

# Graduate Student Research Day 2010

## Florida Atlantic University

### CHARLES E. SCHNIDT COLLEGE OF SCIENCE

#### **Changing Cooperation to Competition Disrupts Attitudes and Valence: First Test of a Dynamical Model**

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With the cessation of cooperation between people comes the threat that temporary competition transforms into a destructive conflict. To better understand how costly conflicts develop, Liebovitch, et al. (2008, *Physica A*387: 6360-6378) developed a model of two-person cooperation-competition incorporating interaction feedback and valence. This study tested the model's predictions by investigating attitude and valence change depending on whether a social exchange was cooperative or competitive. This study provides the first results verifying Liebovitch's et al. model of cooperation-competition. The insights from this study and the model may help with developing new ways to resolve conflicts. Ninety-six undergraduates completed an attitude survey and then verbally exchanged survey responses with a confederate who followed a script. Depending on the confederate's responses, participants experienced either cooperation, competition, or a mix of the two. We measured attitude change by comparing participants' initial survey responses to the survey completed during the interaction. We dynamically measured valence by having participants move a computer cursor while viewing a video of the interaction. Participants experiencing the interaction that switched from cooperation to competition exhibited greater attitude change than participants in the control or the continuously competitive interaction condition and more valence change than the control or competition switching to cooperation condition. Finally, results show that greater attitude change is associated with more negative valence. These findings support the model's prediction that greater attitude and valence fluctuation arises in interactions transitioning from cooperation to competition. These findings offer new insights into how human cooperation and competition evolve over time.