

Exploring Nonverbal Communication differences among individuals in romantic partnerships: A Neuroscientific Perspective

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Background

Only 7% of communication is verbal (Mehrabian, 1972). Nonverbal communication is the relating to another without spoken word (facial expressions, body language, tone, eye contact). Considering that romantic relationships often use physical touch and eye gaze to communicate as a sign of authentic connection (Xia, Chen, & Dunne, 2023), it is important to understand how the brain responds during these acts.

Objectives

- We predicted that nonverbal connection would relate to nonverbal and empathic social competence.
- We predicted visual and physical connection would relate to a larger approach brain signals.

Methods

In a hyperscanning dual-EEG study of 15 dyads (30 adults aged 18-40 years), participants completed a nonverbal task (Figure 1) and survey measures, including the Multidimensional Social Competence Scale (Trevisan DA, et Al., 2018). Here, we focus on frontal alpha asymmetry (FAA) during each condition and the relationship to subdomains of the MSCS.

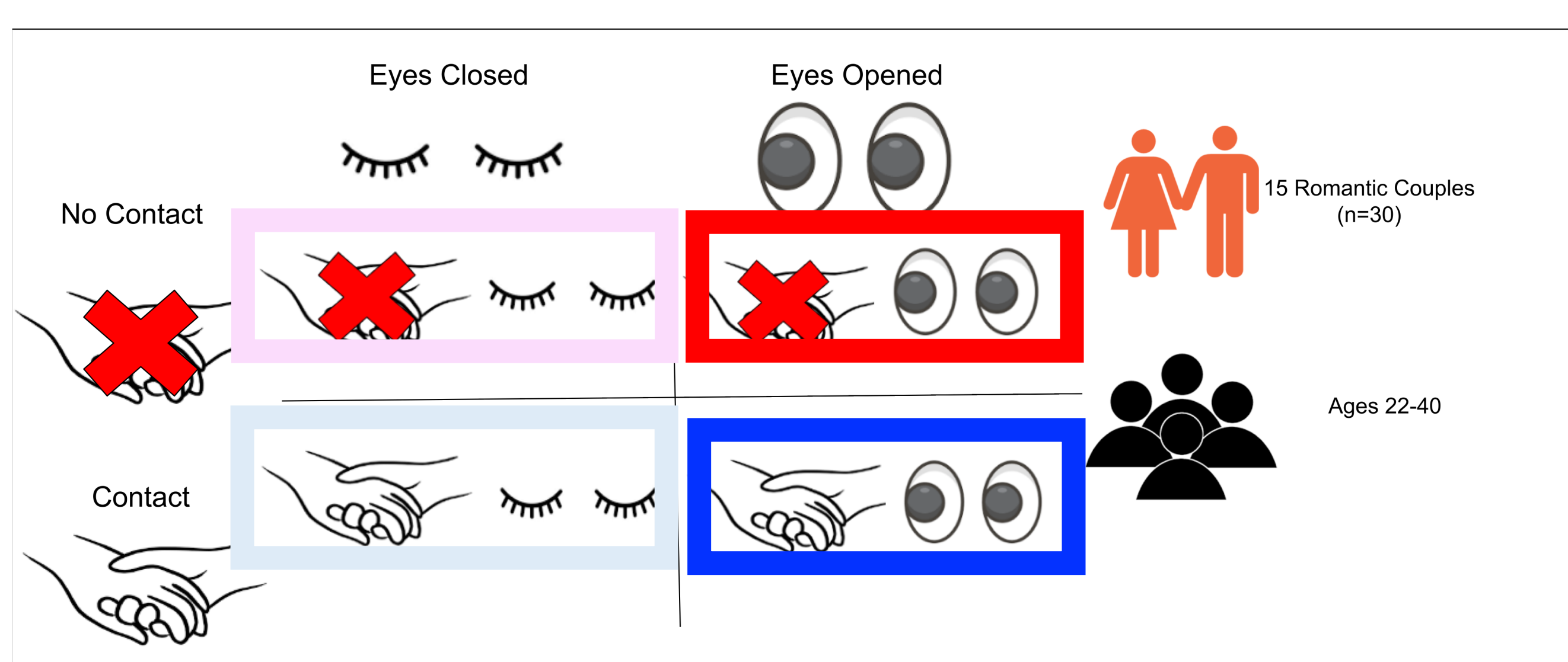


Figure 1. Hyperscanning task design

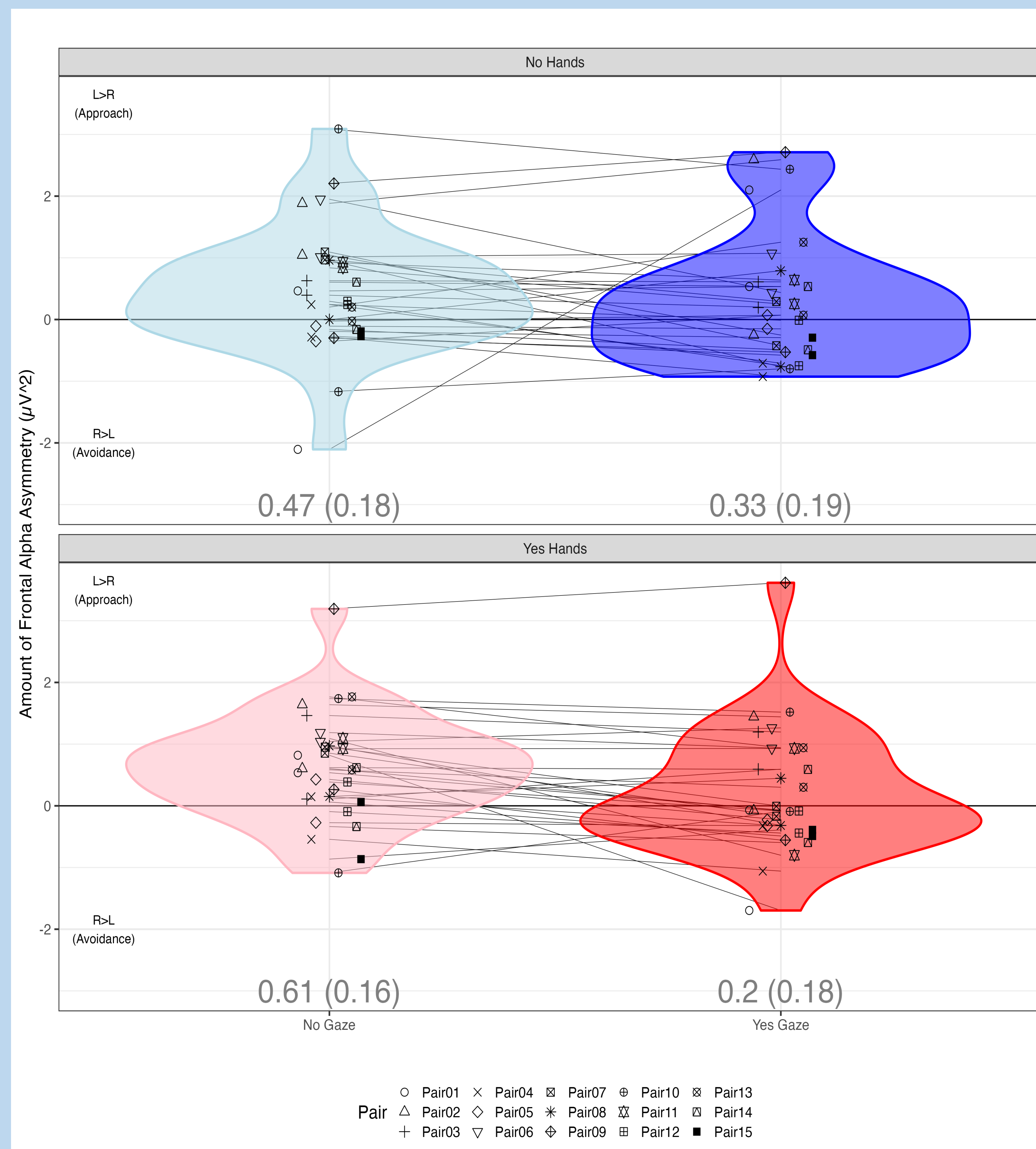


Figure 2. Gaze v. No Gaze FAA analysis. When holding hands, FAA to eyes closed greater than sharing gaze, $F(1,87) = 1.65, p = .0072$

Eyes closed & holding hands yielded the largest "Approach" FAA response

Figure 3. Empathy scores related to FAA arousal Empathy scores did not have a significant effect on FAA, $F(1,27) = 1.30, p = 0.26$

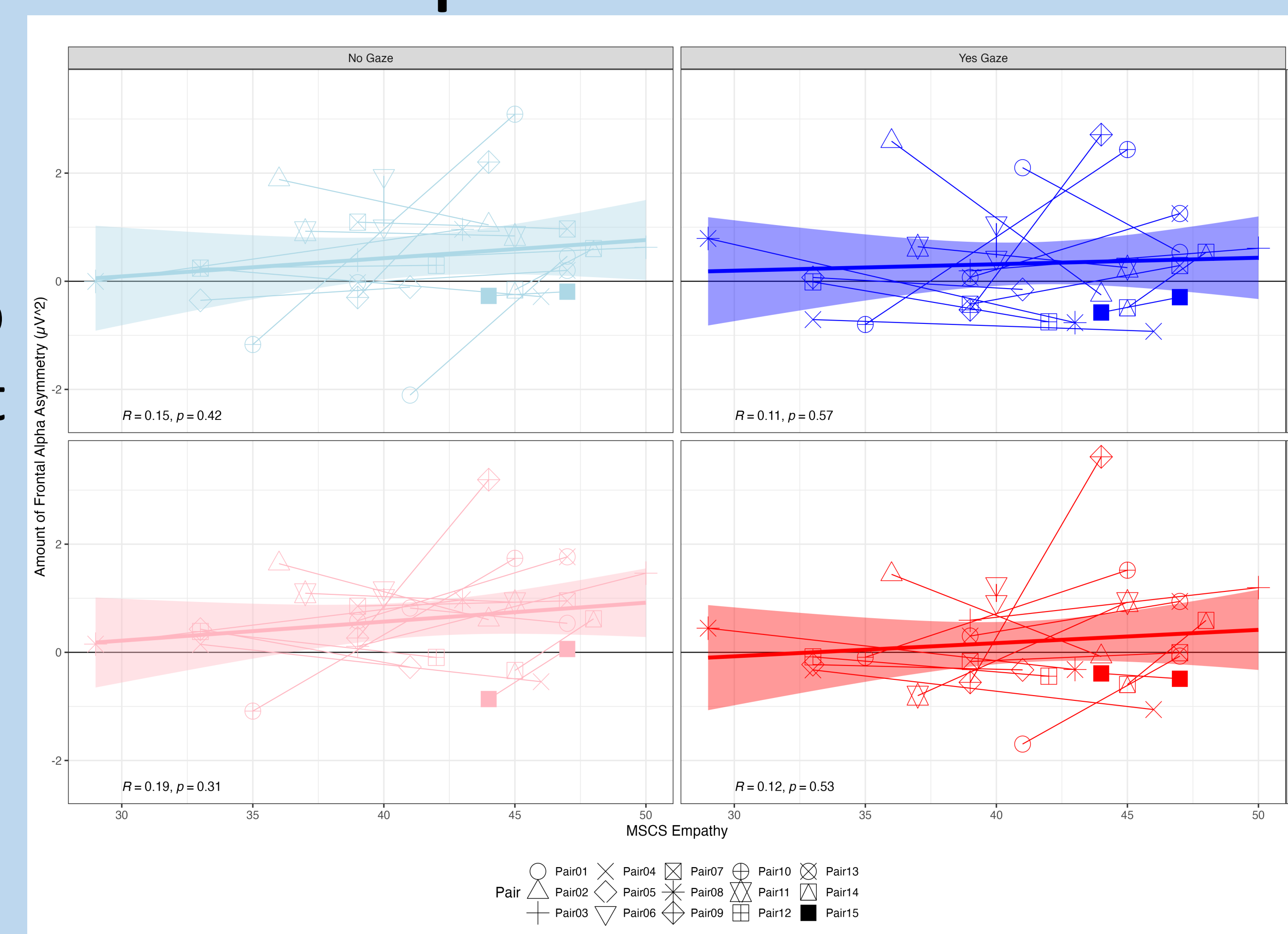
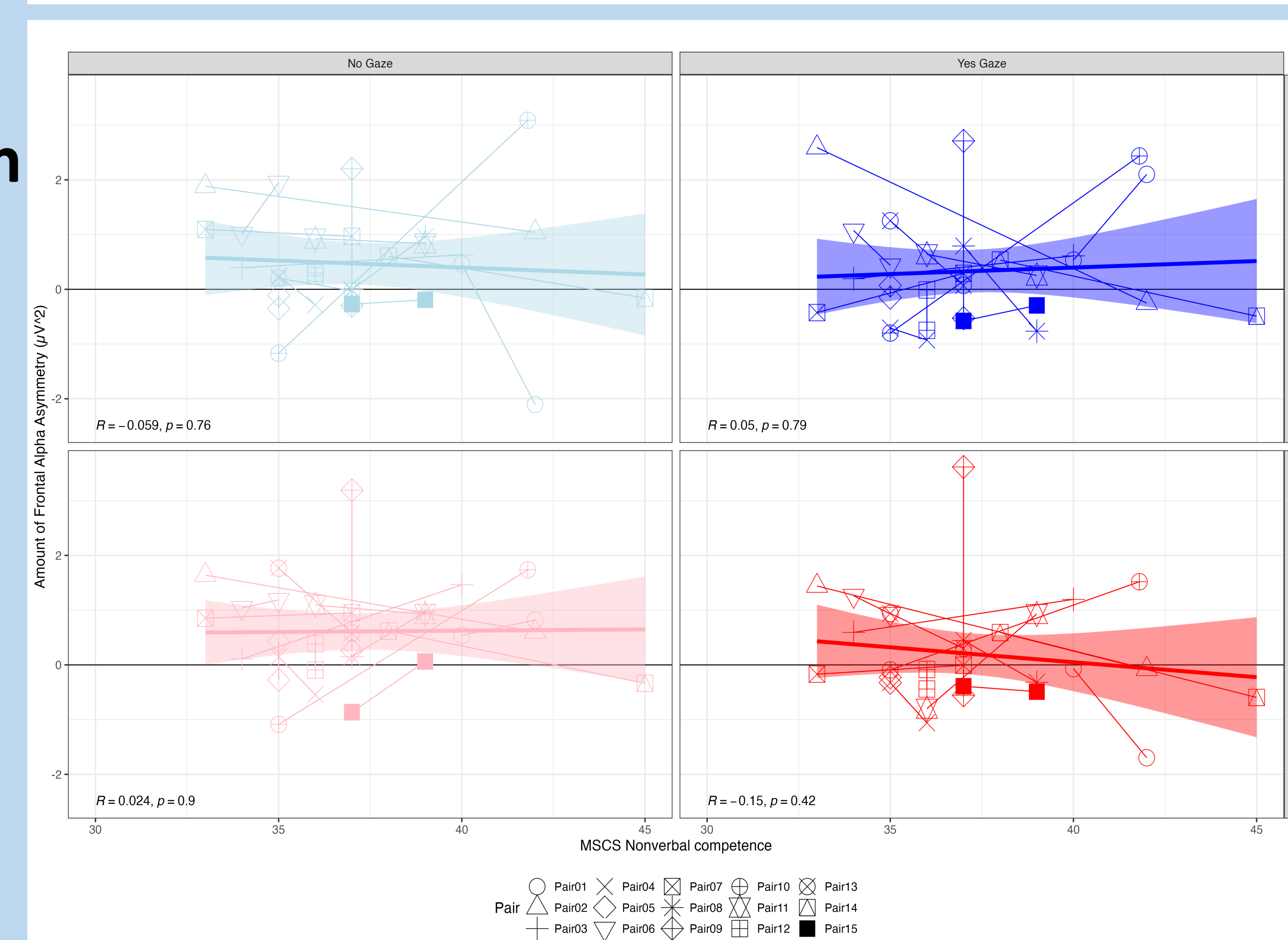


Figure 4. Nonverbal Communication scores related to FAA arousal Nonverbal scores did not have a significant effect on FAA, $F(1,27) = 0.06, p = 0.81$



IMPLICATIONS

Our findings went against our initial predictions. MSCS self-report had no significant relationship to an individual's FAA arousal. There may be different mechanisms responsible for non-verbal communication. Secondly, we found that eyes closed had a higher FAA response than closed while holding hands. Future projects could test different conditions of NV Communication to determine response.

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References:

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