Self-Other Distinction and Individual Differences in Interoception, Empathy, and Alexithymia

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BACKGROUND

Palmer & Tsakiris[1] proposed a theoretical framework addressing the **complex interaction between interoception, self-other distinction, and social cognition**, although existing evidence supporting this model is inconsistent or incomplete. Within this model, **empathy domains (cognitive and affective)**[2] would be differentially associated with self-other distinction. Furthermore, it would be valuable to examine how the recently proposed constructs of **interoceptive attention and accuracy**[3] interact with self-other distinction. Finally, this model would also be useful to explore the association between self-other distinction and **alexithymia**, a construct consistently linked to interoception.[4]

GOAL

To examine the association of **self-other distinction** with **interoceptive attention and accuracy, cognitive and affective empathy, and alexithymia**.

METHODS

This study was preregistered at https://osf.io/w4qt6.

Participants: Community sample (n = 51, M_{age} = 21.82 years, 47.06% male)

Questionnaires: **Interoceptive Accuracy Scale**[5] (IAS); **Body Perception Questionnaire - Body Awareness**[5] (BPQ), indexing interoceptive attention; **Questionnaire of Cognitive and Affective Empathy**[2]; **Toronto Alexithymia Scale**[6] (TAS).

Imitation-Inhibition Task: A hand is displayed on the screen and subjects are asked to lift a finder in response to numerical cues (1 = index; 2 = middle). At cue onset, the onscreen hand is manipulated: (1) **imitation-inhibition trials**, congruent or incongruent hand movement; (2) **non-imitative inhibitory control trials**, congruent or incongruent effector is highlighted in green; (3) **baseline trials**, the onscreen hand becomes pixelated. **Imitation-inhibition scores (indexing self-other distinction)** are computed by subtracting performance (reaction time, error rate, and inverse efficiency) between congruent and incongruent imitative trials. Similar procedures are used for non-imitative trials to compute **non-imitative inhibitory control scores**.[7]

Statistical Analysis: Zero-order correlations, t-tests, and hierarchical linear regression models were used for inferential testing.

Figure 1. Correlational Analysis

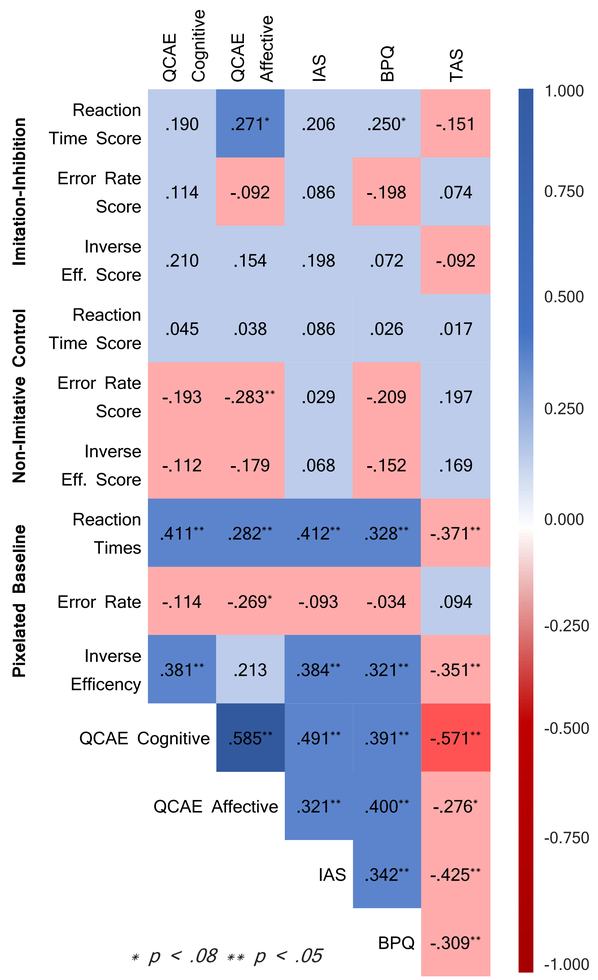
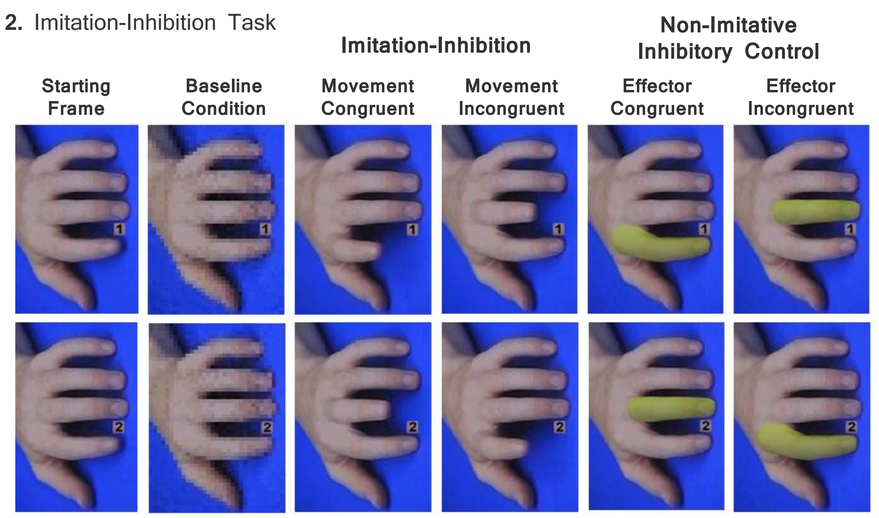


Figure 2. Imitation-Inhibition Task



MAIN FINDINGS

- **Self-other distinction (indexed by imitation-inhibition reaction time score) was marginally related to affective empathy**, although this association **was not significant when controlling** for sex (male subjects displayed enhanced self-other distinction and worst affective empathy) and baseline reaction times.
- **Imitation-inhibition was not associated with any other variable of interest.**
- Findings regarding interoceptive attention should be interpreted with caution as **only 18 subjects correctly interpreted the BPQ**.
- Despite the reduced sample size, the current findings suggest that **self-other distinction**, as measured by **the Imitation-Inhibition Task**, is **not associated with individual differences in interoception, empathy, or alexithymia.**

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