**SAA Abstract 2017**

**Title:** Using Bayesian multilevel models to analyze covariation in dyadic physiological data

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We discuss conditions under which partners in heterosexual romantic dyads exhibit shared physiological states. Couples engaged in three conversations while undergoing cardiovascular monitoring. Using a Bayesian dyadic multilevel model to analyze the data, we observed three noteworthy trends: (1) time-lagged covariation (i.e., one partner’s physiology predicting the other’s at the next time point) depended on the type of conversation (i.e., whether dyads discussed a shared goal versus exchanged social support); (2) the male partner’s physiology influenced the female partner’s, but only when he received social support; and (3) across all conversations there was substantial between-dyad heterogeneity in effects. Recommendations for examining covariation using ambulatory data as well as advantages of implementing a Bayesian modeling approach are discussed.