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Recognition of Emotional Body Posture Expressions in Forensic Inpatients Who Committed a Sexual Offense

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INTRODUCTION

The accurate recognition of social cues, such as Emotional Body Posture Expressions (EBPE), is central to social interactions, as it enables the inference of mental (e.g., intentions) and affective (e.g., emotions) states (de Gelder & Poyo Solanas, 2022). Unlike faces, which emotion researchers have extensively studied, one of body postures' specificities is that EBPEs are seen from afar. According to de Gelder (2016), it is beneficial to recognize some emotional expressions from afar, such as anger, as they call for a reaction before the individual is too close and favor action tendencies (Frijda, 1987). Previous research in forensic literature highlighted that violent offenders miscategorized fearful BPE as anger (Kret & de Gelder, 2013), suggesting a hostile attribution bias (Schönenberg et al., 2015), not found in other communication channels as faces (Chapman et al., 2018). Nevertheless, few studies have focused on EBPE *per se* and not in association with facial expressions of emotions. Finally, to our knowledge, no research has yet focused on forensic inpatients.

Aim of the study: Investigate the emotion recognition competency of EBPE from Forensic Inpatients who Committed a Sexual Offense (FICSO) compared with Forensic Inpatients who Committed a Non-Sexual Offense (FICNSO) and Non-Clinical Participants (NCPs).

METHOD

Participants

The sample is composed of 95 male participants divided into three groups : 1) FICSO (*n* = 26), 2) FICNSO (*n* = 18), and 3) Non-Clinical Participants (NCP; *n* = 51). Forensic inpatients are Not Guilty for Reason of Insanity (NGRI), hospitalized under the Law for the internment of persons (2014). The forensic inpatients' group attribution (FISCO or FICNSO) is based on criminal record: if a forensic patient committed at least one sexual offense, they were placed in the FISCO group. NCP group comprises men from the community through a call for participants published in some public places and on social networks.

There is no difference between FICSOs and FICNSOs on PANAS (PA & NA), UPPS-P, and MC-SDS total scores. However, FICSOs and FICNSOs are significantly older (*p* ≤ .016) and less educated (*p* ≤ .001) than NCPs. Finally, on a criminal level, FICNSO committed more non-violent non-sexual (88.20%), and violent non-sexual (64.70%) offenses than FICSO (*p* ≤ .05). On a psychopathological level, FICNSOs (92.90%) exhibited more Major Mental Disorders [MMD] (MINI) than FICSOs (33.30%) (*p* ≤ .001; φ = .589), specifically more addictive (FICNSOs = 57.10%; FICSOs = 19.00%; *p* ≤ .05; φ = .393) and psychotic disorders (FICNSOs = 35.70%; FICSOs = 00.00%; *p* ≤ .005; φ = .503). No difference between FICSOs and FICNSOs regarding Personality Disorders [PD] Clusters (SCID-II) was found.

Instruments

1. Psychiatric Assessment
   - *Mini International Neuropsychiatric Interview* [MINI] (Sheehan et al., 1998)
   - *Structured Clinical Interview for DSM-IV Axis II Disorders* [SCID-II] (First et al., 1997)
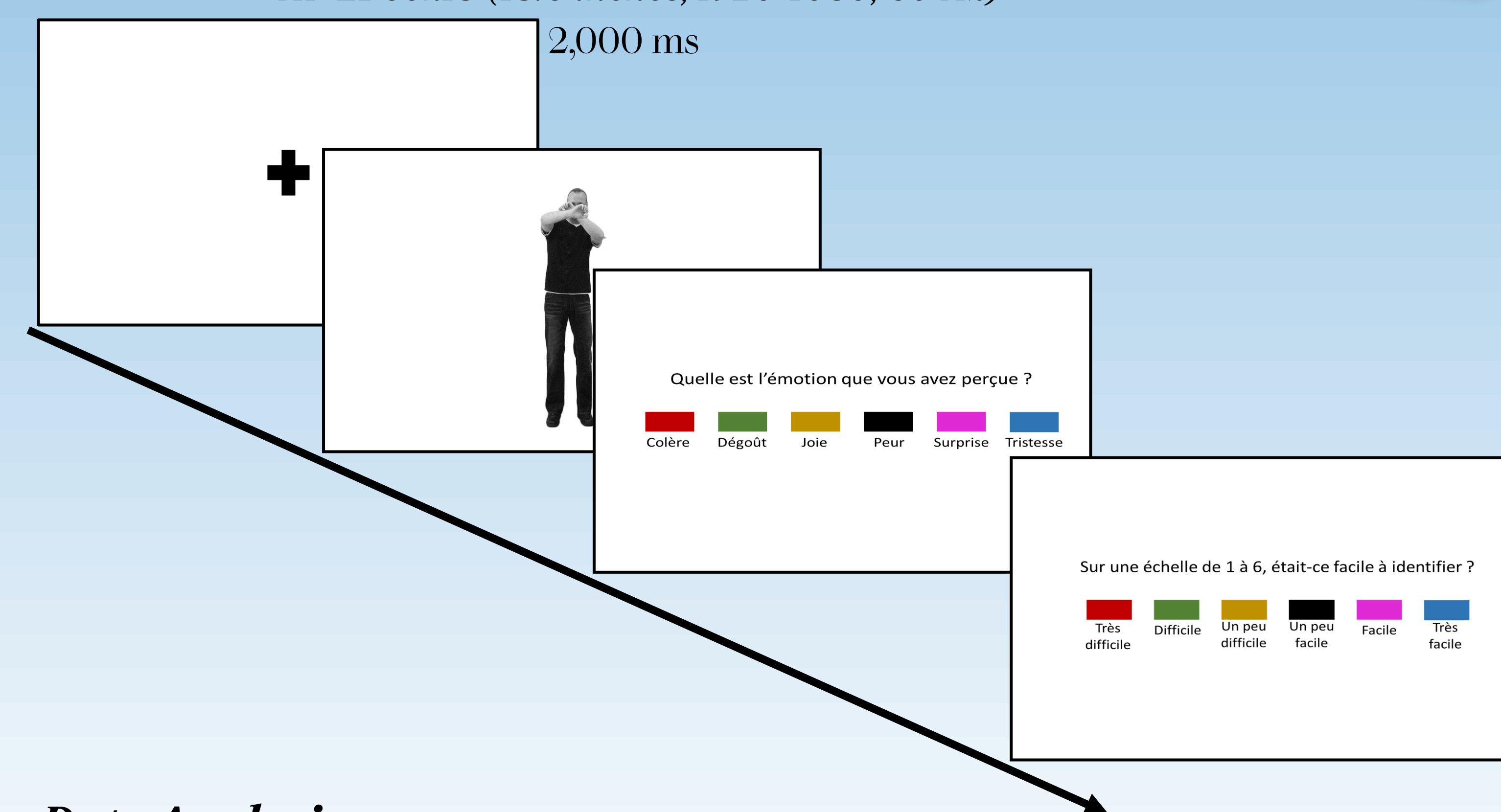
2. Anamnesis & Self-Reports
   - *Positive And Negative Affect Scales* – [PANAS] (Gaudreau et al., 2006)
   - *Marlowe-Crowne Social Desirability Scale* [MC-SDS] (Crowne & Marlowe, 1960)
   - *Urgency, Premeditation, Perseverance, Sensation seeking, Positive Urgency* [UPPS-P] (Billieux et al., 2012)

3. Computerized task
   - *Bochum Emotional Stimulus Set* (Thoma et al., 2013); 48 stimuli selected [(6 emotions*2 genders) * 4]

Material
   - *SRBOX - RB-730* (Cedrus)
   - *E-Prime 2.0* (Schneider et al., 2002)
   - *HP ZBook15* (15.6 inches; 1920*1080; 60 Hz)

2,000 ms

Quelle est l'émotion que vous avez perçue ?
Colère   Dégoût   Joie   Peur   Surprise   Tristesse

Sur une échelle de 1 à 6, était-ce facile à identifier ?
Très difficile   Difficile   Un peu difficile   Un peu facile   Facile   Très facile

Data Analysis

In the absence of normality, multiple non-parametric comparison groups were carried out (Kruskal-Wallis' *H*), followed by post-hoc Mann-Whitney's *U* analyses (Dunn-Bonferroni correction, *p* ≤ .016) for accuracy and Reaction Time (RT) scores. Effect sizes were computed ($r = \frac{z}{\sqrt{N}}$) (Field, 2018).

RESULTS & DISCUSSION

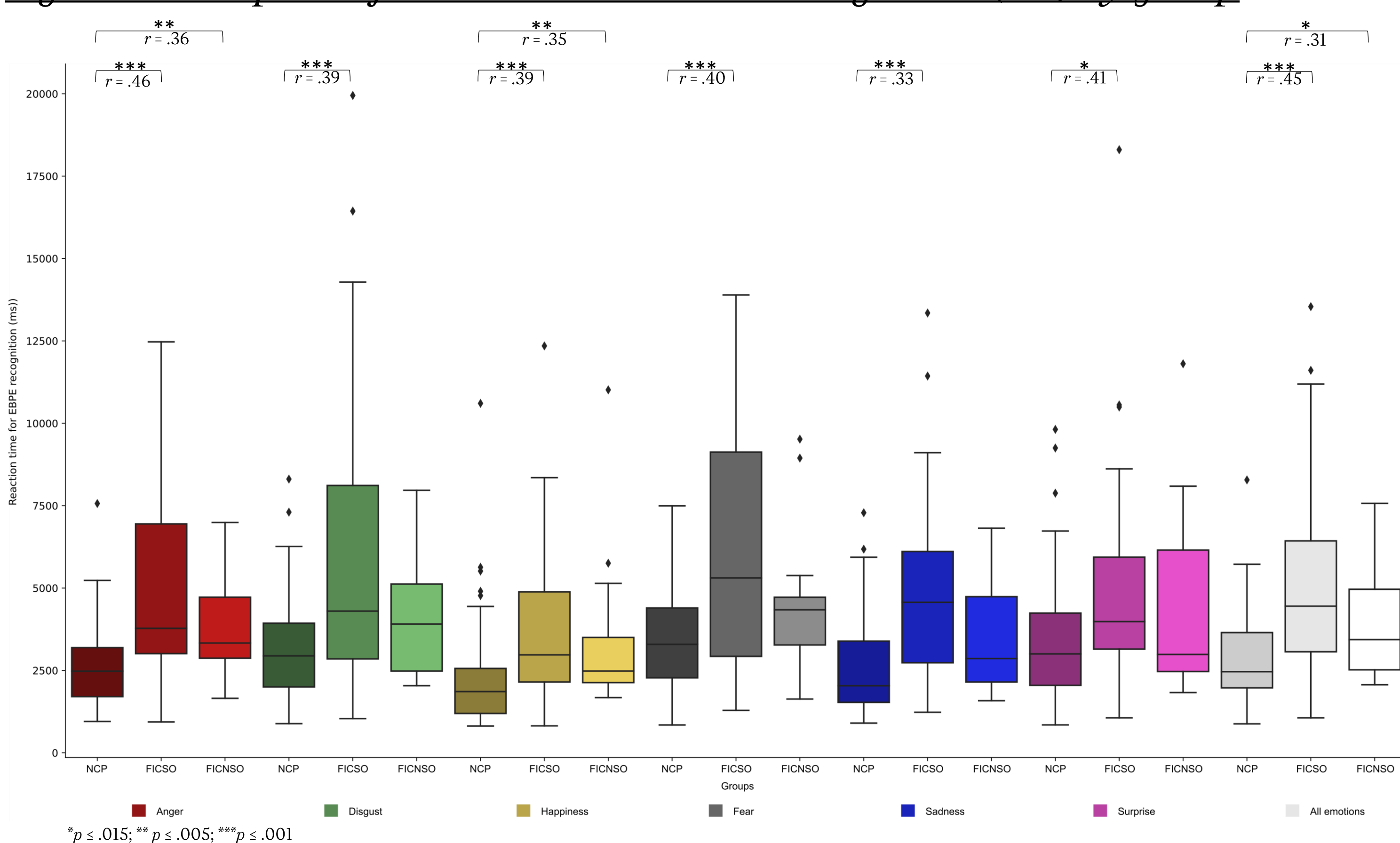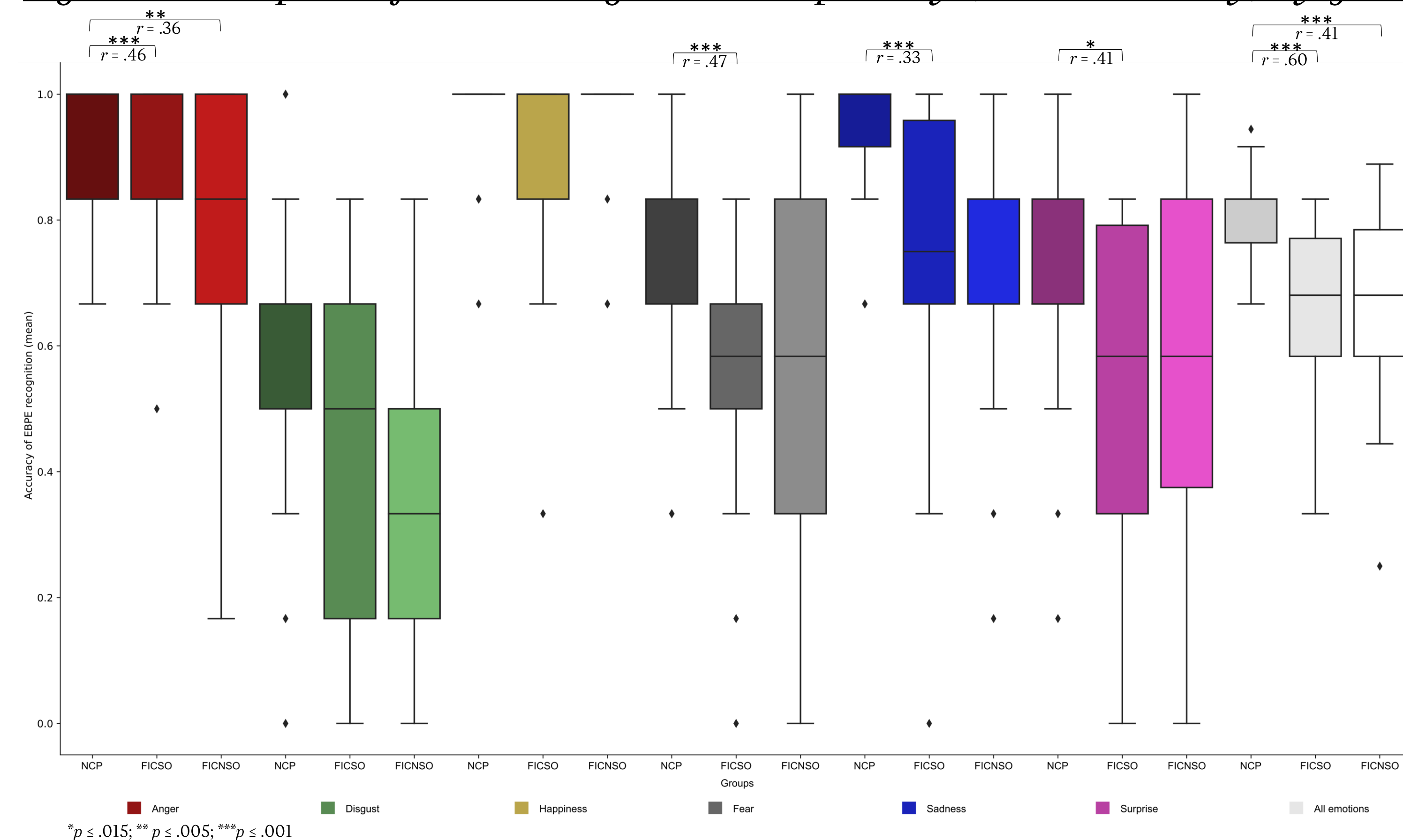*Figure 1 – Boxplots of EBPE Reaction Time recognition (ms) by group*

*p ≤ .015; ** p ≤ .005; ***p ≤ .001

Figure 2 – Boxplots of EBPE recognition competency (mean accuracy) by group

*p ≤ .015; ** p ≤ .005; ***p ≤ .001

Reaction Time (ms) and accuracy (mean) scores

Although RT scores did not differ between FICSOs and FICNSOs, the former group exhibits larger effect sizes of RT scores compared to PNCs for all emotions. This finding is consistent with previous research suggesting impaired social information processing in violent offenders (Smeijers et al., 2020), specifically in male pedophiles who committed a sexual offense (Joyal & Spearson-Goulet, 2017; Suchy et al., 2014).

Overall, larger effect sizes of accuracy scores are found between FICSOs and NCPs than between FICNSOs and NCPs, except for disgust and happiness. Disgust is poorly recognized by the three groups, while happiness is the most recognized emotion. These patterns are also found in emotional facial expressions recognition among offenders (Chapman et al., 2018; Tiberi et al., under press). The lack of differences between inpatient groups suggests adopting a dimensional view (RDoC; Insel, 2014) related to the psychopathological profile and not the criminal record (Cortoni & Pham, 2017). A research perspective consists of assessing the answers repartition given by forensic inpatients through a confusion matrix, specifically regarding fear, misrecognized as anger in previous research (Kret & de Gelder, 2013).

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