

Associations between personality dimensions and **emotions recognition** among male forensic inpatients in **High-Risk Security Forensic Hospital**

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01

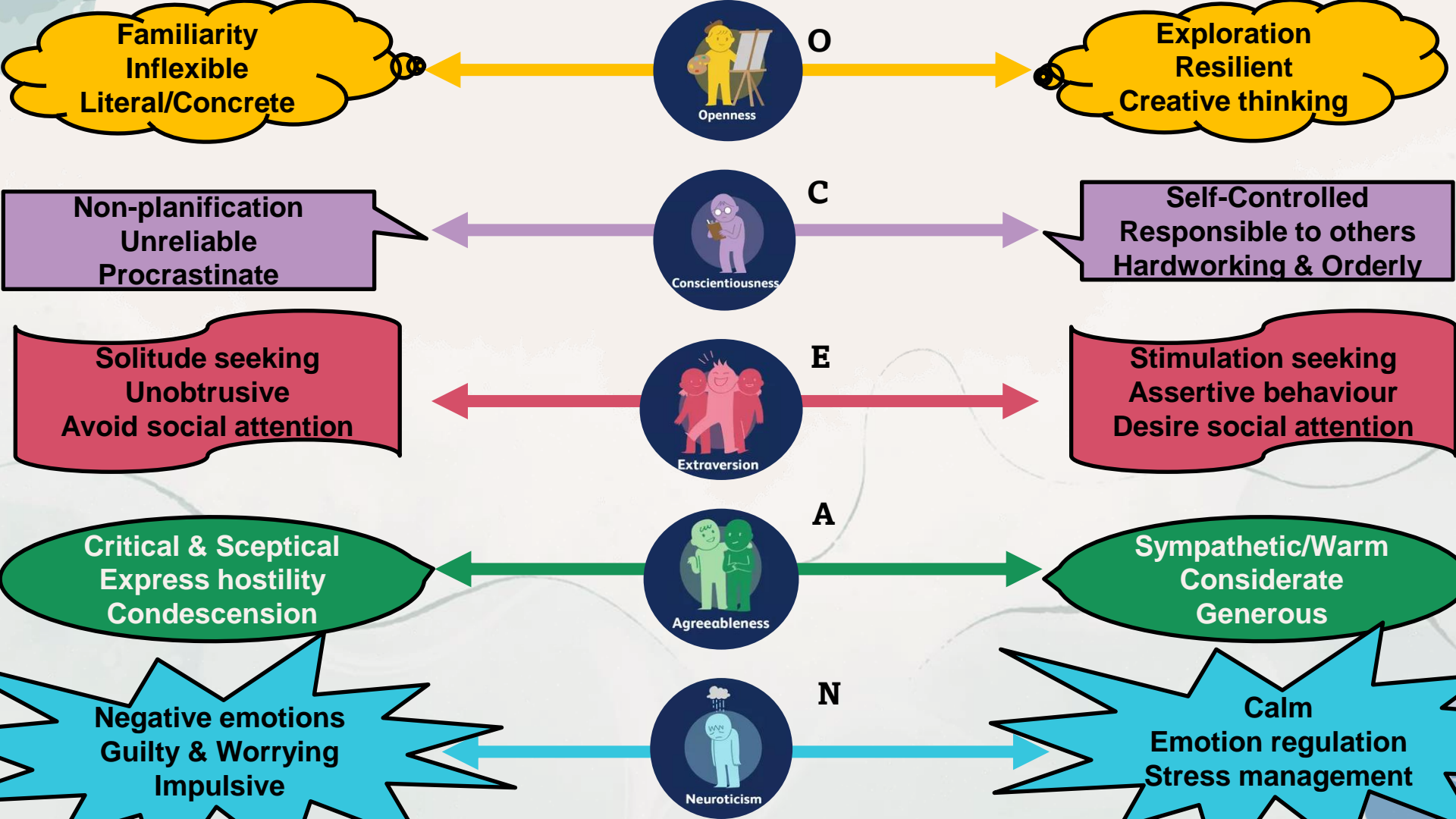
Introduction

Personality

- **Dynamic organization**, relying on **physiological**, **cognitive**, and **affective processes** which represent **consisting** and **recurrent**, yet not rigid, **pattern** of **multiform interactions** between individuals and the world. These patterns enable the **prediction** of someone's **behaviour**.
- Personality conceptualizations:
 - **Trait/Domain** = enduring characteristic enabling to behave in a way whatever the situation
 - **Facet** = collection of specific cognitive, affective, and behavioural tendencies
- Rich history of conceptualization and assessment...
- ... leading to the creation of the **Five-Factor Model (FFM)**



A word cloud of various personality traits and characteristics, including: mover, leader, honest, actor, furious, intelligent, whole, commander, enthusiastic, alive, uninvited, rick, excellent, creator, healthy, wealthy, truthful, shaker, cool, beautiful, inspired, authoritative, determined, conquerable, smart, believer, artistic, capable, and others.



Familiarity
Inflexible
Literal/Concrete



O

Exploration
Resilient
Creative thinking

Non-planification
Unreliable
Procrastinate



C

Self-Controlled
Responsible to others
Hardworking & Orderly

Solitude seeking
Unobtrusive
Avoid social attention



E

Stimulation seeking
Assertive behaviour
Desire social attention

Critical & Sceptical
Express hostility
Condescension



A

Sympathetic/Warm
Considerate
Generous

Negative emotions
Guilty & Worrying
Impulsive



N

Calm
Emotion regulation
Stress management

Personality and Emotions

- Innate (historical) **association**...
 - Antiquity: *persona* = To **recognize an actor's emotions**
- Personality does **not directly influences** emotions ...
 - ... **but it influences the assessment** of the event ...
 - ... this **assessment influences emotions**
 - *Emotions = "brief, context-specific response causing variations in five domains: appraisal, physiological, action tendencies, expression and feeling"*
- Numerous research on personality and **expression** (thoughts, behaviour, emotions, ...):
 - Prosocial behaviour
 - Proenvironmental attitudes
 - Emotional expressiveness
 - ...
- But few research on personality and **emotion recognition** ...



Emotions recognition (ER)

- ... Defined as the accurate **perception, discrimination, categorization**, and **labeling** of emotions
- Mobilizing a **collection of active processes** aiming to **re-construct the internal state of others from cues** (*expressions of emotions, context, ...*)
- ... Enabling to **understand** (*inference*) and **predict others' affective, mental states, behaviours** in order to **regulate our own behaviours, thoughts, affects**
- Three main communication channels:
 - **Face** – Facial Expression of Emotions (FEE): start, apex, and offset
 - **Voice** – Vocal Expression of Emotions (VEE)
 - Prosody: acoustic parameters (*suprasegmental*): F0, speedrate, loudness, ...
 - Semantic: basic unit of meaning
 - **Body** – Bodily Expressions of Emotions (BEE): start, short duration, and offset

Personality and ER

- ER
 - **N** is **negatively correlated** with **happiness** FEE recognition accuracy
 - **N** is **positively correlated** with **reaction time** of FEE recognition (Ang/Hap)
 - **E** and **C** are **positively correlated** with **FEE recognition accuracy**
 - **No correlation with VEE recognition accuracy** (prosody)
- Why with forensic inpatients?
 - **Psychopathological** level
 - Impact of personality dimensions on Axis I disorder
 - **“Personality disorders are viewed as maladaptive or extreme variants of normal personality structure”** (p.85)
 - **Treatment** level
 - Categorical view (threshold), only, isn't informative on psychological mechanisms involved or to design a therapeutic program
- Contradictory results among general population
 - **Paucity of literature among forensic inpatients**

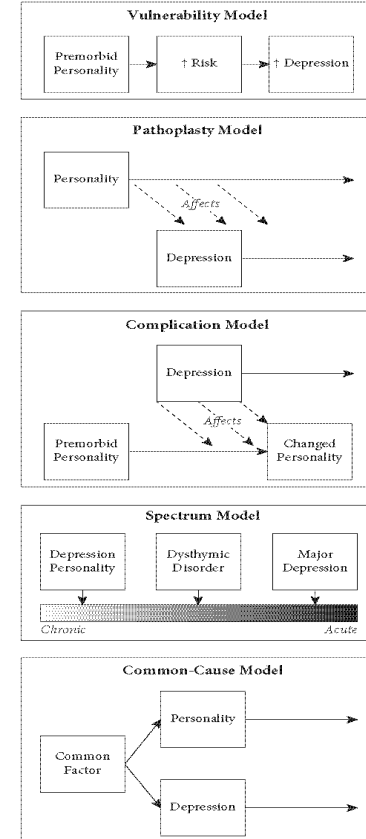


Figure 21.1. Etiological models of the association between personality and depression.

Aim of the study & Hypotheses

Aim of the study

- Investigate the **associations** between **personality dimensions (O-C-E-A-N subscales scores)** and **multi-level ER competencies (accuracy and reaction time)** among male forensic inpatients

Hypotheses

- **High A** are **O traits** (*prosociality*) are **positive predictors of ER accuracy**
- **Low C trait** (*impulsivity*) is a **positive predictor of ER reaction time**
- **High E trait** (*positive emotion experiencing*) is a **positive predictor of positive ER accuracy** but a **negative predictor of ER reaction time**
- **High N trait** (*a-social*) is a **positive predictor of negative ER accuracy** and a **positive predictor of ER reaction time**



02

Method

Participants

- **37 male forensic inpatients** from the **High-Risk Security Forensic Hospital** (FH) “*Les Marronniers*”, **Not Guilty for Reason of Insanity** (NGRI)
 - Inclusion criteria: mentally stable, French as mother tongue, cognitively competent facing experimental tasks

Forensic inpatients (N = 37)

	<i>n</i>	M	SD	Min.-Max.
Age	37	44.36	12.85	26.19-68.83
Years of study	37	5.35	5.00	0.00-12.00
Length of hospitalization	26	11.76	7.14	.40-26.46



• Psychopathological profile:

- Major Mental Disorder: Addictive Disorder (32.40%), Mood Disorder (18.90%)
- Personality Disorder: Cluster B (70.30%), Cluster C (29.70%), Cluster A (21.60%)
 - ASPD (43.20%), BPD (40.50%)

• Offences representation in the sample:

- Current non-violent non-sexual offence: 48.60%
- Current sexual offence: 45.90%
- Current violent non-sexual offence: 37.80%

- Big-Five Inventory French-version (**BFI-Fr**)

- Self-questionnaire (45 items), five-point Likert scale
- 5 dimensions: O-C-E-A-N (*prototypes*)
- Excellent internal consistency ($\alpha = .84-.87$)
- Nearly excellent test-retest reliability ($r = .84$)



- NimStim Set of Facial Expressions (**NimStim**)

- 87 morphed dynamic “task” stimuli (+ 4 “exercise” stimuli) extracted from a 672 stimuli set [(5 emotions*2 genders*4 ethnicities*2 conditions) + (1 emotion*2 genders*4 ethnicities*1 condition)] -1
- Randomly assigned (*Excel*) in 4 blocks (*E-Prime 2.0*)
- Nearly excellent inter-rater reliability ($\kappa = .79$) and test-retest reliability ($r = .84$)

- Geneva Multimodal Emotion Protocol (**GEMEP**)
 - 48 “task” stimuli (+ 4 “exercise” stimuli) extracted from a 145 audio/video stimuli set [(6 emotions*2 genders)*4]
 - Randomly assigned (*Excel*) in 4 blocks (*E-Prime 2.0*)
 - Moderate mean accuracy of emotions recognition from audio stimuli ($M = .36$)
- Home-made **scenarii**
 - 48 “task” stimuli (+ 4 “exercise” stimuli) created from a related project (*MEMANTEMO*) [(6 emotions*2 genders)*4]
 - Patients' speeches categorized using EMOTAIX dictionary, synthetized by Acapela-Group
 - Syllables length of scenarii: $M = 7.42$ ($SD = 1.47$)
 - Randomly assigned (*Excel*) in 4 blocks (*E-Prime 2.0*)



- Bochum Emotional Stimulus Set (**BESST**)
 - 48 “task” stimuli (+ 2 “exercise” stimuli) extracted from a 1129 postural stimuli set = 48 static stimuli; [(6 emotions*2 genders) *4]
 - Randomly assigned (*Excel*) in 4 blocks (*E-Prime 2.0*)
 - Very good accuracy of bodily posture emotions recognition (84%)



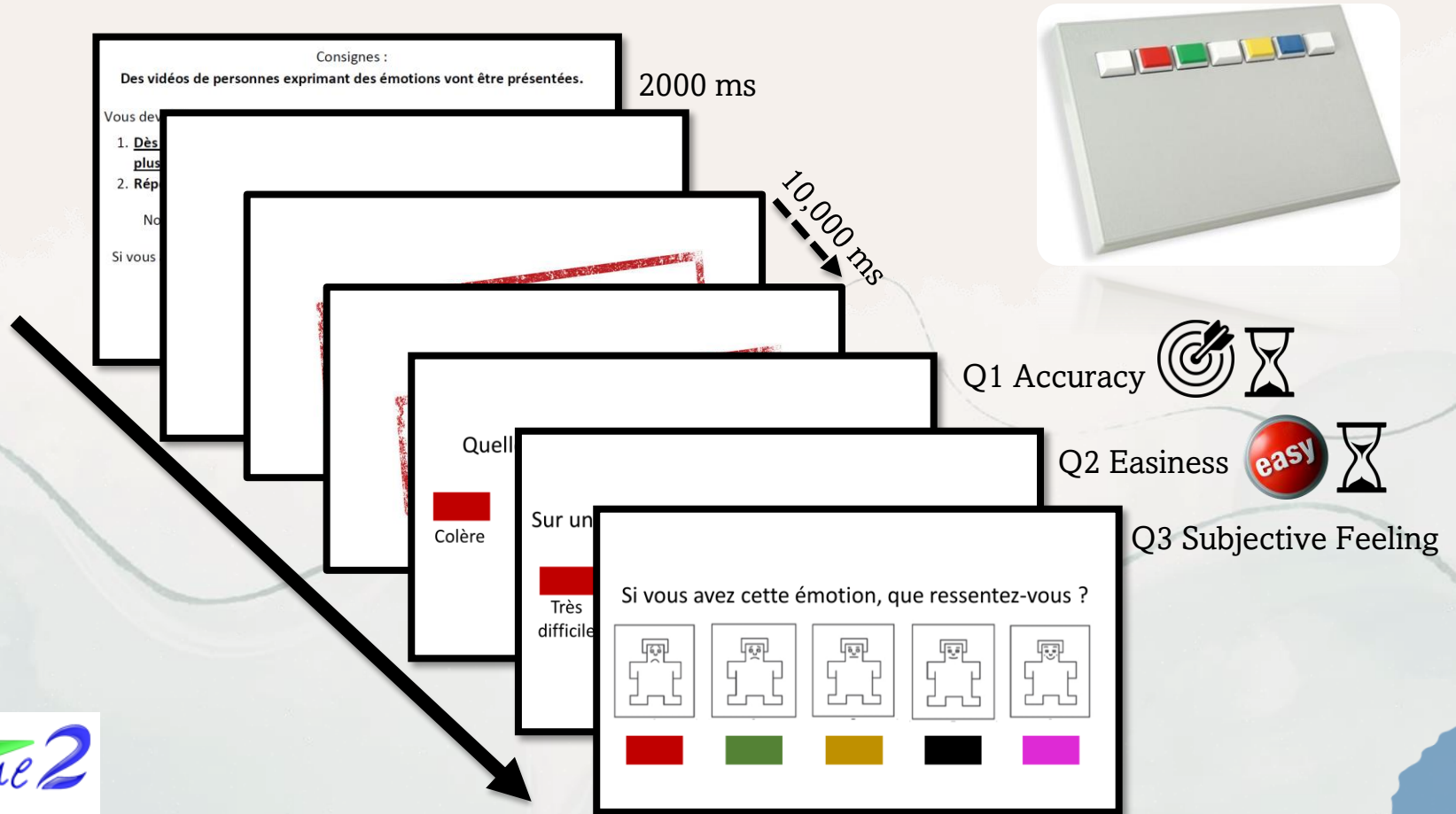
- Marlowe-Crowne Social Desirability Scale (**MC-SDS**)
 - Social desirability = Tendency to give overly positive self-descriptions by denying or self-attributing socially acceptable expectations/characteristics
 - Self-questionnaire (33 items), dichotomous items
 - Very good to excellent internal consistency ($\alpha = .72-.88$)

Procedure & Data analysis

Procedure

- Endorsement of Ethics Committees (UMONS & “*Les Marronniers*”)
- In accordance with:
 - Declaration of Helsinki and General Data Protection Regulation (GDPR)
- Meetings with psychologists’ Care Units to identify potential participants
- 2(+) meetings with forensic inpatients:
 - 1st – To present the study (information letter, consent sheet, self-questionnaires) in Care Unit
 - 2nd – Experimental protocol in Medical-Technical Unit (MTU)
 - (3rd – If needed, continuation of the 2nd meeting)

Procedure & Data analysis



Procedure & Data analysis

Data analysis

- Descriptive analyses (mean, frequencies)

In the absence of normality of distribution (Shapiro-Wilk), we conducted:

- Non-parametric correlation analyses (Spearman ρ) between:
 - BFI-Fr scores and global/specific (G/S) emotions recognition scores (mean, reaction time)
 - BFI-Fr scores, G/S emotions recognition scores and MC-SDS scores (partial correlation)
- Regressive analyses (Simple Linear Regression) when $\rho \geq .30$

A stylized profile of a human head in gold outline, facing right. The head is filled with a dense cluster of blue and white floral or leaf-like shapes. The background is a light cream color with abstract, wavy, light blue and green shapes. A dark blue number '03' is centered within a light blue circular shape.

03

Results

&

Discussion

(A glimpse of ...) Descriptive Analyses

$M_{TOTAL} = 10369.18$ (SD = 3872.85)

$M_{Anger} = 10165.10$ (SD = 4293.40)

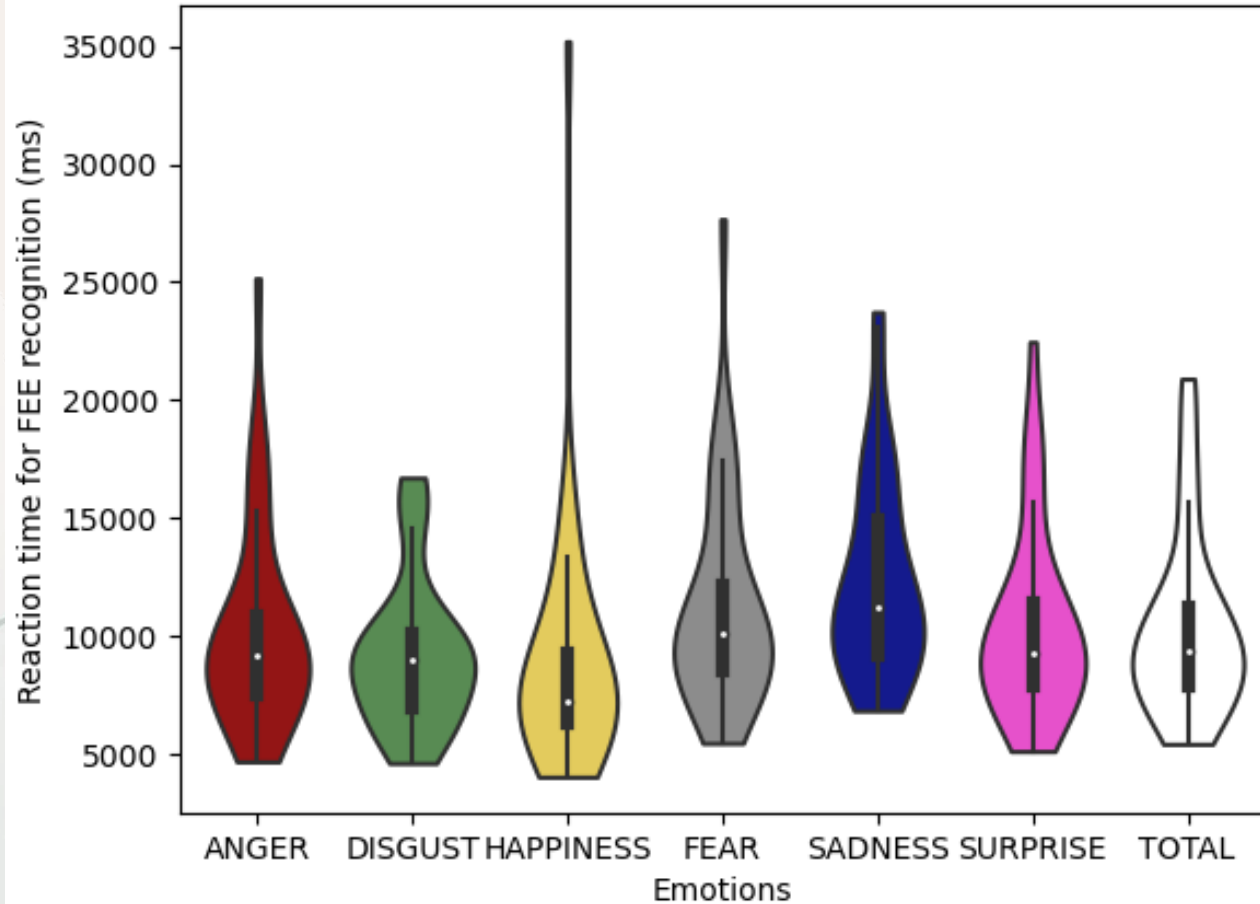
$M_{Disgust} = 9211.02$ (SD = 3146.84)

$M_{Happiness} = 8894.80$ (SD = 5282.10)

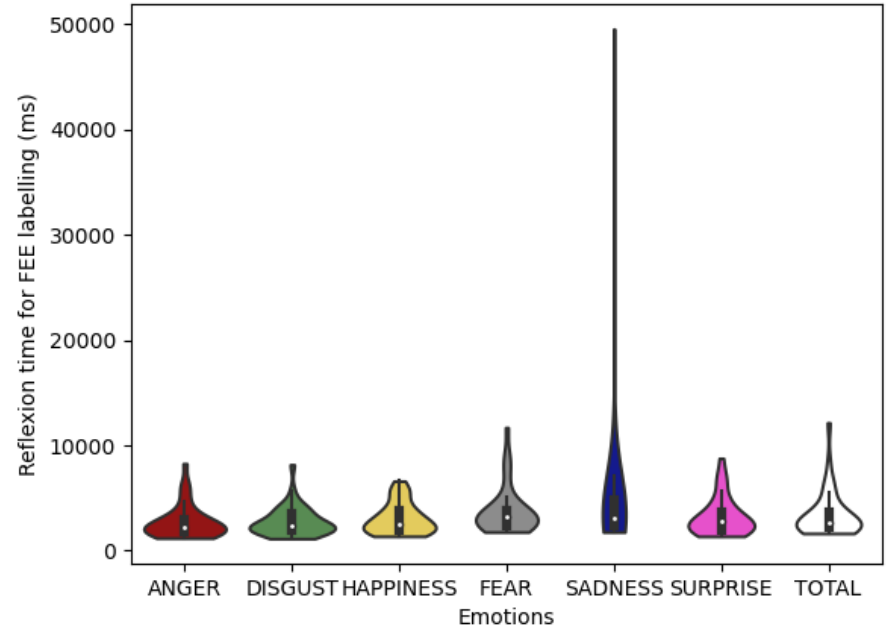
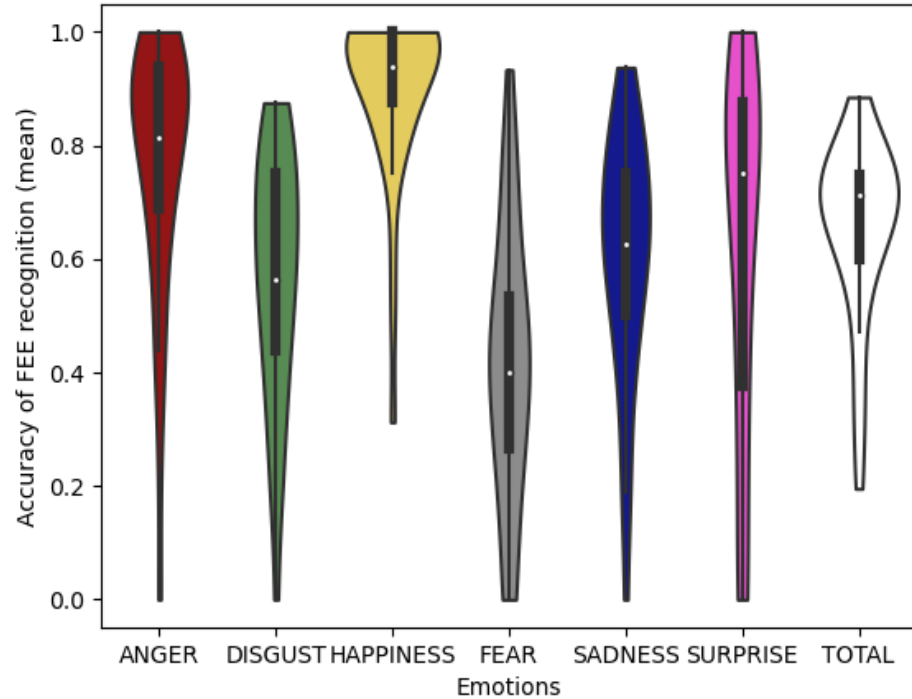
$M_{Fear} = 11252.47$ (SD = 4486.73)

$M_{Sadness} = 12352.83$ (SD = 4210.04)

$M_{Surprise} = 10404.71$ (SD = 3964.39)

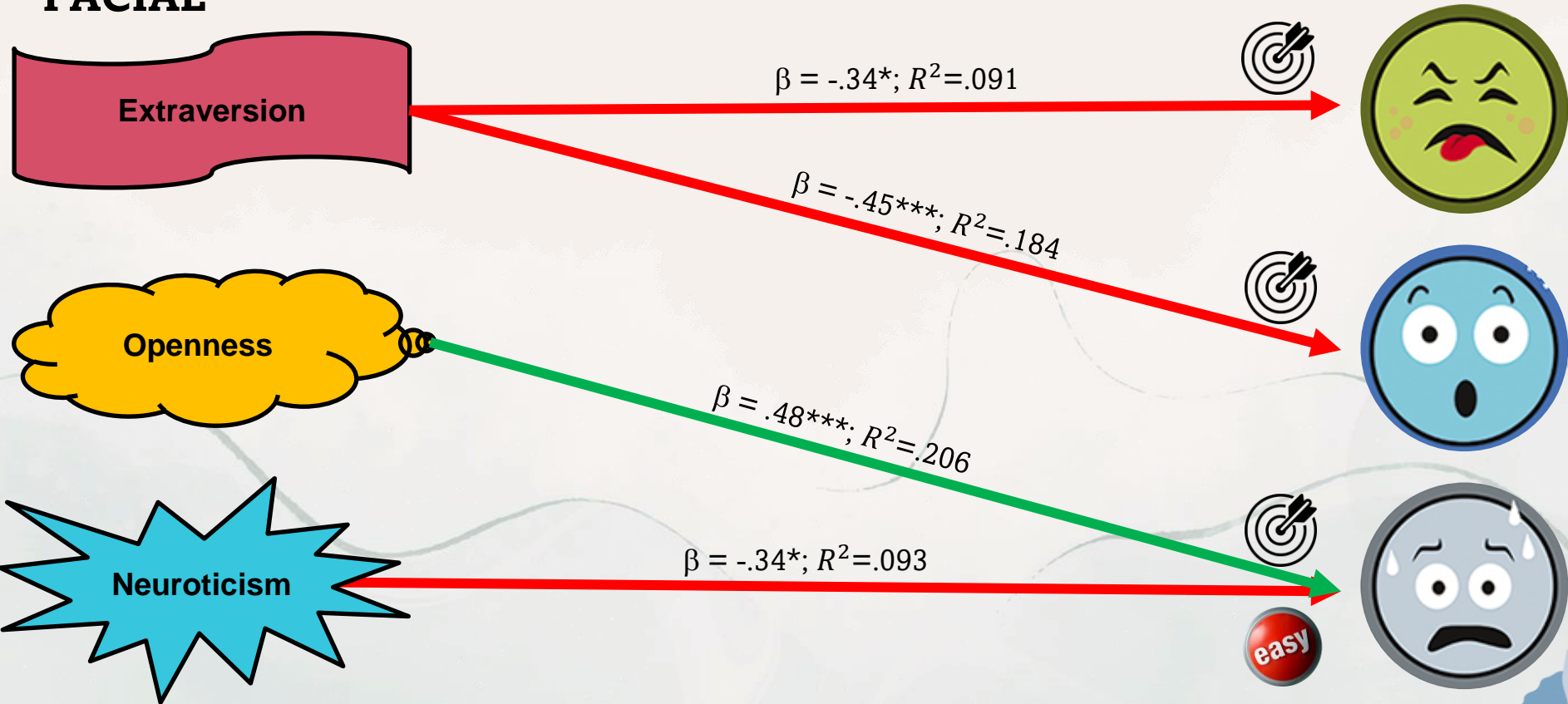


(A glimpse of ...) Descriptive Analyses



Simple Linear Regression Analyses

FACIAL



Simple Linear Regression Analyses

VOCAL – PROSODY

Conscientiousness

$$\beta = .40^*; R^2 = .133$$



VOCAL – SEMANTIC

Openness

$$\beta = .39^*; R^2 = .130$$



Simple Linear Regression Analyses

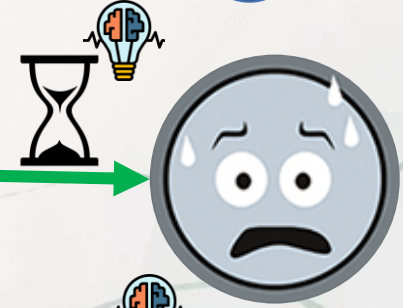
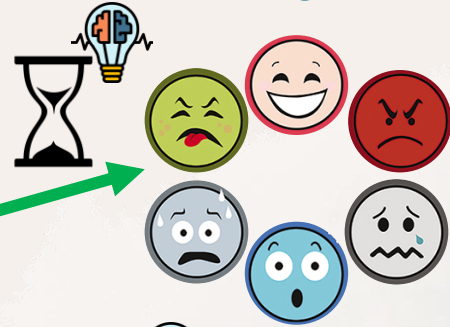
POSTURAL

Conscientiousness

$\beta = .34^*$; $R^2 = .094$

$\beta = .35^*$; $R^2 = .097$

$\beta = .44^{**}$; $R^2 = .169$



Strengths & Limitations



- Non-pathological conceptualization of personality, sensitive to a functioning assessment of personality
 - Multi-level assessment of ER competencies
 - Investigation of associations between personality and emotions in a forensic population
 - Indirect overview of emotional information processing
-
- Sample size
 - Task length
 - A “laboratorian” conceptualization of personality dimensions
 - interactionism situation-personality?
 - Supplemental analyses: impact of psychiatric disorder and medication on ER scores

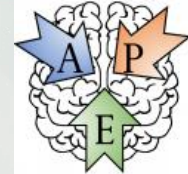
Future Perspectives

- **Deepen** personality **dimensions** using the BFI-Fr **facets**:
 - O: Aesthetics, Ideas; C: Self-Discipline, Order; E: Activity, Assertiveness; A: Altruisme, Compliance; N: Anxiety, Depression
- Compare **subgroups** of **forensic inpatients** based on their psychiatric disorders (e.g.: ASPD vs PPD) or based on their criminological profile (e.g.: sexual offenders vs non-sexual offenders; sexual offenders with child victims vs sexual offenders with adult victims)
- Assess the **association** between **personality dimensions, emotions recognition** and others **Social Cognition competencies** (ToM, Empathy)
- Include **cognitive competencies assessment**: information processing, attention competencies
- Use of **virtual reality** (VR) to assess personality dimensions related to **specific situations**





Thank you
for your attention!



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