

COGNITIVE IMPAIRMENT AND EMOTIONAL DYSREGULATION IN OFFENDERS

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SUMMARY

This study aimed to evaluate the correlation between cognitive function and emotional dysregulation in patients suffering from psychiatric disorders hosted in rehabilitation facilities, but within this sample, there are also perpetrators of violence who are not residents in facilities but are followed in clinics for crimes related to family violence.

All patients were administered the rating scale to investigate general impulsivity, perform psychopathological evaluation, evaluate aberrant salience, and conduct a general cognitive assessment.

Key words: *cognitive impairment - emotional dysregulation – offenders - violence - stigma*

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INTRODUCTION

Emotional dysregulation and cognitive impairment are critical factors that contribute to violent behavior in offenders (Tonnaer et al. 2017). The close association between impulse dysregulation and violent behavior, and the activation of specific brain areas (Siep et al. 2019), are findings that have not been extensively explored before. Emotional dysregulation, the inability to manage emotional responses or to keep them within an acceptable range of typical emotional reactions, is a common experience. It can manifest as intense, poorly controlled emotions, such as anger, anxiety, or sadness. Neuroimaging studies have unveiled a significant increase in medial prefrontal cortex activity during emotional stimulation in violent criminals, compared to non-offender control groups. These findings, including a substantial decrease in amygdala-medial prefrontal functional connectivity in violent criminals and an increase in non-criminal controls after the emotional task, open up new avenues for understanding the complex relationship between emotional dysregulation, cognitive impairment, and violent behavior (Davidson et al. 2000, Coccaro et al. 2007, Eldridge et al. 2024).

Increased impulse dysregulation is often associated with specific patient groups, such as those with mental disorders. Socioemotional difficulties, including deficits in emotion perception, are a common characteristic of several mental disorders that emerge during childhood and adolescence. Several mental disorders, including mood, anxiety, and conduct disorders, typically emerge during childhood and adolescence and have been linked to difficulties in socioemotional processing. Difficulties in emotion recognition have been reported in adult patients with depression, anxiety, and psychosis and among individuals prone to aggression (Karl et al. 2024). However, the link between violence and impulse dysregulation has not always been confirmed (Franza &

Solomita 2023). The effects of emotional dysregulation are often seen in relationships, leading to isolation, increased conflicts, and difficulty in maintaining stable connections. Dysfunctional behaviors, including violent acts, can further strain relationships and lead to maladaptive coping mechanisms.

Some studies have shown that offenders have impaired cognitive abilities, but it is unclear whether cognitive dysfunction itself contributes to aggressive antisocial behavior (Wallinius et al. 2018). In some studies, it has been found that violent offenders show worse response inhibition compared to non-violent offenders, suggesting a more pronounced prefrontal deficit in violent offenders than in non-violent offenders (Meijers et al. 2017). However, the results are often contradictory and not all the results confirm this association.

It is essential to assess the potential link between cognitive impairment and impulse control difficulties. Understanding these connections can aid in creating more effective interventions and rehabilitation programs.

Our research, crucial in understanding the link between psychiatric disorders and offending behavior, aimed to evaluate this connection and observe any differences between offenders affected by psychiatric disorders and those not affected.

Some offenders are not deprived of their liberty but are subjected to specific restrictive measures, such as community service or probation, or warned by the judge for crimes against the family, which may include domestic violence or child abuse.

The primary goal of working with offenders is to interrupt the violence and protect the victims. This underscores the importance of interventions in our work, offering hope and reassurance to those affected. However, it is also part of a broader process to overcome gender stereotypes that lead to violence and discrimination.

Table 1. Epidemiological data

	Number	Mean age (yrs)	±SD	Mean age (yrs)	±SD
Offenders with PD	19	45.11	11.09	10.70	3.11
Offenders no PD	5	50.20	17.26	14.00	4.18

Table 2. Evaluation Scales mean total scores

	Offenders with PD		Offenders no PD	
	Mean score	±SD	Mean score	±SD
CRIq	126.76	88.88	120.00	-
ASI	18.26	5.22	7.75	10.24
TIB	100.07	14.02	96.15	14.8
BIS-11	61.16	11.82	74.80	12.87
HCR-20	30.00	13.38	17.60	7.41
Risk of recurrence	1.85	0.80	1.80	0.84
pVFT	24.30	16.40	14.80	3.42
sVFT	10.39	7.78	29.60	7.07

Our study aimed to evaluate the correlation between cognitive function and emotional dysregulation in offenders without psychiatric disorders and offender inpatients affected by psychiatric disorders hosted in rehabilitation centers.

METHOD

Our observation is part of a larger project that is currently developing and recruiting new offenders who are not affected by psychiatric disorders.

In our study we recruited nineteen offenders affected by psychiatric disorders (Offenders with PD) (total mean age: 45.11±17.09 (SD)), and five offenders not affected by psychiatric disorders (Offenders no PD) (total mean age: 50.20±17.26 (SD)). Patients were affected by psychiatric disorders according to the diagnostic criteria of the DSM-5 (mood disorders, schizophrenia, personality disorder, and psychotic spectrum disorders) and the SCID-5 CV (Structured Clinical Interview for DSM-5) (First et al. 2016).

All participants were asked to sign consent forms to take part, ensuring their voluntary participation and understanding of the research. All data were collected between March and July 2024.

Table 1 shows the main epidemiological data.

All patients were administered the following rating scales:

- *Aberrant Salience Inventory (ASI)* (Cicero et al. 2010): for evaluating aberrant salience.
- *Cognitive Reserve Index questionnaire (CRIq)* (Nucci et al. 2012): for evaluating cognitive reserve.
- *Barrat Impulsiveness Scale Version 11 (BIS-11)* (Patton et al. 1995): The BIS-11 investigates general impulsivity and other aspects such as attentional, motor and non-planning impulsivity.
- *Historical-Clinical-Risk Management-20, Version 3 (HCR-20^{V3})* (Douglas et al. 2013): a violence risk

assessment tool that is used in clinical practice for risk management planning.

- *Estimated IQ Short Intelligence Test (T.I.B.)* (Sartori et al. 1997). The TIB, short intelligence test, is based on the correlation between general intelligence and reading ability. The TIB is then indicated for the evaluation of the premorbid intellectual level.
- *Verbal fluency tests (VFT) (phonological, pVFT and semantic, sVFT)* (Benton & Hamsher 1978): used as tests of executive dysfunction.

Statistical significance was ascertained by t-tests with EZAnalyze 3.1 Excel Platform. Demographic variables and evaluation questions were subjected to descriptive analysis.

RESULTS

Table 2 shows the results of the administered scales, with a focus on the small number of offenders without psychiatric disorders. The results, obtained by comparing the average scores of the scales, reveal the cognitive reserve found comparable scores between the groups (126.76 vs 120.00, Offenders with PD vs Offenders without PD). Higher average scores in the assessment of aberrant salience are associated with lower levels of psychiatric pathologies, a finding with significant implications for treatment. The results obtained with the BIS-11 scale are particularly interesting, with the group of offenders without PD presenting higher levels than the comparison group (74.8 vs 61.16, respectively). The risk of recurrence of violent behavior was found to be comparable between the two groups, a result with important implications for risk assessment. The data obtained from assessing phonological and semantic verbal fluency are also significant, leading to further considerations.

CONCLUSION

Emotional dysregulation and cognitive impairment play a significant role in offenders' behavior and addressing these issues is crucial to reduce recidivism and promote rehabilitation. The results of our study are limited by the small sample size analyzed. However, the results do not show a significant difference between the group of offenders with psychiatric disorders and offenders without psychiatric disorders. Instead, better levels of cognitive abilities were observed in the group of patients with psychiatric disorders, probably due to the specific cognitive rehabilitation programs they are subjected to. Some significant aspects that lead to reflection are evident. Finally, the results of our study should make us reflect on the commonplaces of violent behavior of psychiatric patients. These final reflections can contribute to the fight against the stigma of mental illness.

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Contribution of individual authors:

All authors made substantial contributions to the design of the study, and/or data acquisition, and/or its analysis and interpretation.

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