

# Characterizing Physiological Linkage During Hand Holding in Couples

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## Background

- **Research Question:** How is hand-holding among close others associated with physiological responding?
- Touch is a dyadic behavior, and affectionate touch as been shown to reduce stress and promote long-term well-being (Jakubiack & Feeney, 2016).
- Marital conflicts produce elevations in heart rate (Grewen et al., 2003), and interpersonal behaviors are linked with emotional coordination between couples (Randall et al., 2013), i.e. the stress of one partner affects the dyad (Bodenmann, 2005; Bodenmann & Randall, 2009).
- Improving conflict management is important for increasing the quality of the relationship (Conradi et al., 2020), and spousal hand-holding has shown a regulatory influence with responses to threats, or conflict (Coan et al., 2006).

## Methods

- Inter Beat Interval (IBI; the time between each heartbeat) data was used as a physiological measure to compare dyadic linkage.
- The rties package (Butler & Barnard, 2019) produced two profiles which characterize the IBI linkage within dyads using a coupled-oscillator model.
- 78 total dyads were used for this analysis
- $M_{age} = 26.5$  years;  $M_{relationship} = 24.1$  months

## Analysis

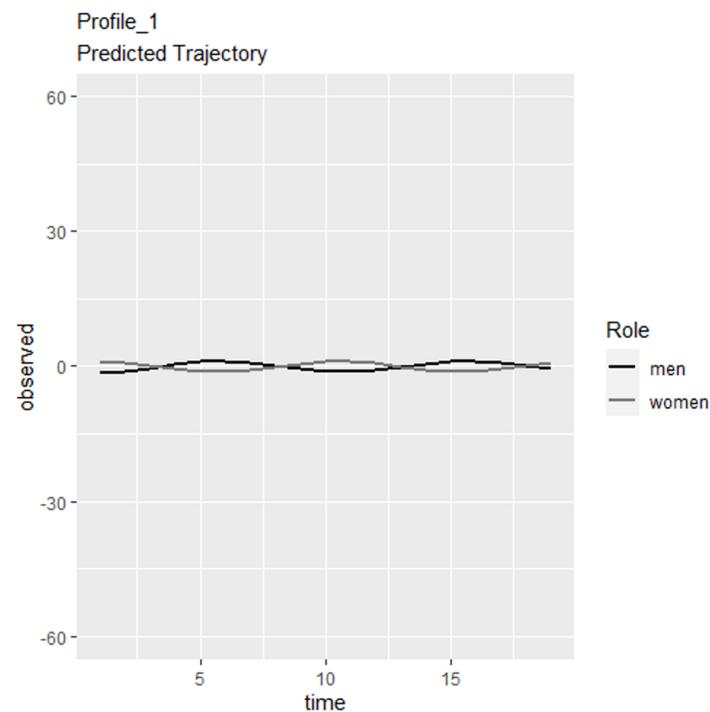


Figure 1. Profile 1 depicts the predicted trajectory of IBI over time.

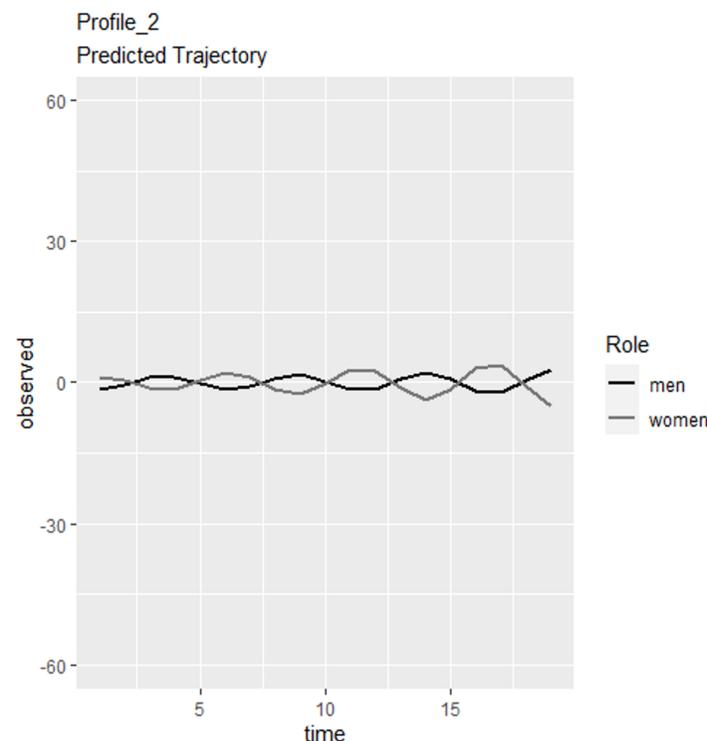


Figure 2. Profile 2 depicts the predicted trajectory of IBI over time.

## Results/Implications

- Profile 1 (n = 50) shows a slower rate of oscillation and low amplitude, though still appears to be anti-phase linkage.
  - This is in line with the hypothesis that hand holding has a dampening effect on stress reactivity in terms of heart rate.
- Profile 2 (n = 28) shows a higher rate of oscillation as well as higher amplitude while still displaying anti-phase linkage.
- Substantially more people were in profile 1 indicating that a amplitude and slower oscillation is common.
- These profiles could be used to predict relationship satisfaction or other measures of relationship quality.
- *These results suggest that interpersonal touch, when paired with individual coping skills, could be an important therapeutic intervention for couples (Bodenmann, 2005; Conradi et al., 2020).*

## References

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