Physiological Reactivity in Low-Income, Situationally Violent Couples: Impact of Conjoint Skills-Based Treatment for Couples
Allison E. White, B.A., Renay P Cleary Bradley, Ph.D., Daniel J. Friend, M.S., & John M. Gottman, Ph.D., Relationship Research Institute, Seattle, WA

Abstract
This research evaluated an intervention designed to bolster relationships and help low-income, situationally violent couples learn how to better manage physiological arousal during dynamic interactions. To test the intervention efficacy, couples participated in two conflict discussions (Time 1: pre-intervention; Time 2: post-intervention), during which physiological reactivity (i.e., heart rate) was measured. Results of a 2x2 RM-ANOVA showed that treatment-group couples had lower levels of reactivity that were maintained across time points, whereas control-group couples were more reactive at Time 2. Although intervention-group females showed reduced levels of reactivity at Time 2, the overall interaction model was not significant. Results provide insight toward therapeutic techniques that may work to bolster relationships in low-income, situationally violent couples by helping them better regulate arousal.

Introduction
Physiological arousal and the ability to regulate this arousal contributes to the quality of intimate relationships (Gottman et al., 1995). High levels of arousal can be harmful to health (Ottovisto et al., 2008), contribute to low levels of relationship satisfaction (Lewenson & Gottman, 1985), and may underlie specific forms of intimate partner violence (IPV; Gottman et al., 1995).

In contrast, successful regulation of arousal has been associated with better relationship quality, stability, and better health (Yuan et al., 2010).

Therefore, it is important to provide couples with support designed to help them manage arousal and subsequently handle conflict and strengthen their relationships.

This research evaluated an intervention — the Creating Healthy Relationships Program (CHRIP) — designed to bolster relationships and help low-income, situationally violent couples learn how to manage physiological arousal during dynamic conflict-based interactions.

Situational violence is reciprocal in nature (i.e., both partners engage in low levels of physiological arousal), tends not to involve control/dominance, and may be the result of conflict escalation. Approximately 50-80% of all IPV may be situational in nature (Jacobson & Gottman, 1998).

Low-income individuals are at increased risk of experiencing IPV (Cook et al., 2003) and other adverse outcomes (Roeske & Kishiyama, 2010). Left unsupported, low-income couples may face relationship dissolution or high levels of conflict and IPV (Hahlweg & Richert, 2010).

Unfortunately, most relationship education programs have been designed for and evaluated with middle-income couples (Dion, 2005). Thus, there is a need to provide low-income couples who are most at risk for negative relationship outcomes support tailored to meet their needs (Adler-Baeder et al., 2010), which was the goal of the current research.

We hypothesized that couples who participated in CHRIP — a couple-based relationship education program — would exhibit maintained or reduced levels of physiological reactivity during interaction after completion of the program, and significantly lower levels of physiological reactivity compared to a no-treatment control group.

Method
PARTICIPANTS
N = 112 low-income, situationally violent, heterosexual couples.
Couples were randomly assigned to a control or CHRIP group. Treatment group couples (treatment group = 56; control group = 56).

PROCEDURES
Couples completed 2 home visits (Time 1: pre-intervention; Time 2: post-intervention) in which each partner’s heart rate was measured twice — baseline (BL) and conflict discussion (CD). During the BL, couples were instructed to relax for two minutes.
Couples were then asked to indicate their feelings and the conflict resolution style (e.g., money, sex, children, etc.) via a survey.
Based on survey responses, two “heated” topics were chosen for the focus of the CD. Couples were instructed to try to work through the two issues over the course of 15 minutes.
Heart rate was monitored continuously throughout the entire session.

Physiological Reactivity: An average heart rate was calculated during the BL and CD. Average CD heart rate was subtracted from BL average to create a heart rate reactivity score for each partner at both time points (higher scores indicate higher physiological reactivity).

Group Status: Couples were randomly assigned to a treatment or no-treatment control group. Treatment group couples (treatment group = 56; control group = 56). Treatment groups participated in CHRIP at two home visits. Home visit procedures described above were identical for both groups.

Results
We hypothesized that CHRP would lead to maintained/reduced physiological reactivity in treatment couples and lower levels of reactivity in the treatment versus control group at Time 2. To assess this, one 2x2 RM-ANOVA was tested for each partnership factor and group status as the within-subjects factor and Group status as the between-subjects factor. Results showed the following:

Predicting Male Reactivity (See Figure 1):
A main effect of Time, F(1, 21) = 4.20, p = 0.05.
No main effect of Group, Treatment = 1.77, F(1, 21) = 1.5, p = 0.11.
A significant Time x Group interaction, F(1, 21) = 4.37, p = 0.05.

Predicting Female Reactivity (See Figure 2):
A main effect of Time, F(2, 1) = 2.90, p = 0.005.
A main effect of Group, Treatment = 2.62, F(1, 21) = 2.33, p = 0.08.
A significant Time x Group interaction, F(1, 21) = 0.00, p = 0.06.

Discussion
Findings showed that treatment-group males had lower levels of physiological reactivity that were maintained across time. In contrast, control-group males were more reactive during the CD at Time 2. This suggests that CHRP was effective at helping low-income situationally violent males learn how to maintain levels of physiological reactivity, whereas comparable males who did not obtain support were more likely to become more reactive and less able to manage physiological arousal over time. Although intervention-group females showed reduced levels of reactivity at Time 2, the overall interaction model was not significant. Results provide insight toward therapeutic techniques that may work to bolster relationships in low-income, situationally violent couples by helping couples to manage physiological flooding that may occur during dynamic interactions. Future research would benefit from evaluating whether intervention effects on physiological reactivity do indeed contribute to relationship quality in this population.

For more information please contact Renay Bradley at renayc@rrinstitute.com
www.rrinstitute.org