

A CASE STUDY WITH A POLICE OFFICER: Alexithymia And Neurocorrelates Following On-duty Assault Injury

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INTRODUCTION

- Alexithymia is a **subclinical** phenomena and consists mainly in a **decreased capacity** in i) **emotional experience**; ii) **emotional recognition**; iii) **emotional description**; iv) **fantasizing**; and v) **externally oriented thinking** (Putica et al. 2021; Imperatori et al., 2016).
- Alexithymia has been **associated with various neurological, psychiatric and psychological clinical conditions**, such as PTSD, and **difficulties in emotional regulation and expression**, namely creating reciprocal empathic support with others, evaluating and misjudging interpersonal interactions and adaptive behavior, and dysfunctional regulatory attempts (Preece et al., 2022).
- Regarding **bio-neuro-markers**, facing emotional stimuli these individuals tendentially show: i) **higher physiological reactivity** (Panaite & Bylsma, 2012); ii) in EEG, **abnormalities in the functional integration between brain areas**, as right frontal lobe and left hemisphere in alpha band (Imperatori et al., 2016); iii) in fMRI, **reduced activity in limbic and paralimbic areas, reduced BOLD responses in the medial, pre-frontal and insula cortex** (social tasks), and **interhemispheric functional disconnection** (Nadeau, 2021).
- Very few studies with police officers regarding alexithymia, but it has been studied as an **occupation more vulnerable to brain injury** (Smith et al., 2020), **PTSD**, and higher probability to be involved in **critical incidents, conflicts, aggression and potentially traumatic situations** (Wagner et al., 2020) .

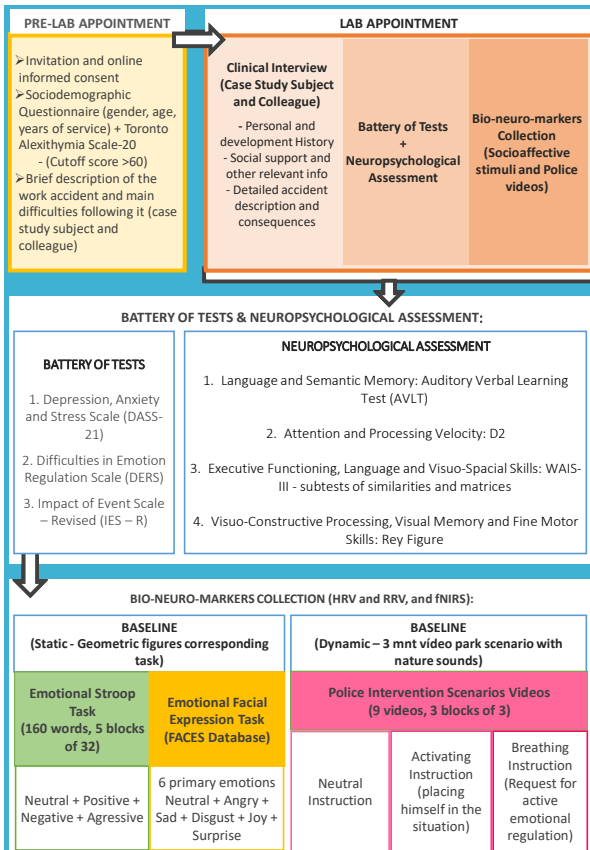
CONCLUSIONS & FUTURE STEPS

- The results of this case study show a tendency for **alexithymia profile**, with **difficulties in emotion identification spectrum** and **marked operative style of thinking**.
- This case neuropsychological evaluation is **partially congruent to deficits in interhemispheric communication** and **typical brain injury complications** (visuo-spatial working memory and verbal short-term memory): **marked difficulties in visuo-constructive planning processes**, **short-term memory delayed recognition**, and **facial emotion recognition performance**.
- There is a clear **need of future studies with police officers** in this scope, since this population is often linked to maladaptive coping (suppression), hyperarousal, and higher vulnerability to brain injury and potentially traumatic situations. This should be **pondered together with police organizational practices**, namely mental health related stigma.

METHODS

CASE STUDY:

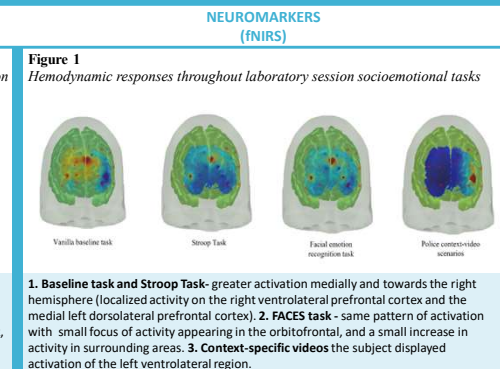
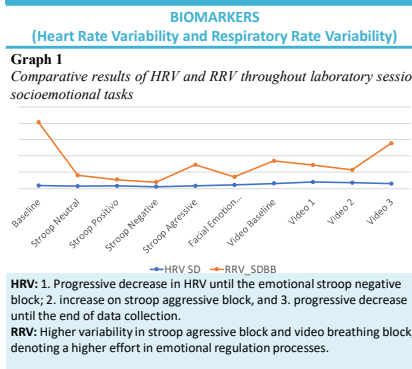
Middle-aged male police officer (45 YO), with main perceived difficulties associated with emotional processing and identification after an on-duty brain injury (8 years prior). Several methods were employed to have a comprehensive approach to potential brain damage and functionality, as well, as cognitive-affective functioning profile.



RESULTS

BATTERY OF TESTS			
Dimensions/Subscales	Score	Cut-off Point	
TAS-20	76	≥61	
IES-R	1,59		
Intrusion	1,3	≥3	
Avoidance	1,8		
Emotional Anesthesia	2		
Hyperarousal	1,5		
	Score	Mean (SD)	
DASS-21	2,29	4,5 (4,14)	
Depression	2,29	4,5 (4,14)	
Anxiety	0,9	2,59 (3,34)	
Stress	1,4	6,06 (4,11)	
DERS	1,2	1.84 (0.72)	
Nonacceptance of emotional responses	1,2	1.84 (0.72)	
Goal-directed behavior difficulties	1	2.82 (0.79)	
Impulse control difficulties	1	1.84 (0.67)	
Lack of emotional awareness	1,7	2.71 (0.65)	
Limited emotion regulation strategies	1,3	2.01 (0.65)	
Lack of emotional clarity	4,4	1.97(0.63)	

NEUROPSYCHOLOGICAL ASSESSMENT			
Indicators	Score	T-score (Percentile)	
Matrices (WAIS-III)	24	17 (99)	
Similarities (WAIS-III)	21	13 (84)	
	Score	Mean (SD)	
AVLT	11	10,2 (2,3)	
Delayed Recall	11	10,2 (2,3)	
Delayed Recognition	27	29,4 (1,0)	
Total Learning (TL)	44	46,2 (7,6)	
Learning Over Trials (LOT)	8	16,5 (7,1)	
Long Term Retention (LTPR)	110	89,1 (14,0)	
D2	564	412,82 (81,01)	
Total Processed Characters (TC)	564	412,82 (81,01)	
Total Hits (TH)	225	147 (37,98)	
Total Efficacy (TE)	545	381,69 (76,74)	
Concentration Index (CI)	225	144,28 (37,94)	
Variability Index (VI)	8	16,3 (6,72)	
Errors Percentage (E%)	4,4	7,01 (6,71)	
Rey Figure	24,5	31,17 (3,62)	
Copy (Type IV, P10) Memory	21,5	18,9 (5,41)	



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