CARDIAC VAGAL CONTROL DURING HANDHOLDING AND DURATION OF ROMANTIC RELATIONSHIPS IN COLLEGE COUPLES

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Abstract

• Emerging evidence suggests a positive association between cardiac vagal control, measured by respiratory sinus arrhythmia (RSA), and quality of intimate relationships. 
• No study has examined whether physiological synchrony between individuals in romantic relationships, indexed by covariation of RSA, is associated with relationship quality. 
• The present study examined the association between quality of romantic relationships and covariation of RSA in 18 college couples. 

Participants

• A total of 18 female participants and their romantic partners (all males), who reported being in exclusive romantic relationships for at least two months, participated in the study. 

Procedure

• To record the ECG signal, NeuroScan system with two AgCl electrodes attached below collar bones was used. A sample rate of 1000 Hz was used to record the ECG signal. No instructions on how to breathe were given to the participants. 

• Four 10-minute ECG segments were obtained from female participants and their partners: 
  - Resting baseline 1 
  - Holding an object (tennis ball) 
  - Holding partner’s hand 
  - Resting baseline 2

Although there was no association between the covariation of RSA and the average scores of relationship quality reported by each couple, the covariation of RSA during handholding was associated with the length of the relationship. Couples exhibiting higher covariation of RSA were in romantic relationships for a longer period of time. 

This result suggests that in young couples in the beginning stages of romantic relationships, the duration of the relationship rather than its quality is associated with physiological synchrony as indexed by covariation of partners' RSA. 

Results

• RSA covariation in romantic partners during handholding was positively correlated with duration of romantic relationship ($r = .45$, $p < .03$, one-tailed).

Discussion

• Contrary to prediction, there were no significant differences in partner RSA covariation between experimental conditions. 
• Contrary to prediction, there was no significant association between partner RSA covariation during handholding and self-reported measures of relationship quality and affection. 

• A significant correlation between partner RSA covariation during handholding and duration of romantic relationship emerged, suggesting that in young couples in the beginning stages of romantic relationships, the duration of the relationship rather than its self-reported quality is associated with physiological synchrony as indexed by covariation of partners’ RSA. 

• The association between RSA covariation and relationship duration was specific to the handholding condition. Future investigations will need to establish whether those romantic partners who exhibit physiological synchrony tend to stay together longer or whether those who stay together longer develop more physiological synchrony. 

• The moving window approach utilized in this study provides a suitable methodology for future examination of covariation of RSA in dyads. Although promising, given that this method is designed to maximize cross-correlation in each segment, cross-validation in independent samples is needed. 

• Future investigations will need to establish whether the association between RSA covariation and relationship duration is observed in long-term committed relationships independent of age and whether RSA covariation is associated with relationship quality in more established romantic relationships.

References


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Handouts available: www.psychofuzz.org