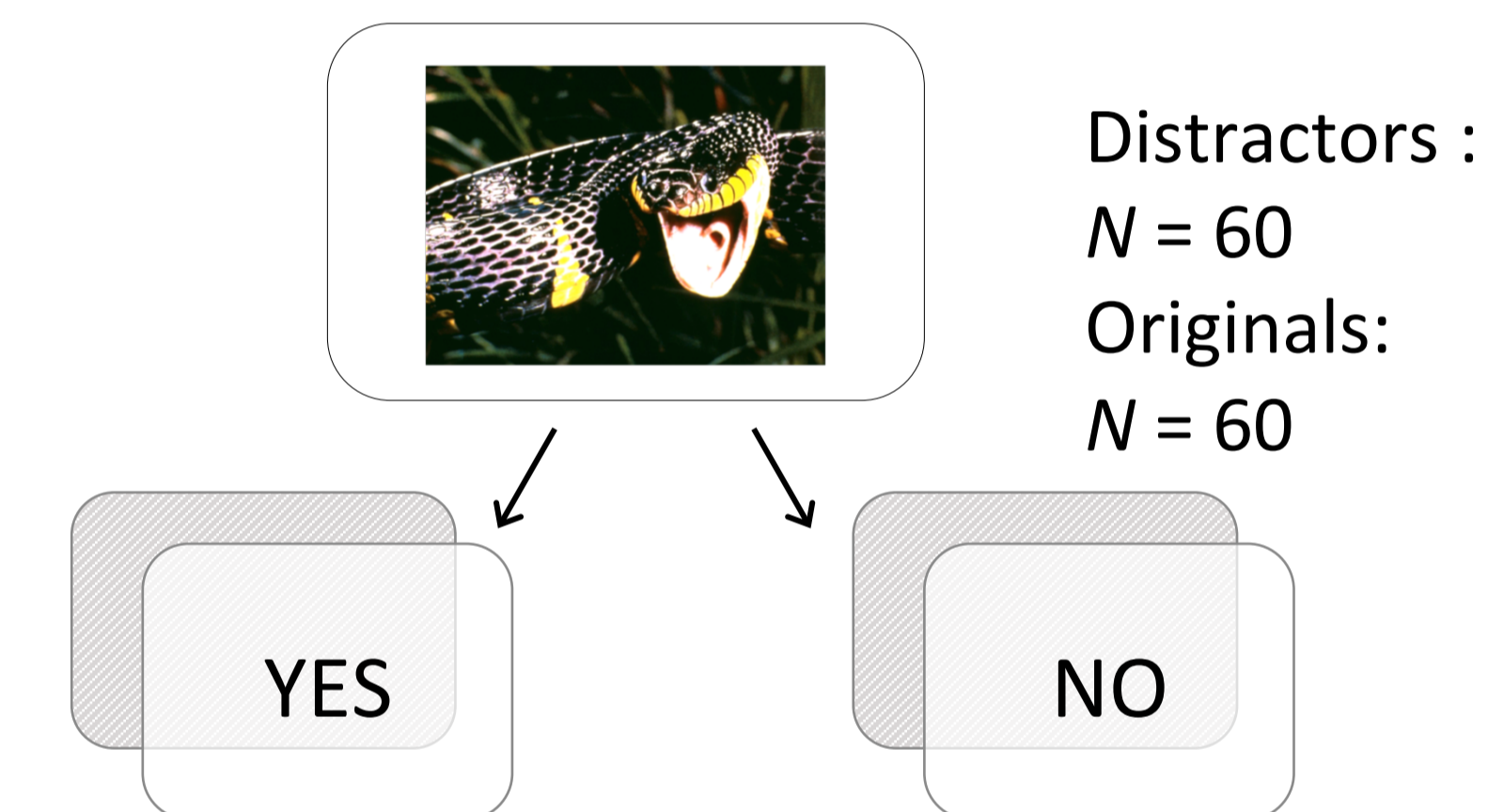
- 40 negative general - NG (spider);
- 40 trauma-related - TR (physical assault);
- 40 positive - P (cats);
- 3 pairs : P-TR / P-NG / TR-NG.

ABV

- Split the dot-probe trials on 18 bins of 20 trials and calculate the AB scores for each bin;
- Calculate the standard deviation (SD) across bins;
- Divide the SD by the mean reaction time;
- An ABV index is obtain, which reflects the stability of AB across the task.



Recognition task : remember/know paradigm



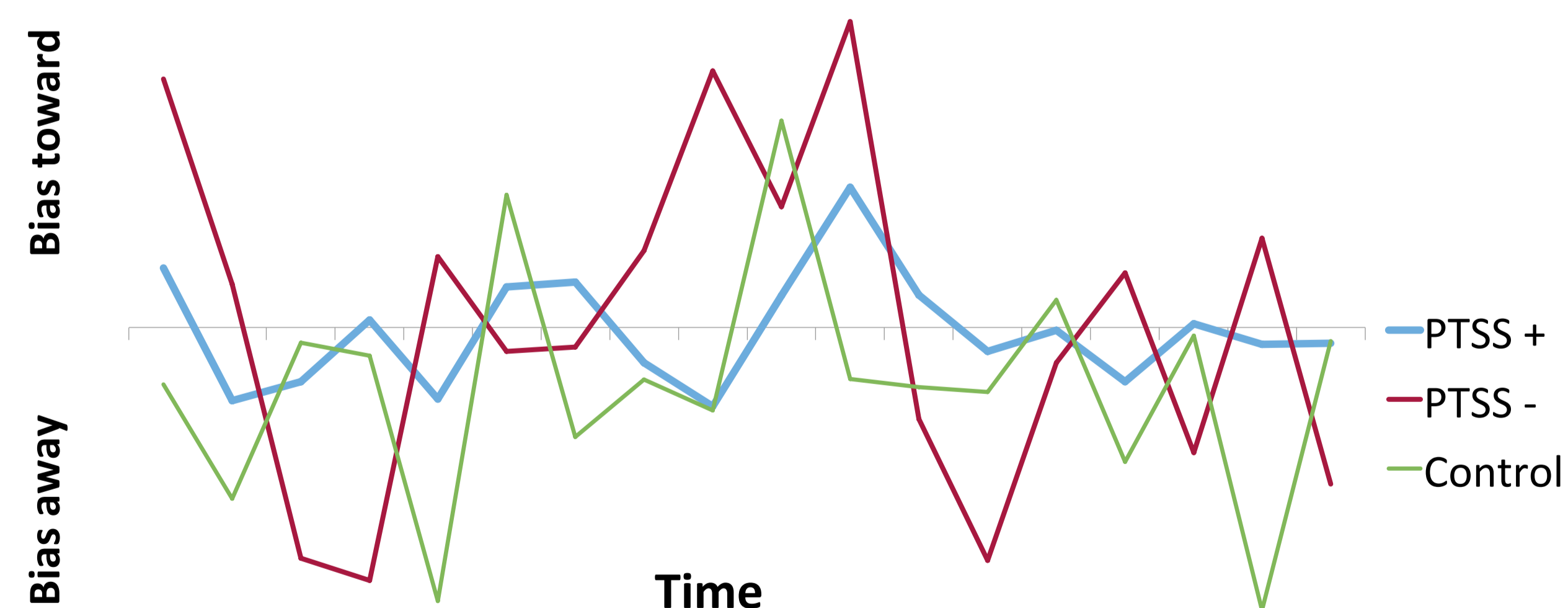
Remember/know paradigm :

- "Know" : poorly elaborated retrieval mechanism (RM);
- "Remember" : elaborated RM depending on internal or external cues.

5. Results

Dot-probe paradigm

Group*ABV in 500ms presentation time
 ($H(9,18), p < 0.010$)



Remember / know paradigm

- PCL-5 \searrow correlated with elaborated RM;
- Arousal \nearrow correlated with poor RM;
- In PTSS- : PCL-B \nearrow elaborated RM & AC \nearrow correlated with elaborated RM;
- In PTSS+ : AC \searrow correlated with elaborated RM.

- Poorer AC predicted higher PCL-5;
- High ABV-150 was predicted by poorer R/K internal cueing;
- Greater R/K internal cueing was predicted by high AC scores;
- High PCL-5 predicted increased ABV-500;

6. Discussion

ABV

Later ABV linked to PTSS and early ABV linked to MB; No distinction of negative general and trauma-related; Control also presented later ABV : role of depression?

MB

PTSS might play a protective role in low PTSS for MB, Arousal symptom could be a risk factor to the development of MB

AC

Low AC was linked to increased AVB, PCL scores and poorer RM
 AC mediator for post-traumatic symptomatology ?

References

1. Smyth & al. (2008). Journal of American College Health, 57(1), 69–76.
2. Bardeen & al. (2016). Behaviour Change, 33(2)
2. Iacoviello & al. (2014). Journal of Traumatic Stress, 27(2), 232–239

- Generalization of trauma
- Evidences for the interest therapy on AC, early therapy on ABV and arousal
- QUID role of peritraumatic dissociations in this pattern?