

The Psychopathic Heart: Empathy, Interoception, and Psychopathy Traits in Adolescents

Elisabete Marinho¹, Isabel Alves¹, Mariana R. Pereira^{2,3}, Nuno B. Rocha¹, Fernando Barbosa² & Carlos Campos^{1,2,4}

¹ Center for Rehabilitation Research, School of Health, Polytechnic Institute of Porto; ² Laboratory of Neuropsychophysiology, Faculty of Psychology and Education Sciences, University of Porto

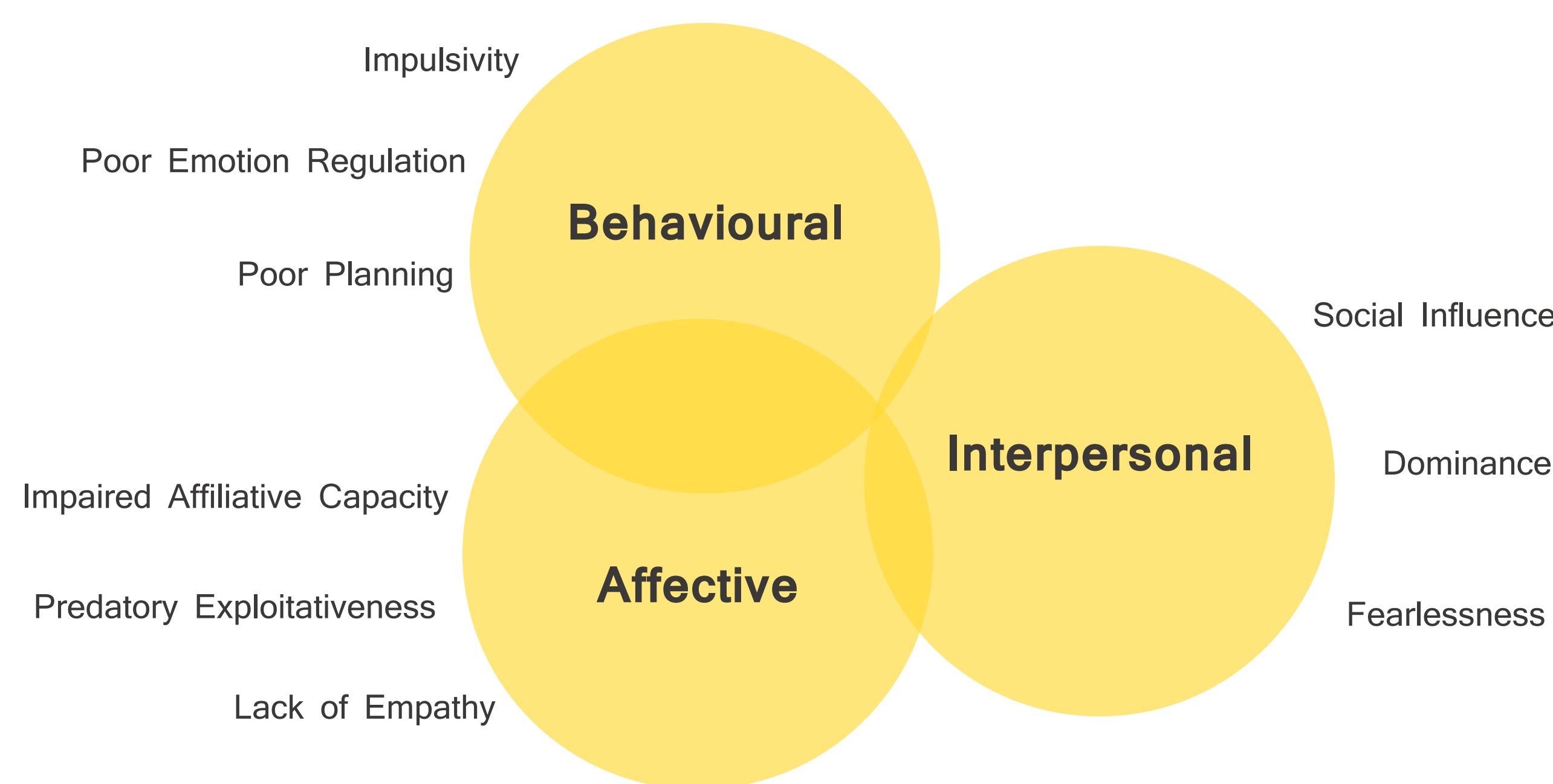
³ Great Ormond Street Institute of Child Health, University College London, London, United Kingdom; ⁴ Faculty of Medicine, University of Porto

SAS 2022 Annual Conference

BACKGROUND

Psychopathy is a multidimensional and heterogeneous personality structure that according to **3-dimensional models encompasses interpersonal (grandiose-manipulative), affective (callous-unemotional), and behavioural (impulsive-irresponsible) phenotypes**.^{1,2} The link between psychopathy dimensions and empathy domains (**cognitive empathy**, inferring the mental states of others or cognitively taking their perspective; **affective empathy**, being sensitive to and vicariously experiencing the emotional states of others) is still not consensual.³ The underlying mechanisms of empathy deficits in psychopathy are also largely unknown and **interoception (perception of the body's internal states)** may be a promising pathway.^{4,5}

Figure 1. 3-Dimensional Models of Psychopathy³



GOAL

To explore the **differential associations between psychopathy phenotypes, empathy domains** (cognitive and affective), and **interoceptive accuracy** in a community sample of **adolescents**.

REFERENCES

1. Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology*, 21(3), 913-938. | 2. Drislane, L. E., Brislin, S. J., Kendler, K. S., Andershed, H., Larsson, H., & Patrick, C. J. (2015). A Triarchic Model Analysis of the Youth Psychopathic Traits Inventory. *Journal of Personality Disorders*, 29(1), 15-41. | 3. Campos, C., Pasion, R., Azeredo, A. A. C., Ramião, E., Mazer, P., Macedo, I., & Barbosa, F. (2021). Refining the link between psychopathy, antisocial behavior, and empathy: A meta-analytical approach across different conceptual frameworks [Preprint]. *PsyArXiv*. | 4. Campos, C., Rocha, N., & Barbosa, F. (2021). Untangling Self-Reported Interoceptive Attention and Accuracy: Evidence from the European Portuguese Validation of the Body Perception Questionnaire and the Interoceptive Accuracy Scale [Preprint]. *PsyArXiv*. | 5. Adolfi, F., Couto, B., Richter, F., Decety, J., Lopez, J., Sigman, M., Manes, F., & Ibáñez, A. (2017). Convergence of interoception, emotion, and social cognition: A twofold fMRI meta-analysis and lesion approach. *Cortex*, 88, 124-142. | 6. Anastácio, S., Vagos, P., Nobre-Lima, L., Rijo, D., & Jolliffe, D. (2016). The Portuguese version of the Basic Empathy Scale (BES): Dimensionality and measurement invariance in a community adolescent sample. *European Journal of Developmental Psychology*, 13(5), 614-623. | 7. Teixeira, S., Barbosa, J. P., Lourenço, L., Gonçalves, D., & Guardiano, M. (2019). Avaliação da Alexitimia em Crianças Portuguesas com Perturbação de Hiperatividade/Défice de Atenção: Assessment of Alexithymia in Portuguese Children with Attention Deficit Hyperactivity Disorder. *Gazeta Médica*.

METHODS

Participants: A Portuguese community sample of adolescents (n = 64, M_{age} = 14.95 years, 42.19% male) completed an online survey.

Instruments: Youth Psychopathic Traits Inventory² (YPI); Basic Empathy Scale⁶ (BES), Interoceptive Accuracy Scale⁴ (IAS), Toronto Alexithymia Scale⁷ (TAS).

Statistical analysis: Zero-order correlations; t-tests (to compare females vs. males); hierarchical linear regressions (controlling for age, sex, and alexithymia).

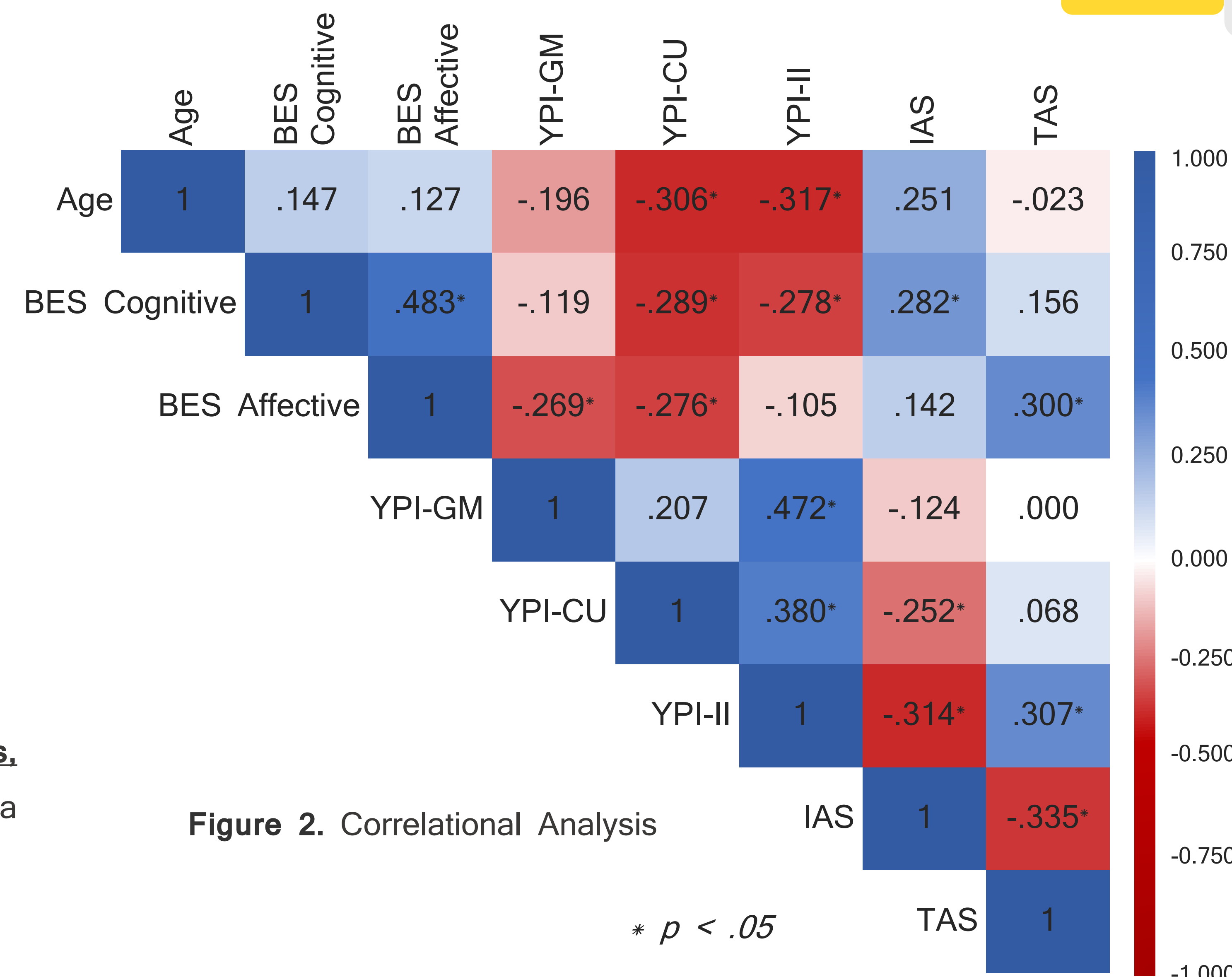
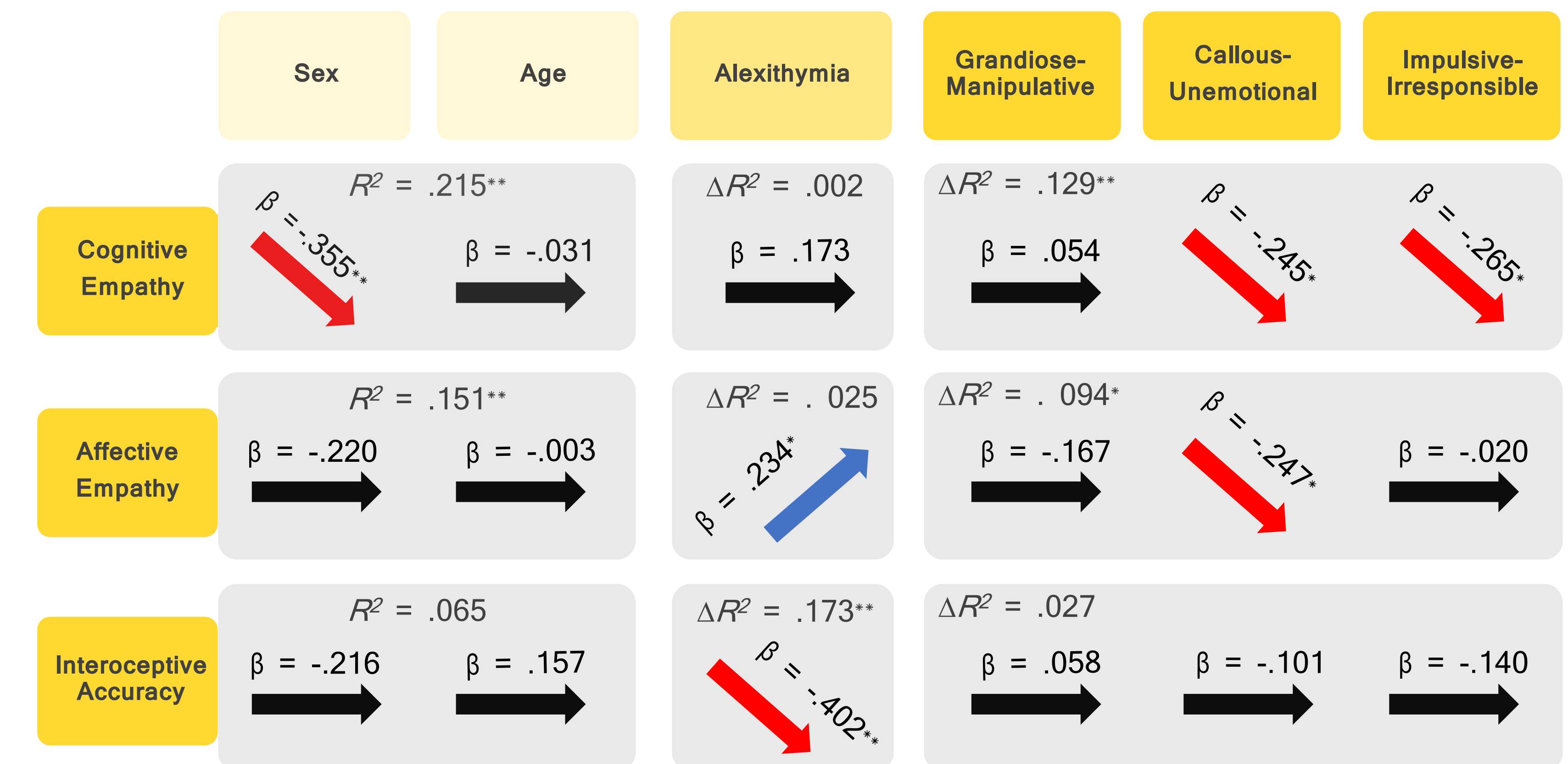


Figure 2. Correlational Analysis

Figure 3. Hierarchical Regression Models



MAIN FINDINGS

- **Cognitive and affective empathy were differentially associated with psychopathy phenotypes** in adolescents.
- Callous-unemotional traits were negatively related to both empathy domains, while impulsive-irresponsible traits were only negatively associated with cognitive empathy. Grandiose-manipulative traits were not related to either empathy domain.
- There were **no associations between interoceptive accuracy and psychopathy phenotypes** after controlling for age, sex, and alexithymia.
- The contributing role of interoception for the interplay between psychopathy and empathy should be further explored using **larger sample sizes and alternative measures**.