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Shorter communication

Behaviorally-based couple therapies reduce emotional arousal during couple conflict

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ABSTRACT

Emotional arousal during relationship conflict is a major target for intervention in couple therapies. The current study examines changes in conflict-related emotional arousal in 104 couples that participated in a randomized clinical trial of two behaviorally-based couple therapies. Emotional arousal is measured using mean fundamental frequency of spouse's speech, and changes in emotional arousal from pre-to post-therapy are examined using multilevel models. Overall emotional arousal, the rate of increase in emotional arousal at the beginning of conflict, and the duration of emotional arousal declined for all couples. Reductions in overall arousal were stronger for TBCT wives than for IBCT wives but not significantly different for IBCT and TBCT husbands. Reductions in the rate of initial arousal were larger for TBCT couples than IBCT couples. Reductions in duration were larger for IBCT couples than TBCT couples. These findings suggest that both therapies can reduce emotional arousal, but that the two therapies create different kinds of change in emotional arousal.

High levels of conflict-related emotional arousal are a well replicated correlate of relationship distress and are a major target of intervention in many couple therapies. Couple therapy may bring about greater relationship satisfaction in part through a reduction in negative emotional arousal in the face of "hot" topics (e.g., Christensen, 2010). However, it is currently unknown whether couple therapy impacts emotional arousal, and, if so, which aspects of negative emotionality are altered: the overall level of emotional arousal, the rate of increase in emotional arousal, and/or the duration of emotional arousal. It is also possible that therapies that directly target emotional arousal, such as Integrative Behavioral Couple Therapy (IBCT; Jacobson & Christensen, 1998), could create greater change in emotional arousal than those produced by therapies, such as Traditional Behavioral Couple Therapy (TBCT; Jacobson & Margolin, 1979), that target emotional arousal indirectly. The current study tests these possibilities in examining whether spouse's emotional arousal changes after completing a course of IBCT or TBCT and whether the two therapies produce different amounts of change in emotional arousal.

Emotional reactions to relationship conflict are a central component of many couple therapies (e.g., IBCT, Emotionally Focused Couple Therapy [e.g., Greenberg & Johnson, 2010], etc.), and there is wide spread agreement that high levels of negative emotional arousal co-occur with maladaptive communication behaviors (Christensen, 2010). Highly emotionally reactive spouses have greater difficulty using adaptive communication behaviors and an increased likelihood of engaging in dysfunctional communication behaviors, such as the demand–withdraw interaction pattern (e.g., B. Baucom, Atkins, et al., 2011; K. Baucom, Sevier, Eldridge, Doss, & Christensen, 2011).

Behaviorally-based couple therapies aim to reduce emotional arousal but do so in markedly different ways. For example, IBCT uses acceptance-based and contingency-shaped change intervention strategies, such as empathic joining and unified detachment, to lessen spouse's negative emotional arousal and thereby interrupt maladaptive behavior during conflict. In contrast, TBCT uses structured practice and rule-governed intervention strategies, such as communication skills training and problem-solving training, to help couples

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learn more adaptive communication behaviors. These interventions may have secondary benefits of interrupting negative reciprocity which may reduce negative emotional arousal as a by-product.

Data for the current study come from a randomized clinical trial of IBCT and TBCT, both of which have documented efficacy in creating significant improvements in relationship satisfaction (e.g., Christensen, Atkins, Baucom, & Yi, 2010) and communication behavior (e.g. K. Baucom, Sevier, et al., 2011). Though both therapies create similar amounts of change in communication behaviors, TBCT produces more rapid change than IBCT from pre-treatment to post-therapy (Sevier, Eldridge, Jones, Doss, & Christensen, 2008) while IBCT produces slower but more sustained change from post-therapy to 2-year follow-up (K. Baucom, Sevier, et al., 2011). Researchers have suggested that this difference may be due to TBCT's greater focus on explicit instruction in communication skills training. These findings suggest that though both IBCT and TBCT are likely to reduce emotional arousal, IBCT may do so to a greater degree than TBCT because of IBCT's focus on directly impacting negative emotional arousal and TBCT's focus on directly impacting communication behavior.

In contrast to the well-developed conceptual models of how negative emotional arousal and maladaptive behaviors are related, little attention has been paid to selecting the measure of emotional arousal, characterizing emotional arousal during conflict, and hypothesizing which aspects of negative emotional arousal are likely to be impacted by couple therapy. Of the various possibilities for measuring emotional arousal, emotional expression appears to be particularly well suited to the study of negative emotional arousal and relationship functioning. Bloch, Haase, and Levenson (2014) compared the ability of the duration of negative emotional arousal assessed using physiological, expressive, and subjective measures to predict relationship satisfaction and found that only expressive negative emotional arousal was associated with concurrent and longitudinal satisfaction.

Expressive emotional arousal during couple conflict can be assessed through facial expressions as well as verbal and non-verbal vocal aspects of speech; earlier work on a vocal measure of emotional arousal, fundamental frequency (f_0), suggests that it may be particularly well suited to the study of changes brought about by couple therapy. Computing f_0 is an ideal method for measuring emotional arousal because it is related to spouse's physiological and subjective experiences of emotional arousal (e.g., Weusthoff, Baucom, & Hahlweg, 2013), conveys information about one spouse's internal emotional state, is related to maladaptive communication behaviors (e.g., B. Baucom, Atkins, et al., 2011), is related to couple therapy outcomes (e.g., B. Baucom, Atkins, Simpson, & Christensen, 2009), and does not require specialized or invasive equipment other than a standard audio- or video-recorder. Thus, the current study measures expressive emotional arousal using mean f_0.

There are also a number of methods for characterizing emotional arousal during couple conflict (Burt & Obradovic, 2013). Concepts from exposure-based models of intervention (see Craske et al., 2008 for a review) and empirical work on affective processes suggest that the overall level of emotional arousal, the rate of increase in emotional arousal at the start of the interaction (i.e., start-up; Carstensen, Gottman, & Levenson, 1995), and the trajectory of emotional arousal over the course of the interaction are all likely to be impacted by couple therapy. Each of these forms of arousal can be modeled using mean f_0. Additionally, it is possible that couple therapy could impact one of these forms of arousal but not the others. For example, if a couple changed from having a steady increase in arousal over the course of the interaction to having an initial increase followed by a later decrease that may or may not result in a change in the total amount of overall arousal.

In summary, it is likely that IBCT and TBCT reduce emotional arousal during couple conflict, and these changes are likely to be larger in IBCT than in TBCT. We hypothesize that, relative to pre-treatment, 1) average levels of f_0 will be lower at post-therapy, 2) the rate of decrease at the end of the interaction will be higher at post-therapy and 3) the rate of increase in f_0 at the start of the interaction will be lower at post-therapy. Finally, these changes will be larger for IBCT couples than for TBCT couples.

1. Methods

1.1. Participants

Participants are a subsample ($N = 104$ couples) of 134 chronically and stably distressed married couples recruited for participation in a two-site randomized clinical trial of IBCT and TBCT. Inclusion criteria included being legally married, cohabiting, and both spouses reporting significant levels of relationship distress. Exclusion criteria included meeting criteria for current substance abuse or dependence, schizophrenia, bipolar disorder, or borderline, schizotypal, or antisocial personality disorder, and self-reports of moderate to severe husband-to-wife physical aggression. Please see Christensen et al. (2004) for a complete description of recruitment procedures, inclusion criterion and study protocol.

Participants in this sample ranged from 22 to 72 years old at pre-treatment, with a median age for men of 44 years (SD = 8.85) and a median age for women of 41 years (SD = 8.74). They were, on average, college educated (median level of education for men and women was 17 years, SD = 3.0 and 3.21 years respectively) and earned a median annual income of $ 40,000 for men and $ 30,000 for women. Couples had been married for an average of 10.34 years (SD = 7.55). Spouses self-identified as 75% Caucasian, 9% African American, 6% Asian/Pacific Islander, 6% Latino/Latina, 1% Native American, and 3% Other.

1.2. Procedures

Couples completed assessments prior to beginning therapy (i.e., pre-treatment), at treatment termination (i.e., post-therapy[1]), and two-years later (i.e., 2-year follow-up). Each of these assessments included self-report questionnaires and participation in two 10-min videotaped problem-solving discussions.[2] Each spouse determined the topic for one of the two discussions; the order of the discussions was randomly alternated. Mean f_0 was extracted from videotaped discussions at pre-treatment and post-therapy for the current study.

A stratified random assignment design was used to assign couples to receive up to 26 sessions of TBCT, 68 couples, or IBCT, 66 couples. Christensen et al. (2004) provides additional details regarding treatment procedures. Institutional Review Boards approved all study procedures.

1.3. Measures

1.3.1. Mean f_0

Mean f_0 values were extracted using a two-step process. First, recordings were segmented into periods of husband speech and wife speech using procedures outlined in Black and colleagues (Black et al., 2013). Recordings with a low signal-to-noise ratio (i.e., SNR < 5 db)

[1] The post-therapy assessment was conducted 26 weeks after a couple began therapy. Couples were allowed to receive up to 26 weekly sessions of therapy so if couples proceeded through the program without any cancellations or finished therapy prior to 26 sessions, this assessment was truly post-therapy. Most couples had cancellations due to illness, holidays, etc. so this assessment was very near the end of treatment.

[2] Couples also completed two personal problem discussions at each assessment that were not analyzed in the current study.