Physiological Reactivity in Low-Income, Situationally Violent Couples: Impact of Conjoint Skills-Based Treatment for Couples

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Abstract

This work evaluated an intervention designed to bolster relationships and help low-income, situationally violent couples learn how to better manage physiological arousal during dyadic 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 males had levels of reactivity that were maintained across time points, whereas control-group males 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 (Ottaviani et al., 2008), contribute to low levels of relationship satisfaction (Levenson & 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 relationship satisfaction, 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 work evaluated an intervention—the Creating Healthy Relationships Program (CHRP)—designed to bolster relationships and help low-income, situationally violent couples learn how to manage physiological arousal during dyadic conflict-based interactions.
- Situational violence is reciprocal in nature (i.e., both partners engage in low-levels of physical violence), 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 (Cox et al., 2003) and other adverse outcomes (Raizada & Kishiyama, 2010). Left unsupported, low-income couples may face relationship dissolution or high levels of conflict and IPV (Hahlweg & Richter, 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 with support tailored to meet their needs (Adler-Baeder et al., 2010), which was the goal of the current work.
- We hypothesized that couples who participated in CHRP—a couples-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.

Creating Healthy Relationships Program (CHRP)

- A 22-week group-based psycho-educational intervention based on more than three decades of research with over 3,000 couples (Gottman, 1994; Gottman & Silver, 2000).
- A pair of male/female Masters-level clinicians facilitate weekly two-hour intervention sessions with a group of 6-8 couples.
- Based on the "Sound Relationship House Theory" (Gottman, 1994), CHRP emphasizes skills for constructive conflict management, including how to reduce physiological flooding.
- Facilitators start sessions by airing a mock talk show that displays couples discussing the session topic. The topic is then opened up for discussion with intervention group participants. This is followed by an educational segment where couples are exposed to research-based knowledge about the topic (e.g., how physiological flooding prohibits effective conflict management), and a skills component where couples engage in the topic (e.g., practice self-soothing via a biofeedback device prior to discussing an area of disagreement).
- CHRP materials have lower literacy levels and were pilot-tested with low-income couples. Efforts were made to facilitate ease of participation for low-income couples (e.g., sessions were held in local neighborhood centers, incentives were provided for repeated attendance, and child care was offered).

Method

PARTICIPANTS

- $N = 115$ low-income, situationally violent, heterosexual couples.
- Couples were romantically involved for ~7.9 years, were living together for ~6.6 years, and had at least one child in the home.
- Average combined household income was $53,664 (± $29,088). Most couples had 3-4 family members living in the household.

PROCEDURES

- Couples completed two 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 BL, couples were instructed to relax for two minutes.
- Couples then indicated problems they experienced in the relationship (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 BL and CD.

MEASURES

- ***Physiological Reactivity:*** An average heart rate score 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 n=62; control group n= 53). Treatment couples participated in CHRP in between the two home visits. Home visit procedures described above were identical for both groups.

Figure 1. Significant Group X Time Interaction for Males

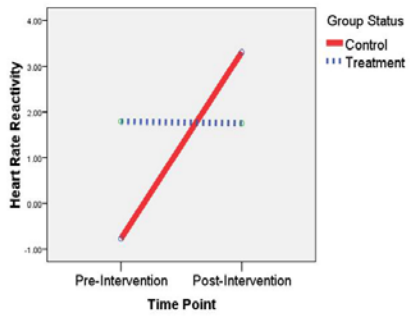
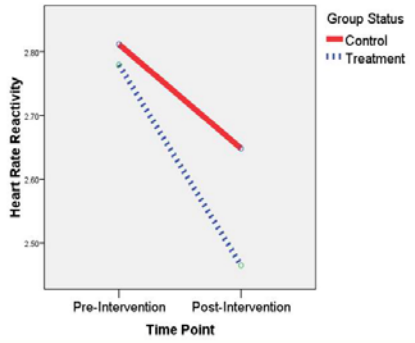


Figure 2. Non-Significant Group X Time Interaction for Females



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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 partner with Time 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, pre = .51 ± .89, post = 2.53 ± 0.75, $F(1, 21) = 4.20$, $p = .05$.
  - No main effect of Group, Treatment = 1.77 ± .87, Control = 1.27 ± .99, $F(1, 21) = .15$, $p = .71$.
  - A significant Time x Group interaction, $F(1, 21) = 4.37$, p=.05.
- ***Predicting Female Reactivity (see Figure 2):***
  - No main effect of Time, pre = 2.80 ± 1.01, post = 2.56 ± .97, $F(1, 21) = 0.03$, $p = .86$.
  - No main effect of Group, Treatment = 2.62 ± .95, Control = 2.23 ± 1.08, $F(1, 21) = .01$, $p = .94$.
  - No Time x Group interaction, $F(1, 21) = 0.00$, $p = .96$.

Discussion

Findings showed that treatment-group males had 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 dyadic interactions. Future research would benefit from evaluating whether intervention effects on physiological reactivity do indeed contribute to relationship quality in this population.

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