

Beyond Dyads: The Impact of Physical Synchrony on Inter-Brain Synchrony during Inter-Group Conflict

Hester van Beek¹, Katharina Stute², Dorka Boda¹, Ronja Held¹, Fabiola Diana^{1,3,4}, Tom Frijns¹, Ruud Hortensius¹
¹Department of Psychology, Utrecht University, The Netherlands, ²Artinis Medical Systems, Elst, The Netherlands, ³Department of Psychology, Leiden University, ⁴Leiden Institute for Brain and Cognition (LIBC), Leiden University

h.m.vanbeek@uu.nl

Background

- Shared intentions among group members [1], facilitated by perception-action linkages [2], may promote feelings of team affiliation and social cohesiveness [3, 4].
- In-group bonding strengthens an individual's commitment to and identification with the group [5], enabling personally costly behaviours that benefit the in-group [6] while punishing rivaling out-groups [7, 8, 9].

What is the influence of physical synchrony on IBS during inter-group conflict?

Does IBS correlate with higher contributions in the attacker-defender game?

Physical (a)synchrony task



60s

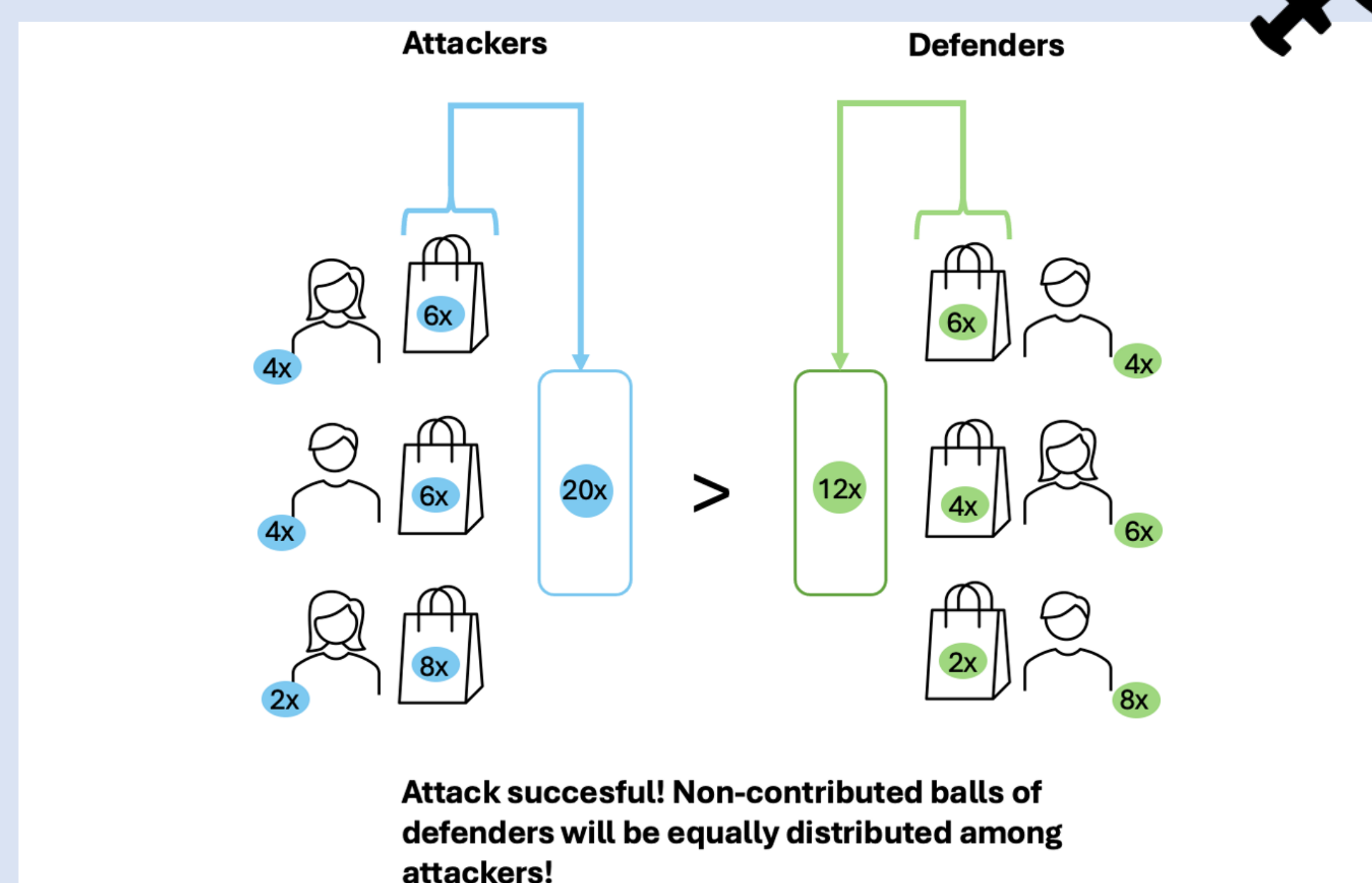
30s

Movement

Rest

6x

Attacker-defender game



30s

60s

Decision

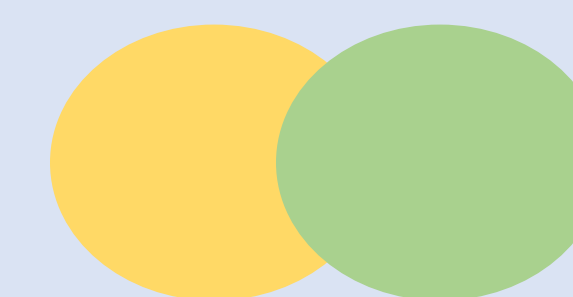
Rest

Outcome

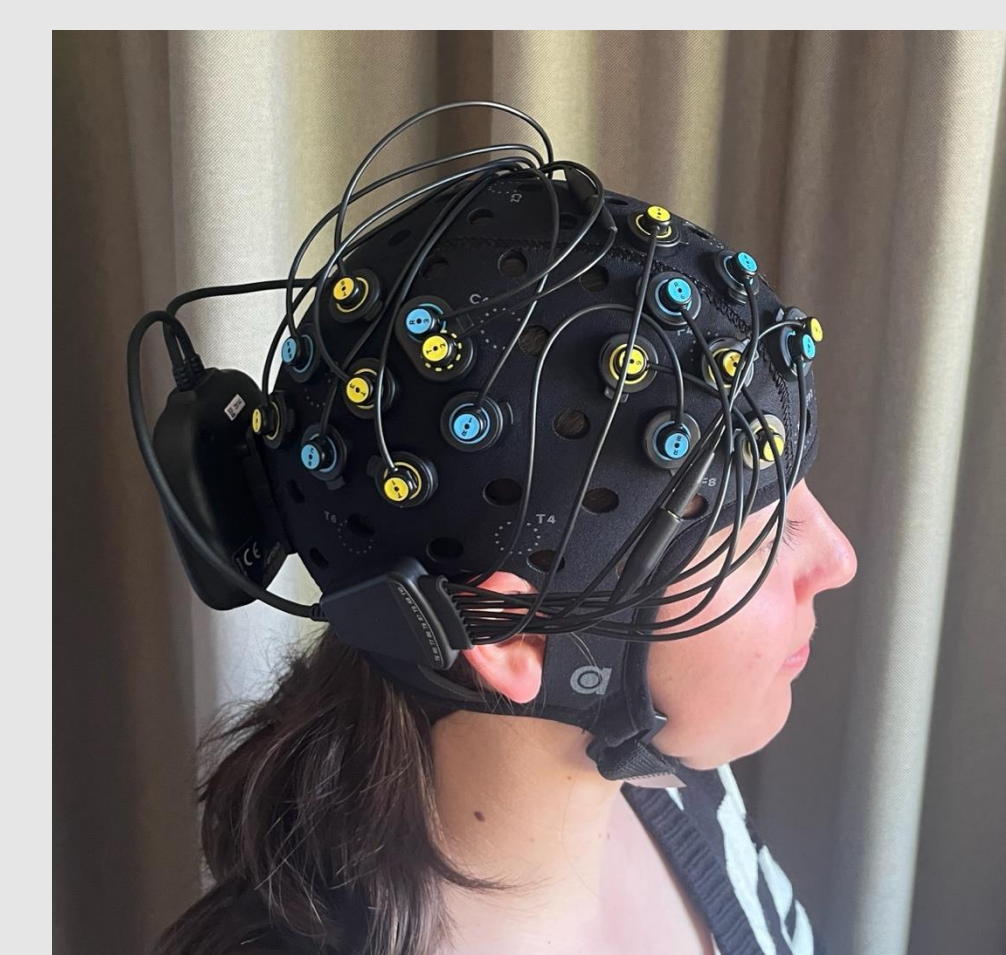
4/6x

Self-report

- ✓ Inclusion of the
- ✓ Other in the Self [10]



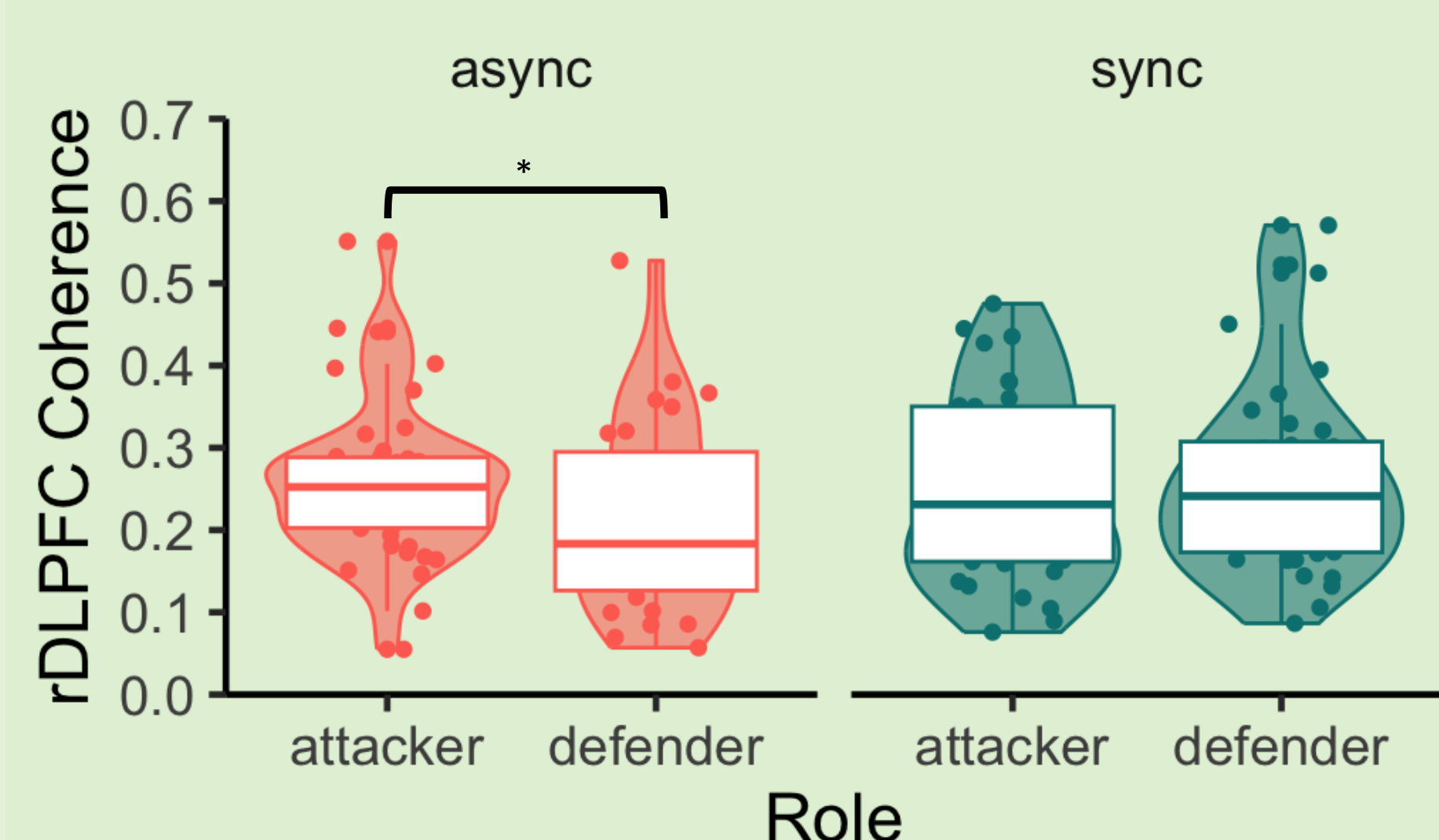
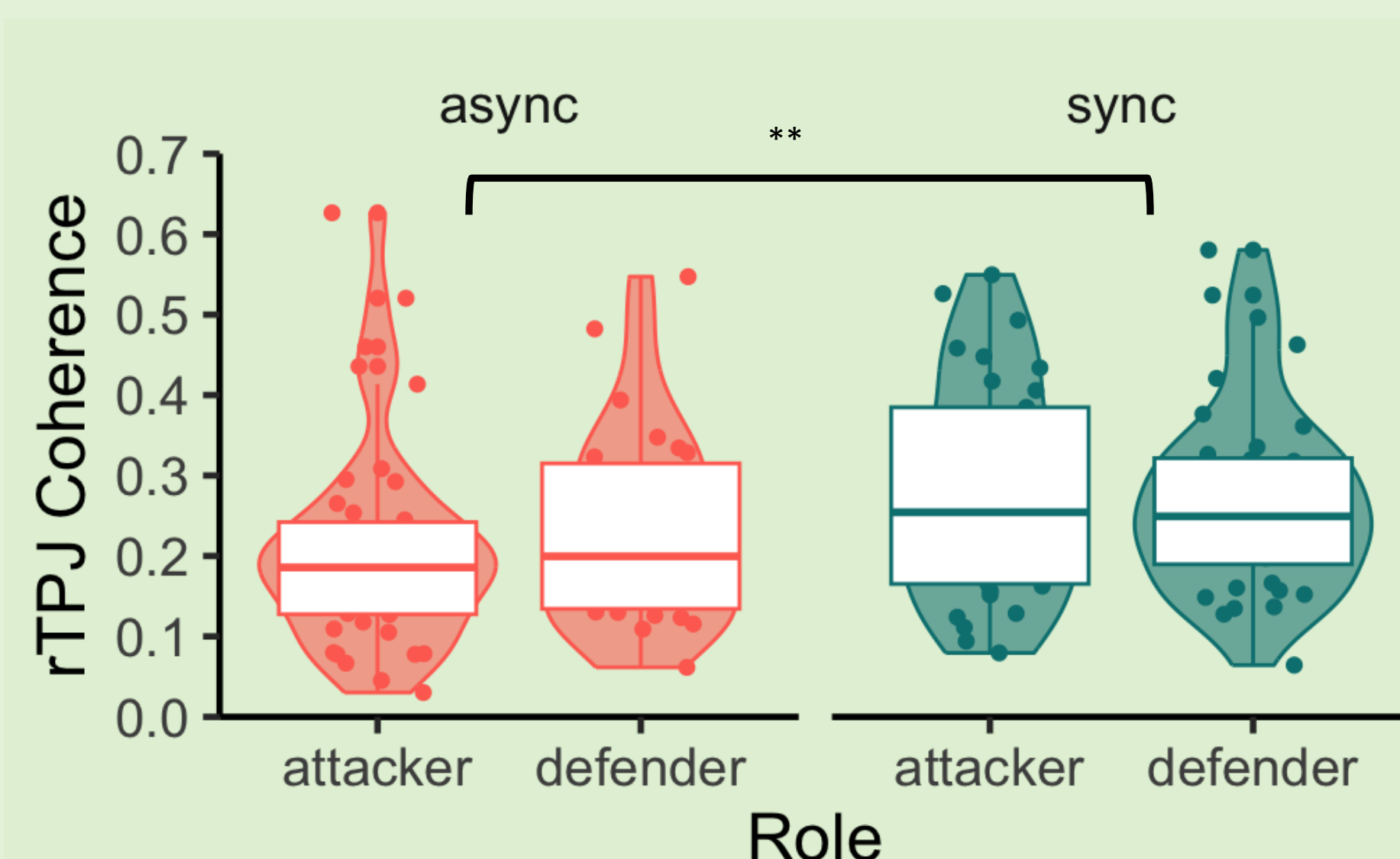
Optode template



- right dorsolateral prefrontal cortex (rDLPFC)
- right temporoparietal junction (rTPJ)

IBS results

N = 18



Replication study

N = 112

- Pseudo-groups
- Bilateral measurement of TPJ & DLPFC
- Between-group IBS
- Intra-subject coherence
- Groups of 8 individuals
- SSC data regression

To request more info:



More information on Brite Ultra!