

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)

3. Methodology

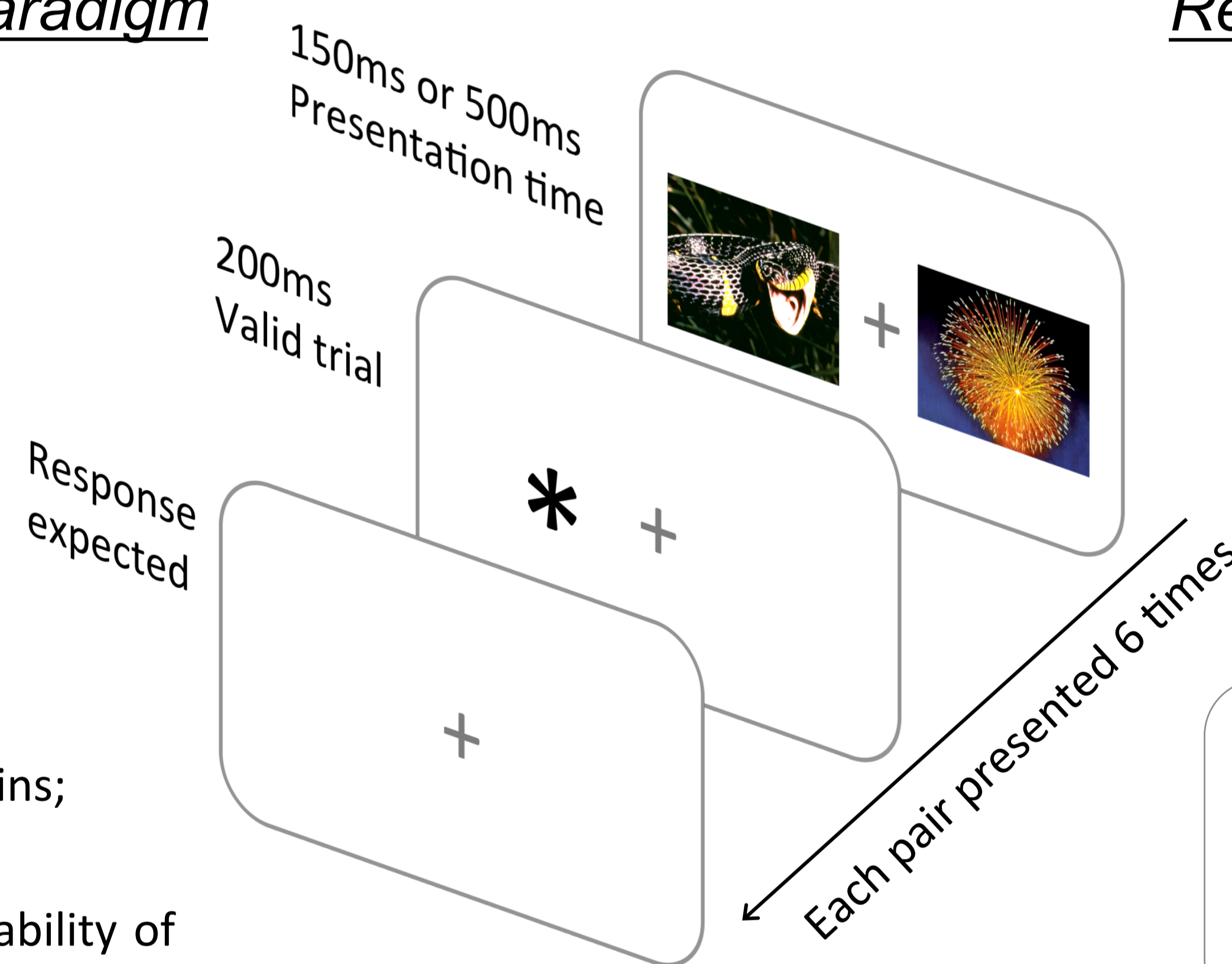
Spatial attention task : Dot-probe paradigm

Images :

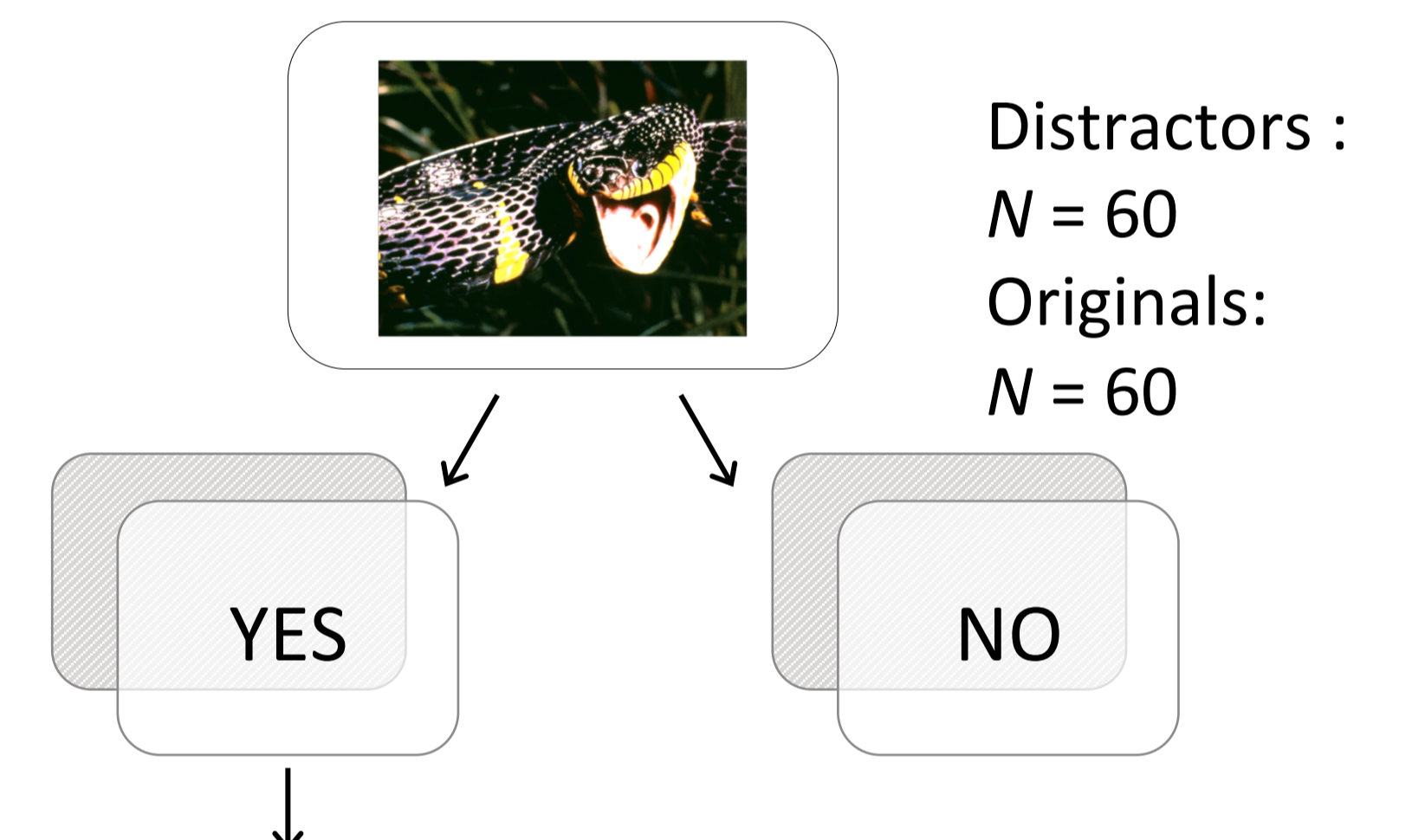
- 40 negative general - NG (spider);
- 40 trauma-related - TR (physical assault);
- 40 positive - P (cats);
- 3 pairs : P-TR / P-NG / TR-NG.

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



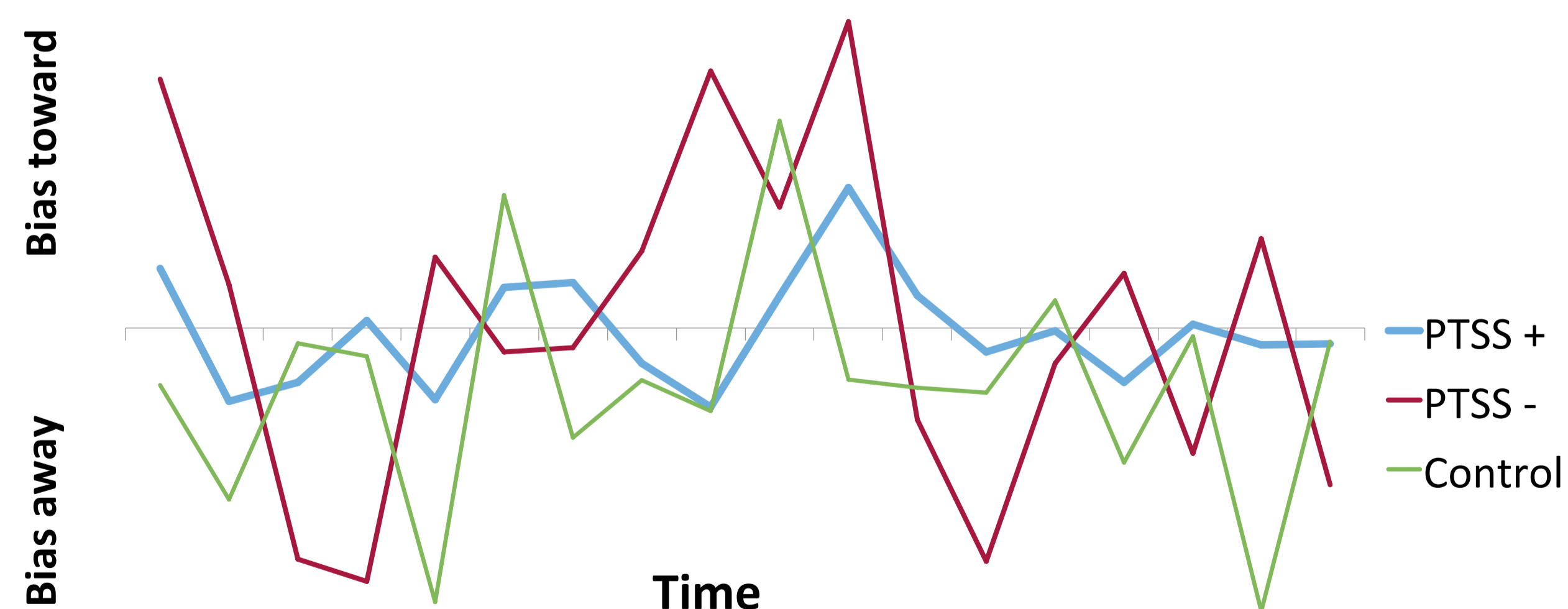
Remember/know paradigm :

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

4. 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 PSTT + : AC \searrow correlated with elaborated RM.

- Poorer AC predicted higher PLC-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;

5. 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?

AC

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

MB

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

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

References

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